Effect of Socially Responsible Investment on economic development in South Africa: An econometric analysis

By

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Thesis submitted for the degree of Doctor of Philosophy in Economics at the Vaal Triangle campus of the North-West University

Promoter: Dr TJ Sekhampu

April 2015
DECLARATION

I declare that

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is my own work and that all the resources used or quoted have been duly acknowledged by means of complete references and that I have not previously in its entirety, or in part, submitted it for obtaining any qualification at any other university.

Date: ________________________________

Signature: ____________________________

Paul-Francois Muzindutsi
DEDICATION

I dedicate this project to:

- My late father Gabriel, I know that you desired to see the completion of this work but it was not possible; and
- My daughter Nokukhanya Hope, I hope this will be an inspiration to you.
ACKNOWLEDGEMENTS

The greatest words of thanks go to the Almighty God, without his grace, love, mercy and protection this work would not have been possible.

I would like to express my sincere gratitude to my promoter, Dr. T.J. Sekhampu for his continuous support, motivation, guidance and willingness to assist in all stages of this thesis.

I would like to thank the North-West University for providing me with financial support through research assistant and emerging researcher bursaries. I am also grateful for the support from my colleagues in the School of Economic Sciences at the Vaal Campus of the North-West University.

Thank you to anonymous company, for allowing me to use its SRI Initiative as part of my study and for providing funds for fieldwork.

I would like to acknowledge the community members of Bophelong Township who participated in this research for their time and invaluable opinions.

My gratitude is extended to my parents, my mother and my late father, for inspiring and motivating me during difficult times.

My sincere thanks go to Dr Ferdinand Niyimbanira and his family (Rachel and Ian); I am grateful for their endless support and encouragement through this study.

Special thanks to Zandile Masango for her emotional support and understanding in difficult times.

I am also appreciative to Olivier Niyitegeka for his assistance with Microfit software.

Last but not least, I would like to thank the TWSESE members for their constant encouragement and emotional support.
ABSTRACT

Changes in economic, environmental and social conditions have exposed our society to many challenges such as hunger and poverty, epidemic diseases and dramatic climate changes. As business entities operating within the community, companies have the immense task of assisting the community to address these challenges. To carry out this task, companies use socially responsible investment (SRI) initiatives in the effort to give back to local communities. These initiatives focus on environmental, social and economic activities that seek to improve the wellbeing of the community at large. The theoretical explanations behind SRI strategies tend to stimulate discussions and contestations about the motive behind SRI initiatives and their relevance to the companies and the community concerned. Some theories purport that a company should have a sole social responsibility goal of creating wealth for its shareholders, while others consider SRI initiatives as a means of interaction between a company and its immediate community. Despite these different views, SRI theories concur that companies' SRI initiatives can contribute to economic development.

The study reported in this document used a combination of qualitative and quantitative research methods to analyse the effects of the SRI sector on micro- and macroeconomic development in South Africa. The key empirical objectives of the study were to: assess the effect of SRI initiatives on the financial performance of South African companies; determine the volatility of the SRI Index relative to the overall stock market; establish the interactions between various macroeconomic variables and the South African SRI sector; identify the involvement of the local community in designing SRI initiatives; determine local communities’ perceptions towards implementation of SRI initiatives; and assess how various socioeconomic and demographic characteristics of community members affect their perceptions towards SRI initiatives. Primary data were collected through interviews and quetiapine; while secondary data running from May 2004 to June 2014 was obtained from the JSE, McGregor BFA and SARB. The data include variables such as the share returns of companies in the SRI Index and various macroeconomic variables. The econometric models used to analyse the data included the Johansen co-integration test, vector error correction model (VECM), generalised autoregressive conditional heteroscedasticity (GARCH), 

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autoregressive distributed lag (ARDL) model, Granger causality test, the event study methodology and binary logistic regression.

Results of the event study methodology showed that an improvement in companies’ involvement in SRI initiatives is linked with positive returns; however, such positive returns were not statistically significant. On the contrary, a decline in a company’s involvement in SRI initiatives is associated with significant negative abnormal returns. Further analysis showed that the South African SRI index is not exposed to any unique volatility. The analysis on the relationship between the SRI Index (a proxy for the sector) and macroeconomic variables suggests that development of the South African SRI sector is linked with macroeconomic growth and stability.

To analyse the effect of SRI initiatives at a microeconomic level, an SRI initiative of implemented by a specific company in Bophelong Township formed the basis of the analysis. Findings revealed that this initiative benefited less privileged community members through the creation of temporary employment and provision of skills that created opportunities for future employment. Households with low economic status, those headed by a female or unemployed head were the most satisfied with the SRI initiative compared to others beneficiaries of the SRI initiative. Thus, the SRI initiative positively impacted the relationship between the company and community members, while at the same time creating expectations for future initiatives within the community.

This study concluded that SRI initiatives must be aligned with the needs of the community in order to contribute to both micro- and macroeconomic development. As much as companies are expected to implement socially responsible initiatives, community members should also be encouraged to meet these companies halfway through programmes such as volunteering. Findings of this study can assist policy makers and companies in aligning SRI initiatives with the needs of the community, improving the involvement of community members in SRI initiatives, developing strategies to reduce the costs associated with SRI initiatives and, hence, increasing the impact of SRI initiatives.

**Key words:** Sustainable investment, social responsible investment, community investing, economic development, macroeconomic variables, South Africa.
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<td>Akaike Information Criterion</td>
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<td>ALSI</td>
<td>All Share Index</td>
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<td>APT</td>
<td>Arbitrage Pricing Theory</td>
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<td>AR</td>
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<td>ARDL</td>
<td>Autoregressive Distributed Lag</td>
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<td>BEE</td>
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<td>CAAR</td>
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<td>CFP</td>
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<td>Chamber of Commerce and Industry</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CSI</td>
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<td>CSP</td>
<td>Corporate Social Performance</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<tr>
<td>CUSUM</td>
<td>Cumulative sum of recursive residual</td>
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<td>ESG</td>
<td>Environmental, social and corporate governance</td>
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<td>ECM</td>
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<td>Acronym</td>
<td>Description</td>
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<tr>
<td>FPE</td>
<td>Final Prediction Error</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GSIA</td>
<td>Global Sustainable Investment Alliance</td>
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<td>(H_0)</td>
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<td>Household Head</td>
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<td>Medium market capitalisation</td>
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<td>SAAR</td>
<td>Social Accountability, Auditing and Reporting</td>
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<td>South African Reserve Bank</td>
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<td>Statistics South Africa</td>
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<td>VAR:</td>
<td>Vector Autoregressive</td>
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CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

The world is facing various socioeconomic challenges related to natural disasters, global warming, epidemic diseases (such as HIV/AIDS), poverty, food insecurity and an unbalanced society. In assisting societies to address these challenges, companies and investors are channelling their capital towards investment strategies that promote environmental, social and corporate governance (ESG) concerns (Socially Responsible Investment Forum, 2006). This investment strategy of balancing environmental, social and economic concerns is popularly known as socially responsible investment (SRI). SRI is generally defined as a practice of directing investment funds in ways that combine investors’ financial objectives with their commitment to social concerns such as social justice, community development and healthy environment (Haigh & Hazelton, 2004:59). The definition of SRI has dominated academic debate for years (Dreblow, 2005; Freeman & McVea, 2001; Friedman, 1970; Haigh & Hazelton, 2004; Herringer, 2009; Jensen, 2001; Michelson et al. 2004; Schueth, 2003; Sparks, 2002; Sparkes & Cowton, 2004) and yet there is no consensus regarding this definition (Amaladoss & Manohar, 2013; Strasser, 2011:2; Viviers, 2007). In a broad sense, socially responsible investors integrate ethical principles, environmental, social and governance considerations into their investment decision-making (Viviers, 2007:1). This means that investment decisions are not only informed by profitability but other non-profit orientated factors such as the environmental management and companies’ effort to address any other challenges faced by the community.

The origin of what is known as SRI goes back hundreds of years when Jewish law put down numerous directions about how to invest ethically (Herringer, 2009:11; Schueth, 2006:1). For generations, religious investors have avoided investing in business that profits from enslavement or war (Renneboog et al., 2007:1725). The awareness of social responsibility and accountability increased during 1970s and 1980s because of concerns regarding wars, civil rights and equality for women, labour management issues and anti-nuclear convictions (Schueth, 2006:2). For example, in the 1980s, millions of socially concerned investors used investment strategies to pursue the
South African government to stop its racist system of apartheid (Renneboog et al., 2007:1725; Schueth, 2006:2). Since 1990s, the SRI sector has experienced a remarkable growth globally and it is now a recognised type of investment as many stock markets have introduced the SRI Index (GSIA, 2013:32; JSE, 2004:2).

A number of studies (Gladysek & Chipeta, 2012; Hediger, 2010; JSE 2004, Renneboog et al., 2008; Schueth, 2006:4; Viviers, 2007:4) used three key pillars (known as investment strategies) to define SRI inclined investment decisions, namely screening, shareholder advocacy and community. Screening involves the process of analysing companies’ policies and attitude in order to determine whether their practices are in line with investor’s personal values and social priorities. Shareholder advocacy or activism focuses on how shareholders influence corporate behaviour positively by engaging with management on issues of social sustainability, while community investing focuses on channelling capital investment toward community development activities in order to alleviate social hardships (Schueth, 2006:4). Through these SRI strategies, individual investors and companies are encouraged to make investment decisions that consider social challenges.

In the South African context, SRIs are based mostly on the implementation of good corporate governance to promote sustainability. Sustainability is categorised into three pillars, namely environmental, economic, and social sustainability (JSE, 2004:2). Environmental sustainability encourages companies to use resources efficiently in order to promote sustainable development of the country. Economic sustainability involves good corporate governance practices that encourage long-term financial performance in order to adapt to changes in macroeconomic factors and ensure durable business activities (JSE, 2011:4). Social sustainability entails the establishment and maintenance of a positive relationship with all stakeholders. This involves development of strategies to promote “social upliftment, development and poverty reduction, while taking account of diversity, employment equity, empowerment, fair labour practices and [good] health and safety” (JSE, 2004:3).

In general, socially responsible investors are motivated by their desire to earn an economic profit while making a meaningful contribution to society. This implies that they direct their capital investments towards projects that promote sustainable

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economic development (infrastructural development, health care and educational initiatives) and encourage good technological and environmental practices. Thus, socially responsible investors try to maximise their profit and the welfare of the society at the same time (Hediger, 2010:520; Renneboog et al., 2008). Hence, the effect of their investment initiatives on economic development should be assessed.

1.2 PROBLEM STATEMENT

The SRI sector has grown considerably in recent years. At the end of 2012, the total worth of global SRI was estimated to be US$13.6 trillion and represented 21.8 percent of the total global assets managed professionally (GSIA, 2013:32). SRI in Africa was estimated to be approximately US$ 228.7 billion at the end of 2012, with South Africa representing about 95 percent of the SRI market in Sub-Saharan Africa (GSIA, 2013:32). This dominance of South Africa in the Sub-Saharan SRI sector was enhanced by the availability of an SRI platform provided through the launch of the JSE SRI Index in May 2004. This SRI Index aimed at encouraging JSE listed companies to comply with the issues of environmental, economic and social sustainability while ensuring returns on their investments (JSE, 2012). This index ensures a continuous sustainability of the SRI sector and is driver for increased attention to socially responsible investment in South Africa.

The existence of the SRI Index signals a good development of the stock market in South Africa because companies of the SRI Index mostly implement initiatives that address the three pillars of SRI, inter alia social, environmental and economic sustainability (Viviers, 2007:165; Wadula, 2004). In principle, a good development of the stock market is expected to encourage economic growth by improving domestic savings and increasing the quantity and quality of investments (Yartey, 2008). Findings from previous studies suggest a relationship between economic development and developments in the financial sector, noting that such relationship may depend on the nature of the economy (Garcia & Liu, 1999; Kwon & Shin, 1999; Liu & Hsu, 2006; Mookerjee & Yu, 1997; Naceur et al., 2007; Yartey, 2008; Yi & Yang, 2008). This relationship between the development in the financial sector and macroeconomic development has been investigated in the South African context (Gupta & Modise, 2011; Jefferis & Okeahalam, 2000; Reese, 1993; Yartey, 2008), but there has been
no specific study focusing on measuring the contribution of the growing South African SRI sector to economic development.

Previous studies (Demetriades, 2011; Gladyshek & Chipeta 2012; Gladyshek & Chipeta, 2012; Herringer et al., 2009; Vivers, 2007; Vivers et al., 2008; Vivers et al., 2009) conducted on the South African SRI sector, mostly focused on the growth of the SRI sector, the challenges facing this sector and the performance of SRI funds relative to their benchmark. A study by Vivers (2007:13) suggests that the demand for SRIs is closely related to macroeconomic conditions such as economic growth, interest rate, unemployment, inflation and exchange rate.

Furthermore, evidence shows that South African companies have increased their involvement in social sustainability (JSE, 2012). For example, a number of South African companies implement, coordinate and manage various sustainable development initiatives in the areas of education and training, capacity building, community support and health care (Flores-Araoz, 2011; GSIA, 2013; JSE, 2013). The literature shows that there are two major theoretical views on the relationship between financial and social performance (Scholtens, 2008:46). The first view suggests that SRI initiatives involve costs and conflicts with principles of maximising the value of the company (Friedman, 1970; Jensen, 2001). The second view argues that satisfying the interest of all stakeholders will result in improvement of companies’ financial and economic performance (Freeman & McVea, 2001). Thus, this effect of SRI initiatives on the companies’ financial performance has to be investigated in the South African context.

In addition to the aforementioned problems, SRI initiatives are reported quantitatively (in terms of money spent) and companies themselves mostly undertake the reporting. The companies’ reports may not give a clear picture of how these SRI initiatives affect the beneficiaries (the society), especially in the long run (Baker, 2006). Based on these reports, it also seems impossible to establish the involvement of the community members in designing the SRI initiatives. The affected communities should be given an opportunity to define expectations for those companies operating within their boundaries (Toppinen, 2011:121). Therefore, it is important to investigate whether or
not the local community plays a role in defining the social expectations of companies operating within its boundaries.

Additionally, it could be questioned whether these SRI initiatives continue running in the absence of the company's sponsorship; whether they are based on a model that can be expanded on a larger scale; whether they do not introduce additional costs; and whether they are effective in meeting their goals. These are among the questions investigated by the current research. Based on the above outline of the SRI sector and its potential impact on societies, the aim of this study was to analyse the effect of SRI on economic development in the South African context.

1.3 OBJECTIVES OF THE STUDY

The following research objectives have been formulated for the study:

1.3.1 Primary objective

The primary objective of this research was to conduct an econometric analysis of the effect of SRI on economic development in South Africa. The effect of SRI was analysed at both micro and macroeconomic levels.

1.3.2 Empirical objectives

In order to achieve the primary objectives of the research, the following empirical or secondary objectives were formulated:

- To assess the effect of SRI initiatives on the financial performance of companies within the SRI Index;
- To determine the volatility of the SRI Index relative to the overall stock market;
- To identify the interaction between South African SRI sector and macroeconomic growth and stability;
- To identify the involvement of the local (Bophelong) community in designing SRI initiatives;
• To determine the expectations/preferences of a local community towards implemented SRI initiatives;

• To examine how close the SRI initiatives match the preferences (or expectations) expressed by the community of Bophelong; and

• To determine how various socioeconomic and demographic characteristics of community members affect their perceptions towards SRI initiatives.

1.4 JUSTIFICATION OF THE STUDY

Growth in SRI initiatives have been motivated by a global movement towards addressing societal challenges related to natural disasters, global warming, epidemic diseases, food insecurity, poverty and inequality. The SRI initiatives, implemented by companies, must be aligned with the needs of the community and at the same time they should not compromise companies’ major objective of maximising investors’ (shareholders) wealth. This means that investors should fully understand the effect of SRI initiatives on companies’ financial performance and on economic development of the community such companies operate in. Thus, it was important to conduct a study on in the interaction of the South African SRI sector and micro and macroeconomic development in order to establish the effect of SRI initiatives on companies’ financial performance and economic development in the South African context. In shedding more light on the interactions between the South African SRI Sector and macroeconomic conditions, this study will assist companies in aligning SRI initiatives with the needs of the community and developing strategies that maximise the impact of SRI initiatives on economic development.

1.5 METHODOLOGICAL APPROACH

This study comprised a literature review and empirical study. A mixed method involving both quantitative and qualitative research methods were used for the empirical portion of the study. Qualitative methods involved the use of face-to-face interviews; while the quantitative part of the study involved the collection of information through a survey questionnaire and the analysis of time series available on secondary sources.
1.5.1 Literature review

Information was accessed from relevant textbooks, the internet, journal articles, business articles, academic journals, newspaper articles, online academic databases and companies' annuals reports. The literature review of this study mainly focused on:

- Explaining economic theories linking the principles of maximising investors’ wealth and social responsible investment;
- Explaining the link between dimensions of economic development and SRI decision making;
- Reviewing the empirical research on the relationship between developments in the SRI sector and macroeconomic development;
- Reviewing the empirical research on the relationship between social responsibility and economic performance of companies;
- Reviewing the existing empirical research on the role of SRI initiatives in improving the social welfare of the South African community; and
- Developing a comprehensive theoretical framework linking SRI to both microeconomic and macroeconomic developments.

1.5.2 Empirical study

The empirical portion of this study comprises the following methodology dimensions:

1.5.2.1 Target population

A combination of primary and secondary data was used. For secondary data, the target population encompassed all companies listed on the JSE. For primary data, the target population includes all companies within the SRI Index and all households within the Bophelong Township who benefited from the identified SRI initiative.
1.5.2.2 Sampling method for primary data

A non-probability convenience sampling method was used to select the sample for microeconomic analysis. The selection of the area was motivated by a recent SRI initiative of re-roofing houses in Bophelong Township, implemented by Company X (not mentioned due to confidentiality) in the Vaal Triangle during 2012-2013. This company was selected because of two reasons. First, it is based in Vaal Triangle so it was convenient for the researcher to access its SRI initiatives. Secondly, it has been in the SRI Index since 2005 and this shows that it has been consistently performing well in implementing SRI initiatives.

1.5.3 Measuring instrument and data collection method

1.5.3.1 Secondary data

Secondary data were used to achieve the first two empirical objectives. The variables used include the share price and returns of companies within the JSE SRI Index, and a number of various macroeconomic variables. These macroeconomic variables include Real GDP per capita, employment growth rate, real interest rate differentials, unexpected inflation, real money supply (M3) and real exchange rate (Bayoumi & Eichengreen, 1994; Gupta & Modise, 2011; Jefferis & Okeahalam, 2000; Yang & Yi, 2008; Yartey, 2008). Data on macroeconomic variables were obtained from the South African Reserve Bank (SARB) and Statistics South Africa websites. The average price of the JSE SRI Index and companies share prices were accessed from McGregor BFA Library. The sample period used is from May 2004 (the launch date of the JSE SRI Index) to June 2014.

1.5.3.2 Primary data

For the second part of this study, a self-administered questionnaire was utilised to generate the primary data from households in Bophelong Township of Emfuleni Local Municipality, Gauteng province, South Africa. The questionnaire covered issues that range from socioeconomic characteristics of households, their level of involvement in designing SRI initiatives, their level of participation in the implementation of SRI initiatives, their experience with SRI initiatives and their perceived impact of the SRI
initiative. Responses were measured using a five-point Likert scale adapted from a similar study on social investment funds by Wood (2005).

1.5.4 Statistical analysis

Quantitative methods such as co-integration test, vector error correction model (VECM), generalized autoregressive conditional heteroscedasticity (GARCH), capital asset pricing model (CAPM), regression analysis and causality tests were used to analyse the data. At least one of these models was used to achieve each of the aforementioned empirical objectives.

1.5.4.1 Analysis of secondary data

The event study methodology was used to assess how companies’ involvement in SRI initiatives affects their financial performance. This methodology tested whether or not an event such as the announcement of the performance of a company in SRI initiatives has an effect on the return of such company. The social performance was measured by a company’s inclusion in the SRI Index, while financial performance was measured by daily abnormal returns (AR) during the announcement of SRI constituents. Thus, the event study tested the following hypotheses:

**Hypothesis 1:** adding a company to the SRI Index for the first time has a significant effect on such company’s share return.

**Hypothesis 2:** removing a company from the SRI Index has a significant effect on such company’ share return.

In addition to the event study methodology, a GARCH model was used to test the volatility of the South African SRI Index relative to the overall stock market (JSE) volatility. The aim of this analysis was to establish whether the volatility of the SRI Index is similar to that of the overall market, especially during the time of announcing the composition of the SRI Index. Hence, the following hypothesis was tested:

**Hypothesis 3:** the return volatility of the SRI Index is different to the return volatility of the overall stock market.
For the third empirical objective, multivariate co-integration test and Granger causality test from a vector error correction model (VCM) were used to estimate the relationship between the SRI Index and macroeconomic variables. In establishing the co-integration between the variables, two models, namely the autoregressive distributed lag (ARDL) and the VECM were used. The ARDL was used to establish the relationship between the SRI Index and macroeconomic growth variables (real GDP growth and employment rate). Under ARDL model, the hypotheses were set as follows:

**Hypothesis 4:** there exist short-run relationships between the SRI Index and macroeconomic growth variables.

**Hypothesis 5:** there exist long-run relationships between the SRI Index and macroeconomic growth variables.

The VECM was used to assess the link between the SRI Index and the monthly observations in macroeconomic stability variables, which included consumer price index (CPI), exchange rate, money supply and term spread (interest on long-term government bond minus treasury bill rate). In the VECM, the hypotheses were set as follows:

**Hypothesis 6:** there exist short-run relationships between the SRI Index and selected variables of macroeconomic stability.

**Hypothesis 7:** there exist long-run relationships between the SRI Index and selected variables of macroeconomic stability.

### 1.5.4.2 Analysis of primary data

For primary data, this study adopted mixed methods, which combines qualitative evidence with a quantitative survey process. On one hand, qualitative methods involved the process of identifying major themes from interviews with community leaders, company representatives and open questions to the beneficiaries of the SRI initiative. On the other hand, a quantitative method used descriptive statistics, principal component analysis (PCA), graphical analysis, cross tabulations, to identify the impact of the SRI initiative as perceived by households. After establishing the households’
perceived impact of the SRI initiative, a binary logistic regression was used to estimate the effect of various socioeconomic and demographic factors on perceived impact of the SRI initiative of re-roofing houses in Bophelong. In the binary logistic regression, the hypothesis was set as follows:

**Hypothesis 8:** Household’s socio-demographic characteristics have a significant effect on the households’ perceived impact of the SRI initiative.

1.6 **ETHICAL CONSIDERATION**

This study complied with all ethical standards of academic research, which entails the protection of identities and interest of the participants. In addition, the information provided by participants were handled confidentially at all times, and the anonymity of the participants has been maintained throughout the reporting. Participation in the survey and interviews was strictly voluntary and participants were granted the right to withdraw from the research at any time. The permission was obtained from Company X to use its SRI project as a case for this study.

1.7 **CHAPTER CLASSIFICATION**

The study comprises the following chapters:

**Chapter 1- Introduction and background to the study:** This chapter includes the background and scope of the study, the research problem, the objectives, the contribution of the study to existing knowledge, an outline of the methodology adopted by the study and the justification of this study.

**Chapter 2- Theoretical literature review:** This chapter discussed the dimensions of the SRI, the screening process and strategies of SRI, and economic theories linking the SRI to sustainable economic development. It compared various approaches of SRI and developed a conceptual framework for this study.

**Chapter 3- Empirical literature review:** This chapter reviewed the empirical findings from investigations conducted on theories explained in Chapter 2. This includes a review of the empirical studies on the link between the SRI and macroeconomic development. It also reviewed the empirical findings on the link between companies’
social and economic performance. Finally, this chapter reviewed the methodologies used by previous studies on the topic and the impact of such methodologies on the empirical findings.

Chapter 4- Econometric models for analysis of SRI Index and its macroeconomic determinants: This chapter described secondary data used to conduct an econometric analysis of the SRI Index and its macroeconomic determinants. It started with an explanation of the data collection process; proceeded with a detailed description of the South African SRI Index and other macroeconomic variables used in the next chapter; and finally, discussed econometric models used to analyse secondary data.

Chapter 5- Empirical analysis of the JSE SRI Index and its macroeconomic determinants: This chapter presents the results and discusses the findings on the SRI Index and its macroeconomic determinants. It started with the analysis of the effect of companies’ involvement in SRI initiatives on financial performance. It then analysed the results on the return volatility of the SRI Index relative to the overall stock market. Finally, it discussed the results on the link between the SRI Index and macroeconomic growth and stability.

Chapter 6- SRI initiatives and micro-economic development: a case of the SRI initiative in Bophelong Township: This chapter analysed the perceived micro-economic impact of SRI initiatives at local economic development using a case of re-roofing houses in Bophelong Township. It described the sample selection and the process of collecting primary data. It explains the methods used in the analysis of this primary data, presents the results and discusses the findings on how local community perceived the impact of the selected SRI initiative.

Chapter 7- Summary, conclusions and recommendations: This chapter summarises the study with emphasis on the main findings, provides concluding remarks and presents the necessary recommendations and policy implications of this study. It ends with the limitations of the study and suggestions for future research.
CHAPTER TWO: THEORETICAL LITERATURE REVIEW

2.1 INTRODUCTION

Socially responsible investment (SRI) refers to investment strategies that encourage individual investors and companies to include social issues in their investments. Socially responsible investors believe that environmental, social, and corporate governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, and asset classes through time) (Socially Responsible Investment Forum, 2006). This suggests that both local and international investors ought to work together to promote socially responsible practices. There is, therefore, a need for a consistent definition that clarifies SRI concepts and limitations across borders (Herringer et al., 2009:17). However, the definition of SRI has dominated academic debate for years because the concept is so broad and cannot be defined in one dimension. The major objective of this chapter is to provide a detailed discussion on definitions and other theoretical concepts related to SRI and economic development. This chapter also aims to develop an integrated theoretical framework linking SRI to sustainable economic development. The first section of this chapter discusses definitions and strategies of SRI. The second section explains theoretical concepts of SRI. The third section takes a close look into the link between SRI and dimensions of economic development. The fifth section presents comprehensive theoretical frameworks linking SRI and economic development in the context of the current study. The final section provides concluding remarks on arguments presented in this chapter.

2.2 CONCEPTUALISATION OF SOCIALLY RESPONSIBLE INVESTMENTS

2.2.1 Defining SRI

Definitions and concepts of SRI have evolved over time and there is no consensus regarding the standard SRIs definition. Various concepts used to describe SRI include ethical investments, green investments, sustainable investments, value-based investments, community or cause-related investments, responsible investments, socially aware investments, socially conscious investments, and mission-based or mission-related investments (Haigh & Hazelton, 2004:59; Herringer & Firer, 2009;
Herringer, 2009:11; Michelson et al. 2004:1-2; Schueth, 2003:189; Sparks, 2002:23). All these concepts refer to the same general process and are used interchangeably sometimes. However, the two popular terms mostly used by researchers are the ethical investments and socially responsible investments (Renneboog et al., 2008:1723; Viviers, 2007:1). Before proceeding further, it is important to scrutinise these two concepts in order to identify any difference between their meanings.

Ethical investment is the older term (Sparkes & Cowton, 2004:46), which suggests that investments are based mostly on a person’s ethical disposition (Dreblow, 2005:5). This concept of ethical investment, which tends to linked with a code of moral principles that direct the behaviour of individuals and groups, was first introduced in investment portfolios by church investors (Sparkes & Cowton, 2004:46). Thus, religious organisations such as churches played a noticeable role in the early development of commercial ethical investment products. In early biblical times, Jewish law provided several directions about how to invest ethically; while Methodists and Quakers were responsible for the launch of the first ethical unit trusts in the United States (US) and United Kingdom (UK) in 18th century (Schueth, 2003:189; Sparkes, 2002:23).

As time passed, the concept of ethical investment was mostly replaced by a more modern concept of SRI (Sparkes & Cowton, 2004:46) as many of investors were uncomfortable about using the word ethics to describe investment because ethics refer to religious or moral principles that govern individual (Sparks, 2002:23). Furthermore, some investors insist that using the word ethical to describe specific types of investment might imply that other types of investment (not described by ethical investment) are unethical (Viviers, 2007:2). Following the same line of reasoning, the usually preferred term of SRI would appear to suggest that other types of investment (not described by SRI) are socially irresponsible, which might be appreciated more than an implicit accusation of unethical (Sparkes & Cowton, 2004:46). Thus, this adoption of the term of SRI increases the interest from institutional investors on socially responsible investments.

Despite these preconceptions, some researchers still use these two terms interchangeably (Dreblow, 2005; Michelson et al., 2004:1; Strasser, 2011:2). For the
purpose of this study, the concept of SRI is used in order to adopt a positive and broader approach towards the SRI sector. SRI refers to investment strategies, which are based on social, ethical, environmental and governance issues (Strasser, 2011:2). Haigh and Hazelton (2004:59) define SRI as, “a practice of directing investment funds in ways that combine investors’ financial objectives with their commitment to social concerns such as social justice, economic development and healthy environment”. Katsoulakos and Katsoulakos (2006:32) define SRI as an investment process that considers social and environmental consequences of investments in order to identify companies that meet certain requirement of social responsibility. In broad sense, socially responsible investors integrate the ethical principles, environmental, social and governance (ESG) considerations into their investment decision-making (Strasser, 201:2; Viviers, 2007:1).

Although there is no consensus regarding the definition of SRI, this study defines SRI as the process of integrating personal values and societal concerns, such as social and environmental issues, into business and investment decision-making (Schueth, 2003:190). Thus, SRI recognises that the generation of long-term sustainable profit depends on stable, well-functioning and well governed social, environmental and economic systems (Socially Responsible Investment Forum, 2006:1). SRI considers financial needs of the investors and the impact of their investments on society and recognises that valid investment decisions should consider corporate responsibility and societal concerns.

In the current period, the SRI sector has grown significantly and improved its ability to influence companies’ ethical behaviour successfully towards the environment, society and the economic system (JSE, 2012:1; Sparkes & Cowton, 2004:45). This explains the role of socially responsible investors in encouraging companies to make their business more socially responsible (Renneboog et al., 2008:1723). This process of making a business more socially responsible is known as corporate social responsibilities (CSR) (Ransome & Sampford, 2010) and is one of the two major components of the SRI sector. The second major component of the SRI sector involves SRI funds, which are managed by institutional and individual investors in the form of unit trusts and mutual funds (Sparkes & Cowton, 2004:45). This means that socially responsible investors can achieve their goals by investing in SRI funds or in
companies meeting high standards of CSR. A SRI fund is a socially responsible investment made by investors in SRI funds or companies, while CSR refers to corporate decisions promoting social, corporate governance, ethical and environmental issues (Renneboog et al. 2008:1723). Given that this study will mostly focus on companies’ SRI initiatives, it is necessary to explore the concept of CSR and its role in increasing companies’ social performance.

2.2.2 Corporate social responsibility

Several terms such as corporate citizenship, corporate accountability, business ethics, corporate social investment (CSI) and corporate responsibility have been used interchangeably with CSR (Amaladoss & Manohar, 2013:66). This study focuses on the broad term of CSR because it is used widely nowadays. CSR has been characterised by various definitions and most of them combine various issues such as a company’s business practice, its environmental practice, its labour practices, its community involvement, its commitment to human rights and any other issues that have a significant impact on the consumers’ impression of the company (Barthorpe, 2010:5; Environics International, 2001:3; Renneboog et al., 2008:1729). According to Hill et al. (2007:167), CSR is defined as the economic, legal, moral, and philanthropic activities of companies that affect the quality of life of relevant stakeholders. CSR is further defined as continuing commitment by companies to behave ethically and contribute to economic development, while improving the quality of life within the community and the society at large (Katsoulakos & Katsoulakos, 2006:13). These definitions suggest that CSR is defined based on socially responsible behaviour of companies in their investment decisions (Garriga & Melé, 2004:52). However, Campbell (2007:950) argued that it is difficult to define socially responsible corporate behaviour because it is often complicated to understand corporate behaviours. Broadly, CSR is defined as “a company’s positive impact on society and the environment through its operations, products and services and through its interactions with key stakeholders such as employees, customers, investors, communities and suppliers” (Katsoulakos & Katsoulakos, 2006:13).

The common point from the aforementioned definitions of CSR is that the concept of CSR is mostly based on the role of companies in integrating social, economic, and
environmental dimensions to fulfil the needs of the stakeholders (Carlisle & Faulkner, 2005:415; Barthorpe, 2010:6). Thus, CSR explains how companies direct their activities towards creating value for people (creation of well-being in and outside the organisation), planet (achievement of ecological quality) and profit (maximisation of profit), while communicating with all stakeholders on the basis of transparency (Amaladoss & Manohar, 2013:66; Cramer et al., 2004:6). Various definitions of CSR also reveal that the process implementing CSR cannot be generalised. In other words, each company develops a meaningful concept of CSR in its own context and defines its own implementation process in harmony with its strategies and business propositions (Cramer et al., 2004:6). Hence, the concluding remark from the definitions of CSR is that CSR mostly refer to SRI initiatives/activities implemented by companies based on the needs of the society such companies operate in. This suggests that companies identify SRI initiatives that are relevant to their specific communities.

2.2.3 Dimensions of SRI in the South African context

SRI and CSR definitions have been identified as diverse; therefore, it is necessary to discuss the various dimensions of SRI initiatives, especially in the South African context. The South African economy is fundamentally different from that of other developing countries due to its apartheid era, which created a high level of inequality within the society, and this is still hindering the country’s socio-economic development (Herringer et al., 2009:17). This suggests that the scope of SRI in South Africa may have unique characteristics that are not applicable to other developing countries. Therefore, there is a need to discuss the dimensions of the SRI in the South African context. SRIs are based mostly on the implementation of good corporate governance to promote sustainability. In the South African context, sustainability is categorised mainly into three dimensions, namely environmental, economic, and social sustainability (JSE, 2004:2; Glavič, 2005:553). These dimensions are essential pillars used by JSE SRI Index to assess South African companies’ policies and practices against globally and locally related corporate responsibility standards (JSE, 2011:2). Thus, South African companies are encouraged to integrate these dimensions in their business activities. Characteristics of these dimensions are summarised in Figure 2.1.
2.2.3.1 Environmental aspects of SRI

The dimension of environmental aspects is known as environmental sustainability through which companies are encouraged to use resources wisely in order to promote sustainable development of the country. Considering that all business activities have some level of impact on the environment, environmental sustainability encourages companies to reduce and control their impact on the environment through reduction of hazardous waste, recycling and environmental clean-up (Glavič, 2005:5614; Renneboog et al., 2008:1729; JSE, 2011). Environmental sustainability also focuses on the area of climate change by urging companies to show their efforts in dealing with the anticipated effects of their activities on climate change (JSE, 2011:4). Since 2011, the JSE SRI Index considers the area climate change as an additional dimension to be added to the aforementioned aspects of SRI (JSE, 2011:5). However, the present...
study takes the broad approach of classifying the issues of climate change under the environment aspects.

Environmental sustainability acknowledges that companies’ activities do not affect the environment in the same manner. Some companies, such as those in the mining sector, have high negative impacts on the environment, while others (such as those in financial sectors) have low impacts on the environment (JSE, 2012). Thus, socially responsible investors may rank companies based on their environmental impact (Glavič, 2005:558). In the South African context, the JSE SRI Index classifies companies as being low, medium and high impact based on their activities within their sector; bearing in mind, the direct impact of each sector on issues of climate change, air pollution, water pollution, waste and water consumption (JSE, 2011:3). The high impact categories include air transport, construction, beverage and tobacco, mining and metals, and oil and gas sectors; medium impact category include sectors such as electronic, hotels and catering, ports, and printing and newspaper publishing; and low impact category include information technology, telecommunications, research and development, and financial sectors (JSE, 2011:8). This categorisation of sectors may not be easy sometimes, especially when a particular company falls under more than one sector. However, the major objective of the categorisation is to identify the contribution of each company towards environmental sustainability. Therefore, companies are assessed based on their environmental damage relative to their contribution to economic development.

2.2.3.2 Economic aspects of SRI

Economic sustainability in SRI involves good corporate governance practices that encourage long-term financial performance in order to adapt to changes in macroeconomic factors and ensure a long-term profitability of the business (JSE, 2011:4). In assessing economic sustainability, a question is whether a company has positioned itself for long-term growth rather than only pursuing short-term performance (JSE, 2004:2-3). This encourages companies to develop economic policies that promote good business practice through investment in research development and quality assurance (Renneboog et al., 2008:1729). The key role of economic sustainability is to ensure that a company invests in socially responsible investment
without compromising the principle of profit maximisation. This is done through investment in developmental projects such as infrastructure and establishing good risk management strategies (Glavič, 2005:558; JSE, 2011:13). Thus, economic sustainability establishes a company’s ability to adapt to economic changes in order to assure long-term viability of the business (JSE, 2004:2-3). This suggest that economic aspects of SRI focus on investing in economic activities which eventually generate growth and improve the life standards of the society (Herringer et al., 2009:23). To add to this, economic aspects of SRI urge companies to maintain a good reputation within society by avoiding unacceptable economic practices such as corruption and bribery (Carlisle & Faulkner, 2005:416). The conclusion, therefore, is that through economic aspects of social responsibility, investors seek to promote sustainable economic growth and development of the society as whole.

2.2.3.3 Social aspects of SRI

This is a dimension of SRI often known as social sustainability. It entails the establishment and maintenance of a positive relationship with all stakeholders. Social sustainability involves development of strategies to promote “social upliftment, development and poverty reduction, while taking account of diversity, employment equity, community empowerment, fair labour practices and health and safety” (JSE, 2004:3). Through this dimension, companies are encouraged to treat all stakeholders with dignity, respect and fairness and recognise all their rights to life and security (Renneboog et al., 2008:1729; JSE, 2011:2). The aspect of social dimension focuses on the ability of a business to develop a good social policy to promote the development and empowerment of its employees and the community, maintain good labour relations practices and equal employment opportunities and support community development and poverty reduction initiatives (Barnett & Salomon, 2006:1110; JSE, 2011:2; Van den Bossche et al., 2010:68). Although the SRI dimension of social sustainability covers a broad range of issues, companies’ social expectations may vary from one society to another. In the South African context for example, social sustainability encourages companies to deal with other critical issues (such as BEE and HIV/AIDS) that may be unique to the South African society (JSE, 2011:42).
Overall, the three dimensions of SRI focus on sustainability of environment, society and economy. In the South African context, these three dimensions are used by the JSE SRI Index to conduct a comprehensive and complete assessment of South African companies’ policies and practices against globally and locally related corporate responsibility standards. Thus, these SRI dimensions establish the context through which socially responsible companies are identified in South Africa. It has been established that the social expectations vary with the needs of the society; hence, these dimensions may not provide a generic way of identifying socially responsible companies. However, this may not be a big issue, as socially responsible investors use various SRI strategies to identify investments that suit their individual needs.

2.2.4 SRI strategies

There are various motivations behind SRI but Schueth (2003:190) insists that (based on their motivations) socially responsible investors can be classified into two, often complimentary, categories. The first group of investors are motivated by the desire to align their capital investment with their personal values and priorities. The second group of investors use their funds to promote social change by supporting and encouraging improvements in quality of life (Schueth, 2003:190). These groups of socially responsible investors use a number of strategies to achieve their investment objectives. Previous studies (Katsoulakos & Katsoulakos, 2006:33; Renneboog et al., 2008:1732-33; Schueth, 2003:190-191; Viviers, 2007:4) use three key pillars to define SRI inclined investment decisions. These pillars involve screening, shareholder activism and community investing. These three pillars are known commonly as SRI strategies and are used by investors in selecting their level of involvement in SRI. Thus, it is necessary to discuss each of these SRI strategies in details.

2.2.4.1 Screening as a SRI strategy

Screening involves the process of analysing companies’ policies and attitude in order to determine whether their practices are in line with investors’ personal values and social priorities. Screening is based on three strategies, namely negative or exclusionary screening, positive or inclusionary screening and best-of-sector screening (Schueth, 2003:190; Viviers, 2007:5).
Negative screening involves the process of excluding companies from portfolios based on social, environmental and ethical criteria (Renneboog et al., 2008:1728; Schueth, 2003:190). Using negative screening, socially responsible investors avoid investing in companies producing undesirable products or services (Viviers, 2007:5). Negative screening does not only involve the exclusion of certain companies but it sometimes excludes the entire industry, economic sector or a country (Barnett & Salomon, 2006:1103). For example, the tobacco, alcohol and gambling industries are screened out of SRI funds. Through negative screening, socially responsible investors avoid investing in firms with products and business practices considered harmful to individuals, communities and environment. In the 1980s, for example, millions of socially responsible investors used negative screening strategies to pursue the South African government to stop its racist system of apartheid (Renneboog et al., 2007:1725; Schueth, 2003:190).

Although the negative screening strategy may be considered a good strategy to avoid investments in sin shares (companies associated with the production and/or sale of harmful products and services), this strategy has some drawbacks (Viviers, 2007:75). The first downside of a negative screening strategy is that it reduces investors' options (Sparkes & Cowton, 2004:55) by limiting the number of companies to invest in. This may, therefore, result in poorly diversified portfolios (Viviers, 2007:75), which eventually have a negative effect on the principle of maximising the return on investment. For example, a study by Kempf and Osthoff, (2007:921) found that socially responsible investors who implemented negative screening approach did not earn abnormal returns.

The second downside of negative screening strategy is that excluding bad companies does not necessarily transform such companies. From a theoretical viewpoint, it may be argued that negative screening would lower a company’s value by reducing the number of investors willing to provide investment to such a company (Viviers, 2007:75). However, this may not always be the case. For example, Heinkel et al. (2001:447) found that excluding polluting companies from portfolios did not transform the behaviours of such companies because the cost of environmental reform was
higher than the capital cost of being excluded. A further drawback of using a negative screen is in its subjective nature of labelling some investments as sin or immoral. This is a major critic towards negative screening approach as undesirable company behaviour mainly depends on the culture dominant in a country or a society. For example, Japanese investors do not consider investments in cigarettes, alcohol, gambling, nuclear power or weapons as anti-social, and subsequently, do not have negative screening towards such investments (Viviers, 2007:77).

• Positive screening

Positive screening seeks to identify companies considered good corporate citizens (Viviers, 2007:5). In positive screening, socially responsible investors select shares from companies that meet high CSR standards such as superior social and environmental performance (Haigh & Hazelton, 2004:61; Renneboog et al., 2008:1728). This includes companies with good labour relations, strong environment practices (such as water and waste management) and products that are safe and useful such as renewable energy and healthcare products (MISTRA (Mapungubwe Institute for Strategic Reflection), 2001:9; Renneboog et al., 2008:1728). Generally, positive screening allows socially responsible investors to invest in profitable companies that are considered to be making positive contributions to the society in which they operate. Therefore, this suggests that positive screening criteria vary from country to country. For example, criteria dealing with Black Economic Empowerment (BEE) and HIV/AIDS commonly used as positive screening strategy in South Africa (Giamporcaro & Pretorius, 2012:2) may not be relevant in a country with the low level of economic inequality and the low rate of HIV/AIDS.

The major drawback of positive screening is that it is more difficult to manage than negative screening. Investors cannot implement positive screening by simply looking at the products or services of a company to determine its suitability but they have to scrutinise a company’s corporate policies and practices on different issues of SRI (Viviers, 2007:82). This may be very expensive because it requires investors to conduct intensive analysis with the use of information, which is often not publically available. To add to this, positive screening may increase investment cost because of the time factor involved in screening and monitoring non-financial performance of
companies (Viviers, 2007:83). To attend to the shortfalls of negative and positive screening approaches, a new screening strategy that combines both negative and positive screens was developed. This strategy is known as a best-of-sector screening.

- **Best-of-sector screening**

The third screening process on sector basis is known as a best-of-sector screening (Viviers, 2007:6). This integrated screening approach allows investors to select companies based on the economic, environment and social criteria comprised by both negative and positive screens (Renneboog et al., 2008:1728). Thus, best-of-sector screening is a combination of positive and negative screening strategies. This best-of-sector screening approach is often called sustainable because it involves the process of selecting companies based on sustainable development, which refers to environmental, social and economic performance (ETHIBEL, 2008: par. 5; MISTRA, 2001:6). A best-of-sector screening process mostly focuses on major industrial sectors (including oil, chemicals, automotive and minerals) and uses a range of criteria to distinguish between the relative non-financial performance of companies in a particular sector (MISTRA, 2001:9). This strategy is based on balancing the negative and positive non-performance of a company and as a result, it does not exclude any company from investment selection. Hence, this strategy may be particularly suitable for the SRI sector in a relatively developing stock market such as South Africa (Viviers, 2007:84).

The common characteristic from the aforementioned three screening strategies is that their screening criteria vary with the needs of the society and investors’ personal values. This implies that generalising outcomes of a screening process may not be advisable. Hence, a choice of a screening process should be informed by careful research (Schueth, 2003:191). From investors’ point of view, the screening process may play an important role in encouraging companies to comply with criteria of SRI. The major drawback associated with some of these screening strategies is that they tend to label a firm or an industry positively/negatively based on investors personal value. For example, based on negative screening, socially responsible investors may exclude company on the grounds that it produces alcohol and ignore the incredible efforts such company has made (and/or continues to make) in areas of responsible
procurement, community upliftment, HIV/AIDS education and environmental management (Viviers, 2007:84). Hence, a combination of different screening approaches is recommended as it can allow socially responsible investors to have a broader view of SRI initiatives.

2.2.4.2 Shareholder activism as a SRI strategy

The second major SRI strategy is known as shareholder activism. Generally, shareholder activism refers to the shareholder’s use of voting rights to achieve political, financial or other objectives (Sparkes & Cowton, 2004:51). Sometimes, shareholder activism is called shareholder advocacy, but Sparkes and Cowton (2004:52) noted a distinction between these two terms. They mentioned that shareholder advocacy focuses on a single issue, with no financial interest and seeks confrontation and publicity, while shareholder activism focuses on multiple issues with strong financial interests, and avoids confrontation and bad publicity. Although shareholder advocacy and shareholder activism may sometimes be similar, this study will constantly use the term shareholder activism.

In the context of SRI, shareholder activism focuses on how shareholders influence corporate behaviour positively by engaging with management on issues of social responsibility (MISTRA, 2001:8). In this strategy, socially responsible investors use discussions or their voting rights to influence companies’ actions towards social, environmental and ethical issues (Renneboog et al., 2008:1728). These socially responsible investors often use a collective effort to direct management on issues believed to improve a company's financial performance and the wellbeing of all company’s stakeholders (Schueth, 2003:191). In South Africa, for example, socially responsible investors engage with the management of JSE-listed companies on issues directly affecting their customers, employees, local communities, the natural environment and any other stockholders (Viviers, 2007:6). Hence, socially responsible investors persuade South African companies to develop strategies that deal with specific issues such as BEE and HIV/AIDS.

Although shareholders use their voting rights in pursuing companies to improve their policies and practices related to SRI initiatives, this strategy has some shortcomings. First, it is not easy to measure the impact of shareholder advocacy on a company’s
policy and practice (Sparkes & Cowton, 2004:51). Secondly, shareholders need to have a significant share in a company for their views to be carried through (Viviers, 2007:86) and it may not always be easy for a socially responsible investor to own a significant part of a company. This means that socially responsible investors should control the majority of a company’s shareholding and this is not always the case. Therefore, it appears to be difficult to conclude on whether shareholder advocacy is a good strategy to improve companies’ involvement in SRI.

2.2.4.3 Community investing as a SRI strategy

Lastly, socially responsible investors can use community investment strategies to define their investment decisions. This strategy is also known as cause-based investing because it involves the process of supporting a specific cause by investing in it (Viviers, 2007:5). The approach of community investing focuses on channelling capital investment toward community development activities in order to alleviate social hardships (Schueth, 2006:4). Community investing plays a significant role in the development of disadvantaged communities by providing access to financial services (such as credit, equity and banking products) to low income households, supplying capital for small business, and providing vital community services (such as child care and healthcare) (Schueth, 2003:191). In the South African context, community investing often focuses on specific areas including BEE and development of social infrastructure such as schools, health-care and roads (Viviers, 2007:6).

Community investing is classified as primary investment because it has an influential and visible impact on various economic objectives such as infrastructural development, job creation and improvement of the standard of living in the community (Viviers, 2007:87). This suggests that the output of community investing can be observed easily. Hence, community investing facilitates the measurement of the effect of this SRI strategy on the society. However, it is important to remember that community investing does not work in isolation but it is mostly a result of other SRI strategies. In other words, an increase in community investing mostly results from other strategies such as shareholder activism (Sparkes & Cowton, 2004:51). For example, investing in infrastructural development may be a result of a policy formulated through shareholder activism. Thus, this implies that these SRI strategies
are complementary; hence, investors should combine them to achieve their SRI objectives. For example, a number of South African SRI Funds achieve their investment objectives by combining community investing with positive screening (Viviers, 2007:99).

Based on the discussion on these three major SRI strategies (screening, shareholder activism and community investing), their three key roles in promoting economic development can be identified. First, SRI strategies encourage companies to get more involved in SRI initiatives, which eventually tend to benefit the company and its stakeholders. Secondly, SRI strategies may have a positive effect on companies’ financial performance by encouraging companies’ managers to improve their management strategies. This involves the development of policies and practices that ensure the sustainability of the companies and all its stakeholders. Finally, SRI strategies encourage companies to have a direct contribution to the development of the society in which they operate.

Although SRI strategies explain how socially responsible investors attempt to encourage companies to adopt higher social and environmental standards, one may argue that these investors do not have much power to influence companies’ investment initiatives. For example, Haigh and Hazelton (2004:66) insist that SRI funds are unlikely to affect firms’ investment programs and some of these reasons are behind the misconceptions on SRI funds (de Jongh et al., 2007). On the other hand, Friedman and Miles (2001:542-3) reported that the UK SRI sector successfully influenced companies on social, ethical or environmental issues and that this influence was likely to increase. Other studies (de Jongh et al., 2007; Flores-Araoz, 2011; Hossain et al., 2013) have also shown that this has increased. These arguments suggest that it may be difficult to conclude on the power of socially responsible investors in influencing companies’ behaviours towards social, ethical or environmental issues. On top of being persuaded by socially responsible investors, companies may have other motives for implementing SRI initiatives. Hence, the next section explores theories explaining such motives.
2.3 SOCIALLY RESPONSIBLE INVESTMENT APPROACHES

In general, socially responsible investors are motivated by their desire of earning an economic profit while making a meaningful contribution to society. These investors direct their capital investments towards projects that promote sustainable economic development. Socially responsible investors mostly focus on investing in infrastructural development, health care and educational initiatives and encouraging good technological and environmental practices. This implies that socially responsible investors try to maximise their profits and the welfare of the society at the same time (Hediger, 2010:520; Renneboog et al., 2008:1730). These socially responsible investors encourage companies to focus on social welfare in addition to value maximisation. This raised a number of questions in the SRI discussion, including whether companies have to be socially responsible, why companies implement SRI initiatives and whether SRI initiatives influence companies’ financial performance (Renneboog et al., 2008:1729). To address these questions a number of theories, that seek to explain the rationale behind SRI initiatives, have been suggested. These theories may be classified into various categories, but this study focuses on the two major categories, namely value maximisation and stakeholder approaches (Jensen, 2002:235). Each of these groups of theories is discussed in detail in the following subsections.

2.3.1 Shareholders value-maximisation approach

Shareholders value-maximisation approach involve a group of theories with one common view that companies managers “should make all decisions so as to increase the total long-run market value of the firm” (Jensen, 2002:236). This implies that the sole role of social responsibility should be creating wealth for its shareholders (Garriga & Melé, 2004:52). This is a view of neoclassical economists who considered companies as closed systems only concerned about their shareholders (Steurer et al., 2005:265). This suggests that companies could only participate in SRI initiatives that contribute to the maximisation of shareholders’ value (Melé, 2006:4). According to Jensen (2002:236), the value to be maximised is the total market value of equity, debts and warrants. This is a market value, which is different from profit. However, in context of SRI, the term value-maximisation is replaced often by profit maximisation or wealth
maximisation (Friedman, 1970:1; Garriga & Melé, 2004; Secchi, 2007:351). Hence, these concepts are used interchangeably in this study. In the context of this study, the value-maximisation approach includes groups of theories that link SRI initiatives to a single objective of maximising shareholders’ value. The groups under the value-maximisation approach discussed in this study include utilitarian or instrumental and slack resources theories.

2.3.1.1 Utilitarian or instrumental theories

A major group of theories under value-maximisation approach has its origin in neoclassical economics hence; these theories are described as utilitarian or traditional. The term utilitarian refers mainly to the traditional economic approach of studying company’s behaviour solely based on profit-maximising function (Secchi, 2007:351). This means that companies should primarily be concerned with shareholders’ utility maximisation (Melé, 2006:4). Milton Friedman is one of neoclassical economists representing this stream of thought, as he expressed in his article published in New York Times Magazine that the sole social responsibility of a company is to increase its profits (Friedman, 1970:1). Friedman argued companies’ involvement in social responsibility should be motivated by a single objective of profit maximisation.

The group of utilitarian theories sometimes is called instrumental theories (Garriga & Melé, 2004:52; Orlitzky et al., 2003:405). The meaning behind the name instrumental is that a company is considered as the only instrument for wealth creation and its social activities are only a means of achieving economic results (Garriga & Melé, 2004:52; Ismail, 2009:201; Orlitzky et al., 2003:405). Secchi (2007:349) argues that using the term instrumental to describe this group of theories is somehow limited because this description only focuses on one discipline of social responsibility and omits multidisciplinary interconnections in defining this group of theories. He further mentions that the term instrumental (Garriga & Melé, 2004:52) may not be broad enough to capture all views related to this group of theories. Hence, Secchi (2007:349) insists on describing these theories as utilitarian.

Utilitarian theories recognise that a company is socially created and approved but insists that a company’s primary objective is to provide goods and services to society
at the right price and quality (Knox & Maklan, 2004:510). As a result, utilitarian theories argue that companies achieve the role of social responsibility by focusing on achieving economic objectives through social activities that generate profit (Garriga & Melé, 2004:64). Proponents of utilitarian theories maintain that if shareholders’ wealth is maximised, social welfare is also maximised and as a result, a company’s social responsibilities should only be challenged based on the ability of maximising its shareholders wealth (Margolis & Walsh, 2003:272). According to this utilitarian view, a company’s social responsibility depends on its financial performance; implying that social performance and financial performance are positively related across a wide range of industry (Orlitzky et al., 2003:406). Hence, companies should focus on single goal of maximising shareholders’ value and social performance will be achieved through this value maximization goal. Generally, this group of theories indicates that social welfare is maximised when all companies in an economy maximise their total wealth (Jensen, 2002:239).

To get a deeper understanding of utilitarian approach towards SRI initiatives, Secchi, 2007:350-54) divided utilitarian theories into two sub-categories, namely theories of social costs and functionalism (Secchi, 2007:351). However, Garriga and Melé (2004:53-54) used three sub-categories to discuss similar instrumental theories. Garriga and Melé’s (2004:53) sub-categories include maximising shareholder value, strategies for competitive advantages and cause-related marketing (Garriga and Melé, 2004:53). A comparison of these sub-categorisations is summarised in Figure 2.2. This Figure attempts to identify similarities in sub-categories of both utilitarian and instrumental theories. For example, fundamental concepts of social cost theory, under utilitarian theories, appear to be similar to those of strategies for competitive advantages and cause-related marketing, under instrumental theories. Furthermore, basic principles of functionalism, under utilitarian theories, are similar to those of maximisation of shareholder value, under the instrumental theories. This implies that utilitarian and instrument theories tend to use a similar method of conceptualising a company’s social responsibility (Ismail, 2009:201).
Effect of Socially Responsible Investment on economic development in South Africa

Sub-categories in Figure 2.2 show that concepts of social costs theory of utilitarian are similar to those of competitive advantage and cause-related marketing of instrumental theories. These theories insist that companies have a social responsibility because of their negative or positive non-economic influence on the socio-economic system in the community (Ismail, 2009:2001). This implies that companies conduct a cost/benefit analysis in order to determine the level of resources to allocate towards SRI initiatives (Siegel & Vitaliano, 2006). Furthermore, the concepts explained by functionalism theory, under utilitarian, are similar to those of maximisation of shareholders’ value under instrumental theories. Both functionalism theory and maximisation of shareholders’ value have a common principal of profit maximisation as the only motivation for companies to get involved in social activities. This stream of thoughts argues “what is most profitable to the corporation is also best for society” (Heal, 2004:3). In other words, there are no conflicts between a company’s goals and interest of society; implying that the social value for the whole economy can be maximised.
when companies maximise their profits for their owners, while at the same time consumers maximise their utility (Argandoña, 2011:2).

Despite different names and classifications, both utilitarian and instrumental theories focus on one goal of maximising the value of a company. This implies that these theories focus on increasing the total long-run value of the company within the legal framework and ethical custom of the country (Jensen, 2002:236). This implies that these theories seek to portray one message of profit/value-maximisation. Ismail (2009:200) mentions that utilitarian and instrumental theories may be used synonymously because there are similarities in both conceptualisations.

2.3.1.2 Slack resources theory

Another stream of thought classified under value-maximisation approaches is known as slack resources theory. This theory argues that companies with a weak economic performance are less likely to engage in socially responsible activities than companies with strong economic performance are (Orlitzky et al., 2003:406). The justification behind this argument is that companies with less profit have fewer resources to spare for socially responsible activities than companies with more profit have (Campbell, 2007:952). This view further insists that companies with weak financial performance suffer serious losses and would consider investing in SRI initiatives as putting shareholders value at risk (Campbell, 2007:952). This slack resources theory suggests that companies’ investment in SRI initiatives, to a large extent, depends on the availability of excess resources (Orlitzky et al., 2003:406, Margolis & Walsh, 2003:272). This implies that companies should focus on maximising their profits in order to secure excess resources to be invested in SRI initiatives. Hence, the slack resources theory maintains the common view of value-maximisation approach that companies’ social performance and financial performance are positively related.

The slack resources theory insists that companies’ financial performance always precedes social performance, suggesting that social performance cannot lead to a better financial performance (Orlitzky et al., 2003:406). In other words, the slack resources theory assumes that socially responsible activities do not contribute to the process of generating profits. This suggests that socially responsible activities may not have a positive effect on a company’s financial performance. Slack resource theorists
treat socially responsible initiatives as additional costs that may compromise the goal of maximising shareholders’ value (Campbell, 2007:952). Hence, slack theory insists that a company should maximise its profits in order to secure access resource to be invested in SRI initiatives.

2.3.2 Stakeholder approach

The second group of theories that explain the motive behind companies’ involvement in socially responsible activities can be described as stakeholder approach. This approach seeks to explain the interaction between a company and its immediate society. Contrary to value-maximisation approach, stakeholder approach argues that companies should take into consideration all their constituencies known as stakeholders (Jensen, 2002:241). The stakeholder approach sees a company as an open system that should manage its relations with society (Steurer et al., 2005:265). In other words, stakeholder approach positioned itself beyond the neoclassical view of treating a company as a closed system by extending the interest of a company to all stakeholders. Stakeholders refer to individuals or groups who can directly or indirectly affect (or be affected by) a company’s activities (Hitt et al., 2009:20). Stakeholders usually include investors, employees, business partners, customers, government officials, non-government, academics or religious organisations, local communities, society and environment (Jensen, 2002:236; Katsoulakos & Katsoulakos, 2006:43).

The stakeholder approach became a central point in the mid-1980s, especially after R. Edward Freeman’s stakeholder approach to strategic management in 1984 (Freeman & McVea, 2001:3). Freeman suggested that companies have to pay attention to their relationship with all stakeholders in order to be effective in the society (Freeman, 1999:234). The proponents of this approach argue that, in a competitive environment, a company may not survive without support from all its stakeholders (Freeman, 2010:33). In other words, stakeholder approach focuses on how companies interact with all their stakeholders in order to secure important resources provided by such stakeholders (Steurer et al., 2005:267). Some of these resources under the control of stakeholders may include natural resource, capital, labour and beneficial information. Hence, maintaining a good relationship with all stakeholders can be a source of competitive advantage because such stakeholders have resources and
power to influence a company’s survival, competitiveness and profitability (Good, 2002:4; Hitt et al., 2009:20).

Although the stakeholder approach appears to be advocating for equal treatment of all stockholders, it emphasises that stakeholders have different levels of influence on a company’s activities. Thus, this approach classifies stakeholders into categories based on their influence on a company’s activities. Three major categories of a company’s stakeholders (Hitt et al., 2009:21) are shown in Figure 2.3.

**Figure 2.3: Topology of stakeholders**

Source: Hitt et al. (2009:21)

Figure 2.3 shows that there are three major groups of companies’ stakeholders. The group of capital market stakeholders include shareholders and the other major suppliers of a firm’s capital; the group of the product market stakeholders include a company’s primary customers, suppliers, communities and workers’ unions; and the group organisational stakeholders include all employees of a company (Hitt et al., 2009:21). In addition to these groups of stakeholders in Figure 2.3, there is another group of stakeholders (non-government, academics or religious organisations) who may not appear to be directly affected by the company’s activities. Thus, according to stakeholder approach, a company does not exist only to earn profit but also to satisfy
the interest of all these categories of stakeholders (Ihugba, 2012:45). This seems to be contrary to the argument presented by value-maximisation approach that a company should maximise profits to a single stakeholder group, the shareholders. The stakeholder approach, therefore, proposes inclusive strategies of integrating the interests of all stakeholders, rather than maximising the interests of one group of stakeholders (Freeman & McVea, 200:6). However, this may not be a simple task as there may be a conflict of interest among stakeholders’ categories. In other words, each group of stakeholders has its own interest and as a result, it may be difficult to defend all stakeholders’ interests. For example, customers may expect a company to improve the quality and reliability of its products without a price increase, while capital market shareholders attach a price increase to the improvement of a company’s products. Due to these potential conflicts among stakeholders, stakeholder approach encourages companies to evaluate the demands of the different stakeholders’ groups and to make them match with the company’s objectives (Good, 2002:4).

In the context of SRI, a company has to take into consideration economic, environmental and social concerns from the aforementioned stakeholders’ categories, in order to develop inclusive objectives supported by every member of the society (Good, 2002:4; Freeman & McVea, 200:5). In other words, the stakeholder approach insists that companies should not only focus on creating an economic value to its shareholders, but to extend such value creation to all stakeholders (Argandoña, 2011:10). This implies that all stakeholders who voluntarily come together and cooperate to improve everyone’s condition can create an economic value (Freeman et al., 2004). Theories under the stakeholder approach are classified into various categories and often categories’ names tend to differ from author to author. In this study, theories under the stakeholder approach are discussed based on conceptualisation by Secchi (2007:350). Two major groups of these theories are managerial theory and relational theories (Secchi, 2007:350).

### 2.3.2.1 Managerial theory

The first group of the stakeholder approach that seeks to explain why companies engage in socially responsibility activities is known managerial theory. In a broad context, managerial theory focuses on how a company sets and implements its...
strategies in order to establish a direction (Melé, 2006:7). In the context of SRI, managerial theory focuses on how a company formulates strategies related to social responsibility. This theory, therefore, suggests that a company’s commitment to socially responsible activities should be assessed from inside the company at the level of strategic management (Ismail, 2009:3). It emphasises that company’s managers have a fiduciary duties to every stakeholder (Melé, 2006:8). This implies that, in developing policies and procedures, companies’ managers should consider every stakeholder’s rights and legitimate interests. In general, managerial theory seeks to explain managerial activities that justify the involvement of companies in socially responsible initiatives. Secchi (2007:350) classified managerial theories into three sub-groups, namely corporate social performance; social accountability, auditing and reporting; and social responsibility for multinationals. These three sub-groups of managerial theory focus on the commitment of one group of a company’s stakeholders (management) to improve a company’s social responsibility.

- **Corporate social performance**

Corporate social performance concentrates on how a company manages both economic and social factors in order to ensure that social factors contribute to a company’s economic performance (Ismail, 2009:3). This approach tries to incorporate the principle of social responsibility into a company’s business strategy based on the assumption that every business depends on society for its growth and sustainability (Secchi, 2007:536). This implies that companies should meet expectations of the society by adapting their behaviours to social needs and demands (Melé, 2006:2). In other words, corporate social performance depends on the extent to which a company fulfils or exceeds stakeholder expectations. This suggests that high corporate social performance can be achieved only when a company develops appropriate strategy and structure to close gaps in stakeholders’ expectations (Husted, 2000:41). Thus, this theory insists that companies should have socially responsible activities to meet the expectations of a society.

Corporate social performance put emphasis on expectations of the society because it is centred on the principle of legitimacy, sometimes referred to as legitimacy organisational theory (Deephouse & Suchman, 2008:49). This principle of legitimacy
states that society grants legitimacy and power to businesses and that a business, which
does not use such power in a responsible manner, will tend to lose it (Melé, 2006:2). Legitimacy depends on the relevant culture, values of a society and is reflective of the
dominant perception or expectations at that particular time (Ihugba, 2012:45). In other
words, legitimacy reflects a negative or positive goodwill generated by how all
stakeholders within a society perceive a company. Thus, companies engage in socially
responsible activities in order to maintain a good legitimacy within the community by
meeting the expectations of the society.

- **Social accountability, auditing and reporting (SAAR)**

The second sub-group of managerial theory is known as social accountability, auditing
and reporting (SAAR). This sub-group focuses on the role of accounting, auditing and
reporting procedures in improving companies’ social performance (Secchi, 2007:357).
This approach suggests that companies have a responsibility of communicating to all
interested stakeholders by publishing reports on their environmental, economic and
social performance (Melé, 2006:3). SAAR urges companies to account for their actions
so that the impact of companies’ activities on the relevant community can be assessed
(Ismail, 2009:201). This implies that stakeholders may evaluate the impact of a
company on the society. For example, reporting on SRI issues (communication and
disclosure) is one of the criteria used in including or excluding companies in the JSE
SRI Index (JSE, 2011:4). Thus, SAAR activities have a significant influence on
companies’ social behaviours because they ensure an efficient communication among
companies’ stakeholders, which eventually promotes a better involvement of
stakeholders (Ismail, 2009:202). However, it should be noted that SAAR, as a means
of communication between a company and its stakeholders, has some drawbacks.
For example, it may not be easy for all stakeholders to establish the impact of a
company’s socially responsible activities on the community based companies’ reports.
In other words, these socially responsible activities are reported in numbers, which do
not give a clear picture of how such activities affect the society especially in the long-
run (Baker, 2006).
Social responsibility for multinational corporations

The final sub-group of managerial theory is related to social responsibility for multinational corporations. Multinational companies bring with them new technologies, management systems and different kinds of corporate culture to the local business environment (Sethi, 2002:20). Sometimes, these corporate cultures and strategies may clash with local values. Hence, multinational companies tend to develop new strategies relevant to local community and business environment. The aspect of managerial theory to deal with this issue is known as theory of social responsibility in the international context. This theory attempts to define relevant socially responsible strategies for multinational companies (Secchi, 2007:357). It insists that multinational business should have unique socially responsible strategies in order to survive in foreign environment. In other words, multinational companies are expected to develop socially responsible strategies, in line with the local code of conduct, in order to avoid a clash of cultures, which involves events such as protests, demonstrations, boycotts, strikes, hostile commercial policies and other negative externalities (Ismail, 2009:202).

Furthermore, multinational companies are required to follow the ethical norms for the international economic environment (or global code of conduct); and as a result, they tend to have many social responsibilities beyond the logic of normal profit-making (Secchi, 2007:359). In the 1980s, for example, some international companies had to stop their profitable activities in South Africa due to sanctions against the South African racist system of apartheid (Schueth, 2003:190). In other words, these multinational companies fulfilled a social or ethical obligation, which involved compromising their profit. The theory for social responsibility for multinational corporations, therefore, maintains that companies should be proactive in developing strategies to main social responsibility and any other social challenges related to internal business activities (Secchi, 2007:359). Developing these strategies does not only allow companies to comply with the global code of conduct but it also offers socially responsible multinational companies an instrumental opportunity to create a positive public image in the local community (Sethi, 2002:24). Thus, multinational companies develop strategies for SRI initiatives in order to adapt to culture and values of communities in foreign countries and to conform to international standards. However, the success of these SRI initiatives depends on the local community’s expectations, company
reputation and the level of trust and cooperation between a company and stakeholders (Ismail, 2009:202). Hence, the theory for social responsibility for multinational corporations emphasises that multinational companies should be proactive in dealing with all its stakeholders.

### 2.3.2.2 Relational theory

In addition to managerial theories, another group of theories under the stream of stakeholder approach is relational theory. Relational theories have their origins from a complex relationship between a company and the environment (Secchi, 2007:360). These theories focus on the interactions between company’s internal dynamics and its external environment (Secchi, 2007:360). Relational theories are values-based and are centred on the interdependence between a company and society (Ismail, 2009:203). This implies that they focus on how a company can add value to the society. Relational theories argue that a company cannot exist or grow without a society. Hence, they maintain that companies should incorporate social demand (such as improving living conditions) into their business strategies in order to ensure a sustainable growth (Garriga & Melé, 2004:57). According to Secchi (2007:360), relational theories can be classified into four sub-groups, namely business and society, stakeholder management, corporate global citizenship and social contract theory. However, some concepts of the stakeholder management and social contract theory, such legitimacy of company within a society and stakeholder engagement, appear to be overlapping with other concepts of managerial theory, discussed in the previous section. Hence, this section only focuses on business and society, and corporate global of the rational theories.

- **Business and society**

Under rational theories, the sub-group of business and society mainly focus on defining the role of companies within society (Secchi, 2007:360). This group can be described as business in society because it attempts to define how a company’s socially responsible activities are crucial in explaining the interaction between companies and society (Ismail, 2009:202). In other words, this sub-group of relational theory defines social responsibility as one of a company’s obligations, which focuses on the effect of a company’s operations on the whole socio-economic system (Secchi,
For example, a company can use stakeholder engagement to communicate with the community in order to identify ways of minimising (or compensating for) any negative effects of such company’s activities on the community. Through such engagement, companies may establish efficient means of using socially responsible activities to develop an economic value in society. This theory of business and the society insists that the existence of any company depends on society; and a result, each company has direct or indirect obligations towards the society (Garriga & Melé, 2004:56). Hence, the business and society of relational theories maintains that socially investment activities are the key determinant of the role of a company in a society.

- The corporate global citizenship

The corporate global citizenship of rational theory focuses on how a company view, “its rightful place in society, next to other ‘citizens’ with whom the corporation forms a community” (Matten et al., 2003:111). Corporate citizenship considers companies as citizens who have rights and duties, suggesting that each company is expected to be a good corporate citizen (Secchi, 2007:360). Thus, the concept of corporate citizenship puts emphasis on rights and responsibilities of all members of the community, which are mutually interlinked and dependant on each other (Matten et al., 2003:111). In other words, companies are considered as any other citizens within a community. Therefore, companies are expected to participate actively in solving social problems, such as natural disasters, racial discrimination, epidemic diseases, poverty, food insecurity and pollution (Melé, 2006:9). This implies that companies’ rights and responsibilities towards the society vary in nature and importance from industry to industry and location to location. For example, the environmental issues faced by an energy company are expected to be of a different magnitude compared to those faced by a retail company. Furthermore, tackling issues of HIV/AIDS in the workplace may take on added intensity for company operating in Southern Africa, compared to companies operating in Europe (World Economic Forum, 2002:6).

It seems to be difficult to generalise corporate citizenship of the rational theory because it strongly depends on the type of community or country in which a company is operating (Ismail, 2009:203). Hence, World Economic Forum (2002:6) identified four
key elements in defining corporate citizenship in the global context. These four elements of global corporate citizenship are summarised in Figure 2.4.

Figure 2.4: Four elements of global corporate citizenship

Figure 2.4 shows that the main four elements of global corporate citizenship include good corporate governance and ethics, responsibility for people, responsibility for environmental impacts, and broader contribution to development. First, the element of good corporate governance and ethics encourages companies to develop strong ethical conduct policies and to comply with the law, regulations and international standards (World Economic Forum, 2002:6). Secondly, through the element of responsibility for people, companies are expected to promote human and labour rights and to implement products and employees’ safety programmes to ensure that stakeholders involved in the production process are not placed at risk (World Economic Forum, 2002:6). In the South African context for example, companies are expected to implement the BEE policy to minimise the level of inequality in the society by empowering members from previously disadvantaged communities. Thirdly, the element of responsibility for environmental impacts involves the issues of preserving environmental quality, adopting clean and eco-efficient production processes, sharing
environmental technologies and for some industries, engaging in global challenges such as climate change and biodiversity protection (World Economic Forum, 2002:6).

Lastly, the element of broader contribution to development focuses on companies’ efforts to contribute to broader social and economic benefits in host nations and communities (World Economic Forum, 2002:6). This element puts emphasis on the use of SRI initiatives to increase access to essential products and services (such as water, energy, medicines, education and information technology) for disadvantaged communities.

In general, all theories under the stakeholders approach appear to have one objective of encouraging companies to create sustainable economic and non-economic values for all stakeholders (Argandoña, 2011:10). Based on stakeholder approach, Katsoulakos & Katsoulakos (2006:34) summarise the major principles behind companies’ socially responsible activities as follows:

- serving all the company’s stakeholders is accepted as the best way to produce term success and to create a growing, prosperous company
- the company’s products and technologies are directed to contribute (as much as possible) to the culture, benefits and welfare of people throughout the world
- the company creates long term win-win relationships with stakeholders
- the company grows hand-in-hand with its employees supporting them to reach their full potential and to improve their standard of living
- the company success is directly linked to optimising stakeholder value (Katsoulakos & Katsoulakos, 2006:34).

These principles show that stakeholder approach seeks to resolve conflicting stakeholder demands, in order to create a long-term value for a company. These principles further indicate that stakeholder and value-maximisation approaches have some common points. Hence, the next section explores differences and similarities between these two approaches.
2.3.3 A comparison of value-maximisation and stakeholder approaches

The two aforementioned approaches of SRI, value-maximisation and stakeholder, have some common views. The major common point between these two approaches is that the long-run value of a company should be maximised. However, these approaches tend to differ when it comes to the process of maximising a company’s value and the motive behind socially responsible activities. This section explores some differences between these two approaches.

- Arguments on value-maximisation

Shareholder value-maximisation approach insists that a company should only have one obligation of maximising the economic value of its shareholders (Friedman, 1970:1; Jensen, 2002:236). This seems to suggest that the economic dimension of the SRI is more important than environment and social dimensions. In other words, the value-maximisation approach suggests that companies are not responsible for creating environmental and social values within society, unless such environmental and social values contribute towards profit maximisation. The stakeholder approach agrees with this issue of value maximisation but adds that social and environment values should also be maximised. Hence, stakeholders approach insists that government, society, companies and individuals have a responsibility of working together to create a sustainable economic, social and environmental development (Katsoulakos & Katsoulakos, 2006:18). In other words, stakeholder approach seems to suggest that value maximisation has more than one dimension.

To counter the above argument, proponents of value maximisation argue that “it is logically impossible to maximise [value] in more than one dimension at the same time, unless the dimensions are monotone transformations of one another” (Jensen, 2002:238). Hence, the value-maximisation approach maintains that a company’s involvement in socially responsible initiative should lead to a single objective of maximising profits (Garriga & Melé, 2004:53). On the other hand, the stakeholder approach continues to insist that companies’ growth and sustainability depends on society (Secchi, 2007:536), implying that economic value can only be created when all stakeholders work together to improve everyone’s condition (Freeman et al., 2004). This is summarised in the argument that you do well by doing good. According to the
stakeholder approach, a company should not focus on maximising value of a group of stakeholder (shareholders) but it should maximise the value of all stakeholders (Argandoña, 2011:10). However, this raises another controversial issue of maximising value of stakeholder with conflicting interests.

- **Conflicting interests among stakeholders**

  The stakeholder approach insists that a company should pay attention to all its stakeholders in order to maximise its value. However, value-maximisation approach argues that it is difficult to maximise the value of multiple conflicting stakeholders' interests. According to Jensen (2002:241), employees want high wages, vacations, medical benefits and pensions; customers want low prices high quality and expensive services; suppliers want low risk and high return; and communities want high charitable contributions, stable employment and increased investment. Hence, the value-maximisation approach argues that the stakeholder theory does not provide clear conceptual specifications of how to make trade-offs between these conflicting and inconsistent stakeholders’ demands (Jensen, 2002:242). However, the stakeholder approach argues that companies should evaluate the demands of the different stakeholders’ groups to match them with the company’s objectives (Good, 2002:4).

- **Conflicting views on social welfare maximisation**

  Another controversial point between these two approaches is based on the maximisation social welfare. From a value-maximisation point of view, social welfare is maximised when the total value of all companies is maximised (Heal, 2004:3; Jensen, 2002:239). However, this argument seems to make extreme assumptions of a perfectly competitive economy with no externalities, such as water and air pollution. Consequently, stakeholder approach argues that it seems practically impossible to have an economy with no externalities because companies’ operations have some direct/indirect positive or negative effects on the society (Secchi, 2007:360). The stakeholder approach, therefore, argues that a company should include socially responsible initiatives in its business strategies in order to be accountable for its effect on society. Theories of social costs, under value-maximisation approach, agree with the issue of companies’ effects on the society but insist that companies should conduct
a cost/benefit analysis in order to determine the level of resources to allocate towards SRI initiatives (Siegel & Vitaliano, 2006:4). This theory of social cost states that companies should use SRI initiatives to minimise costs related to relationship between the company and society. Thus, it suggests that companies’ involvement in SRI initiatives should be motivated by principles of minimising costs or maximising revenues. The motive behind SRI initiatives should therefore be profit maximisation.

- **Arguments on the status of a company within society**

Another controversial point between these two approaches is based on the status of a firm within society. The value-maximisation approach, under instrumental theory, considers a business as an artificial member of the society who should not have any responsibility other than making profit in a lawful manner (Friedman, 1970:1). This implies that a company should not take part in social activities on behalf of its shareholders but it should allow individual shareholders to get involved in socially responsible initiatives themselves. On the other hand, stakeholder approach, under corporate citizenship, argues that a company should be considered as citizen among citizens of society (Matten et al., 2003:111). A company, therefore, should have the same direct or indirect rights and obligations within the community as any other citizen. This implies that companies should be involved in SRI initiative to fulfil the social, economic and environmental obligation in host nations and communities.

Based on value-maximisation and stakeholder approaches, three major goals of a company’s social responsibility can be identified. These major goals are related to compliance, responsiveness and engagement (Katsoulakos & Katsoulakos, 2006:51). The issue of compliance involves the process of avoiding harm in the three dimensions of SRI. This includes ensuring safety of product and employees, avoiding losses and illegal activities such as corruption and environmental damage (Katsoulakos & Katsoulakos, 2006:51). Responsiveness refers to strategies of meeting reasonable stakeholder expectations in the three dimensions of SRI. This includes strategies related to achieving a good level of customer and employee satisfaction, maximising investors’ return and reducing a company’s impact on the environment. Lastly, engagement involves the maximisation of economic, social and environmental value. This focuses on achieving simultaneous sales and stock growth,
customer and employment growth and eliminating or offsetting environmental impacts (Katsoulakos & Katsoulakos, 2006:51).

Overall, these goals suggest that a company can earn high profits for shareholders while solving social needs of the community (Cochran, 2007:543). In other words, a responsible company acts as a conscientious citizen within a society; conducts its businesses accountably in the eyes of the community; makes decisions that do not harm; and earns fair profits that do not become an irreparable cost to the environment and the community as a whole (Responsible Business Initiative, 2010:19). This seems to imply that socially responsible activities may have an effect on dimensions of economic development. Hence, the next section explores the link between economic development and SRI.

### 2.4 ECONOMIC DEVELOPMENT AND SRI

Section 2.2.3 highlighted SRI as a multidimensional concept, which includes environmental, economic and social aspects. These aspects are described often as dimensions of sustainability, which need to be addressed in order to achieve sustainable development (European Commission, 2001:8). This implies that, through SRI initiatives, companies contribute towards a sustainable development. In broad sense, sustainable is defined as a process of growth and progress that fulfil “the needs of the present without compromising the ability of future generations to meet their own needs” (Strange & Bayley, 2008:24). This indicates that dimensions of sustainable development are broad and complex (Elliott, 2006:10; Clunies-Ross et al., 2009:21). Hence, this section discusses the link between SRI initiatives and sustainable economic development. It starts with a description of economic development and proceeds with a detailed discussion on the link between economic development and SRI at both microeconomics and macroeconomics levels.

#### 2.4.1 Conceptual overview of economic development

The definition of economic development is multidimensional in nature because it involves various aspects. Rao (2003:29) defines economic development as a comprehensive progression that leads to improvement of all areas of the society and the sustainable well-being of the total population, while reducing poverty and economic
deprivation within the society. In broad context, economic development refers to the improvement of living conditions and quality of life of the majority of the population due to economic growth, poverty alleviation, technological improvement, employment creation, the reduction of inequality and promotion of economic activities (European Commission, 2001:7; Carlson, 1999:10; Kindleberger & Herrick, 1977:1). Thus, economic development involves the process of improving living conditions of the population as a result of fundamental changes in structures of economics (Perkins et al., 2001). Sustainable economic development can, therefore, be achieved only when economic and social dimensions are balanced (UNRISD, 2011:1). Changes in economic aspects should eventually lead to changes in social dimensions, which eventually improve standards of living of individual households within a society (European Commission, 2001:7). This suggests that a sustainable economic development cannot happen without social change. Carlson (1999:10) illustrated that improving economic development through changes in underlying macroeconomic factors (such as modifications in exchange rates, adjustment of interest rates, monetary policy, inflation management and openness in markets) may yield positive results only if it is accompanied by social development reflected by changes in human factors. Hence, it is clear that economic development is a multidimensional process.

2.4.1.1 Dimensions of economic development

The multidimensional process of sustainable development involves economic, social and environmental aspects (Elliott, 2006:2). However, economic development often tends to put emphasis on economic and social aspects (Torjman, 2000:2). The economic aspect of economic development is centred mostly on the efficient use of resources to improve productivity. This involves the accumulation of capital, increase in technological advancement and infrastructural development (Carlson, 1999:10; Clunies-Ross et al., 2009:22; Rao, 2003:29). In other words, this economic aspect focuses on the economic growth of a particular community or a nation as a whole. Economic growth is the key aspect of economic development and sometimes these two terms are used interchangeably (Perkins et al., 2001:8). However, the two concepts are fundamentally different, economic growth refers to the growth in GDP per capita, while economic development refers to improvement in all structures of the
economic development mostly involves economic growth and social aspects.

The social dimension of economic development refers to the effect of economic growth on households’ standard of living. These social aspects are measured mostly by the degree of equality in income distribution, life expectancy, literacy rate, nutritional standards, poverty rate, housing quality, and access to safe water and health and social security (Carlson, 1999:10; Clunies-Ross et al., 2009:22). From a social perspective, the process of economic development involves poverty reduction, social investment, and the building of safe and caring communities (Torjman, 2000:2). Poverty reduction focuses the process of promoting an equal distribution of land and other resources and assets in order to realise full human and economic potential (Brandtland, 1987:13). Social investment focuses on building a healthy and educated community, while safe and caring communities focus on issues of good citizenship, which requires individuals and organisations to take the responsibility of promoting human well-being (Torjman, 2000:4).

Having shown that economic development appears to be a complex process, which mostly involves both economic and social activities, it is important to acknowledge that a balanced economic development cannot be achieved without a healthy environment. In other words, economic and social activities have an impact on the environment. This implies that the process of development involves the use of natural resources such as soil, water and air, which may eventually affect the state of the environment (Elliott, 2006:45). Therefore, it seems difficult to achieve a sustainable economic development without affecting the environment. However, Torjman (2000:2) argues, “environmental challenges are primarily social issues in that they are largely a function of human behaviour”. This seems to suggest that social aspects of economic development mostly address the environment challenges. Hence, this argument explains why the economic development tends to be expressed mostly in two dimensions. However, achieving sustainable economic development requires economic and social progress which promotes growth, employment and improvement of living standards, and at the same time establishing a solid environmental protection (Leggett & Cater, 2012:1) In other words, society has to maintain a healthy economy (Clunies-Ross et al., 2009:22; Perkins et al., 2001:8). In other words, economic development mostly involves economic growth and social aspects.
environment in order to sustain human well-being (Torjman, 2000:2). Thus, the environmental aspect of sustainable economic development cannot be neglected.

2.4.1.2 Challenges of sustainable economic development

Having explained dimensions of economic development it is necessary to explore some of the challenges involved in achieving a sustainable economic development. Given the context of this study, understanding these challenges may assist in establishing whether socially responsible initiatives seek to address some of these challenges. Challenges of sustainable economic development evolve from the interaction between people and the environment (Elliott, 2006:2). In other words, these challenges involve both human and natural factors. In the broad context, sustainable development challenges are related to the gap between rich and poor due to environmental degradation, unsustainable consumption and production, and food insecurity and malnutrition (Elliott, 2006:4; World Summit on Sustainable Development, 2002:2; UNDESA, 2013:V). In context of wide global community, some of these challenges are explained briefly as follows:

- **Extreme poverty**

Poverty eradication is one of major challenges of sustainable economic development. In 2010, about 700 million people lived in conditions of extreme poverty and this level of poverty seems to continue as more than one billion people were still living in extreme poverty in 2013 (UNDESA, 2013:V-VI). This indicates that the worldwide number of people living under extreme poverty conditions is increasing. This increase is associated with changing consumption and production patterns, and unequal distribution of resources. (World Summit on Sustainable Development, 2002:2). This implies that extreme poverty leads to inability of maximising potential production (Thomas & Wint, 2002:2). To add to this, this extreme poverty has a huge impact on health issues such inadequate access to medicine and health care (Katsoulakos & Katsoulakos, 2006:20). Thus, extreme poverty tends to undermine an economic development of a community or a country as a whole.
Unequal society

Another challenge of sustainable development is related to a high level of inequality within society. This is mostly shown by the increase in income inequality within many countries (UNDESA, 2013: V) and a high level of inequality in access of resources (Elliott, 2006:4). Furthermore, human society tends to be divided between the rich and the poor and the gap between the developed and developing nations continues to increase ((Leggett & Cater, 2012:4; World Summit on Sustainable Development, 2002:2). This high level of inequality tends to weaken the process of achieving an inclusive economic growth and equal access to social, education and healthcare services (UNDESA, 2013: VII). Hence, the high level of inequality makes the society unsustainable and constrains achievement of economic development. In other words, high levels of inequality within current society make it difficult to achieve a broad sustainable development.

Environmental degradation

The deterioration of the environment is another obstacle towards a sustainable development. The process towards a sustainable economic development involves the use of natural resources such as water, energy, air and mineral resources. Bearing in mind that some of these resources are not renewable, it should be acknowledged that there are some inevitable consequences to the environment. This explains why the global environment continues to suffer due to the impact of human activities on the environment (Elliott, 2006:4). The major environmental challenges are related to resource degradation, climate changes, air and water pollution, and natural disasters (Elliott, 2006:21-21, World Summit on Sustainable Development, 2002:2, UNDESA, 2013:VI). In other words, the process of maintaining good environmental conditions should accompany strategies of achieving sustainability. Hence, environmental degradation appears to be one of the challenges of sustainable development.

Food insecurity and malnourishment

Another major challenge of sustainable economic development is related to food insecurity and malnutrition. Food insecurity and malnutrition are among persistent problems faced by many communities of developing countries (UNDESA, 2013: VI).
This implies that these communities of developing countries cannot achieve a sustainable economic development without dealing with issues of food insecurity and malnutrition. Strategies for sustainable economic development, within these communities, have to deal with issues of food and nutrition insecurity. In other words, resources are shifted mostly towards the process of food and proper nutrition in order to improve the living standards of members of society (Leggett & Cater, 2012:4). Hence, a society with high levels of food insecurity tends to find it difficult to achieve a sustainable economic development.

- **Inadequate health care services and medicines**

In addition to food insecurity and malnutrition, the world is faced with health-related challenges. In 2006, nearly half of the world’s population had inadequate access to medicine and health care (Katsoulakos & Katsoulakos, 2006:20). In 2013, the World Health Organization (WHO) estimates show that two billion people worldwide have inadequate access to quality healthcare and medicines (Aerts, 2013:2). Furthermore, this inadequate access has increased the intensity of preventable and treatable diseases such as malaria, tuberculosis, HIV and AIDS (Aerts, 2013:2). This implies that the world has to deal with the complexity of the inadequate access to health care services and medicines by improving the process of providing access to health care services and medicines.

- **Rapid urbanisation and unemployment**

Sustainable economic development is challenged by a high rate of urbanisation and unemployment. Urbanisation increases due to wages and employment opportunity differentials between rural and urban areas. According to a projection by United Nations Population Funds, 80 percent of the South African population are expected to be residing in urban areas by 2050 (Elliott, 2006:406). This increasing urbanisation is a challenge for developing countries where cities need to have augmented resources in order to increase their capability (Leggett & Cater, 2012:4). In other words, cities do not have enough resources, such as energy and infrastructure, to cope with the rapid growth of urbanisation. Hence, the increasing urbanisation requires major changes in the design and management of urban development, as well as considerable increases of both public and private investments in urban infrastructure and services (UNDESA,
Rapid urbanisation, especially in developing countries, is associated with limited employment opportunities in rural communities, suggesting that sustainable economic development’s strategies have to address employment needs of the rural community (Leggett & Carter, 2012:4). In other words, effective policies and strategies need to be introduced, in order to discourage this rapid urbanisation.

2.4.2 Linking SRI to sustainable economic development

Overall, sustainable economic development involves the process of improvement in economic, social and environmental aspects. Although sustainable economic development may focus on a particular location or community, its dimensions tend to focus on a range of global issues. In other words, sustainable economic development should be considered in the context of the wider global community because prospects of sustainable economic development of any given location/community tend to be affected by global factors, which are often situated at a great distance (Elliott, 2006:2). Furthermore, the process of achieving a sustainable economic development involves the interaction between people and the environment. Challenges of sustainable economic development, therefore, tend to be associated with human and natural factors. This implies that a multidimensional approach, which involves the process of addressing both human and physical environmental factors, is needed to address economic development challenges. Hence, all stakeholders, public and private, should work together in order to achieve a sustainable economic development.

The three dimensions of sustainable economic development are similar to dimensions of SRI, discussed in Section 2.2.3. Therefore, this suggests that companies’ engagement in socially responsible activities may play an important role in addressing challenging of sustainable economic development. Hence, the next section explores the relationship between SRI and economic development.

After highlighting the similarities between aspects of sustainable economic development and SRI dimensions, it would be safe to assume that SRI initiatives contribute towards sustainable development. In other words, the role of private companies and their policies in promoting sustainable economic development can be observed through this link between sustainable development aspects and SRI dimensions. Although the profit maximisation is a driving force for private companies,
their sustainability and mitigation of any externalities seems to be examined in conjunction with other relevant activities (Rao, 2003:30). These relevant activities examined by companies include the SRI initiatives implemented by these companies. SRI initiatives, therefore, contribute to the economic development by addressing various issues such as infrastructural development, human capital development, environmental protection, to name a few. The contribution of these SRI initiatives on sustainable economic development can be observed at microeconomic and macroeconomic levels.

2.4.2.1 SRI and economic development at microeconomic level

In a broad context, the literature shows that socially responsible investors try to maximise their profit and the welfare of the society at the same time (Hediger, 2010:520; Renneboog et al., 2008:1723). This literature suggests that the effect of SRI on the economic development is twofold, on the investors (individuals or institutions) and society (or community) of a specific area. This link between investor and community also is supported by the two major theories, value-maximisation and stakeholder approaches, of SRI. The stakeholder approach insists that companies improve their financial and economic performance by satisfying the interest of all stakeholders through implementation of SRI initiatives (Freeman & McVea, 2001:3; Hitt et al., 2009:20). This view suggests that SRI initiatives allow a company to consider all its stakeholders, while increasing the economic profit to be reinvested into the company or paid specifically to the shareholders. This suggests that through SRI activities a company adds value to all its stakeholders. Hence, SRI activities contribute toward sustainable economic development by improving of living standards of its stakeholders. Considering that stakeholders include investors, employees, business partners, customers, local communities, society and environment (Katsoulakos & Katsoulakos, 2006:43), this approach may assist in addressing some of challenges of economic development. For example, through community investing, companies may address challenges of poverty and unequal distribution of resources within a specific area.

Based on the shareholder value-maximisation approach, one can also identify the link between SRI and microeconomic development. Shareholders value-maximisation
approach argues that SRI initiatives involve costs and conflicts with principles of maximising the value of the company (Friedman 1970:1; Jensen, 2002:236). This view insists that a company should only invest in SRI initiatives for the sole purpose of maximising the long-run shareholders’ value. In other words, SRI initiatives should only be used as a tool to generate profit for a company’s shareholders. Based on this view, one can conclude that SRI initiatives may have a positive effect on the sustainable growth of a company by allowing such company to maximise its economic value. Furthermore, if a company’s profit is maximised, shareholders could increase their earning in dividends. Such an increase in dividends will lead to the increase in income for individual shareholders and eventually contribute positively to living conditions of a company’s shareholders.

The link between SRI and microeconomic economic development can also be discussed based on how a specific society or a community benefits from companies operating within its boundaries. Through SRI initiatives, companies are able to meaningfully contribute to society by directing their resources towards technological innovations, infrastructural development, health care and educational initiatives (JSE, 2004:4). For example, South African companies have increased their interest in implementing, coordinating and managing SRI initiatives in the areas of education and training, capacity building, community support and health care (Flores-Araoz, 2011). This has a direct impact on the economic development of the community of the areas targeted by these companies. It is important to note that the effect of the SRI on the economic development of a specific company or a specific area tends to produce a macroeconomic impact, especially in the long-run. Thus, it is vital to explore the effect of SRI on macroeconomic development.

2.4.2.2 SRI and economic development at macroeconomic level

The relationship between SRI initiatives and macroeconomic conditions can be treated as an interactive relationship. This means that SRI initiatives may have an impact on macroeconomic conditions and vice versa. First, SRI initiatives affect the macroeconomic development of a country by contributing to infrastructural development, environmental sustainability, social upliftment and poverty reduction, while taking account of diversity, employment equity, empowerment, fair labour
practices and health and safety (JSE, 2004:3). This suggests that SRI initiatives are one of the channels used by companies to address some of macroeconomic issues related to economic development. Thus, SRI encourages companies to conduct their operations in a way that “obeys the law, produces safe and cost-effective products and services, creates jobs and wealth, supports training and technology cooperation and reflects international standards and values in areas such as the environment, ethics, labour and human rights” (World Economic Forum, 2002:2). In other words, businesses are encouraged to operate responsibly by minimising any negative impact of their activities on people and the environment. Therefore, this suggests that SRI initiatives play an important role towards the environmental dimension of sustainable economic development.

Overall, the effect of SRI on sustainable economic development is observed mostly through community investing. In a South African context, for example, Herringer et al. (2009) and Viviers (2007:93) mention that SRI promotes economic development by:

- Using transformational infrastructure investments to support economic development in underdeveloped areas and contribute towards equitable access to economic resources. Such infrastructure projects mostly focus on sectors such as transport; telecommunication; water, waste water and solid waste; energy; and social infrastructure such as health, education, correctional service facilities as well as municipal infrastructure and services.

- Investing in agricultural development and providing integrated support for resource-poor farmers. This agricultural investment promotes economic development by enabling the sustainable use of resources.

- Providing low-income housing. This is done mostly through public-private partnerships and provides households with stable low-income opportunities to own houses.

- Promoting financial growth of black-owned small or medium-sized companies.

After the explanation on how SRI may affect economic development, it is vital to consider the effect of changes in macroeconomic conditions on SRI initiatives. Viviers (2007:13) mentioned that SRI initiatives are affected by changes in macroeconomic
variables such as economic growth, interest rate, unemployment rate, inflation and exchange rate. On the same topic, slack resource theory argues that a company will be less likely to invest in SRI initiatives if such company is operating in an economic condition with high inflation, low productivity growth and weak consumer confidence (Campbell, 2007:952). This argument may only be valid when a company fails to fulfil its commitments towards SRI initiatives due to poor economic conditions that affect its profitability negatively. Gladysek and Chipeta (2012) confirmed this in a study, which found that the financial crisis of 2008 affected the social performance of companies within the JSE SRI Index negatively. Therefore, this is in line with the proposition of slack resource theory that companies “will be less likely to act in socially responsible ways when they are experiencing relatively weak financial performance and when they are operating in a relatively unhealthy economic environment where the possibility for near-term profitability is limited” (Campbell (2007:952). In other words, changes in macroeconomic conditions may have an impact on companies’ social performance.

It is evident that there are interactions between SRI initiatives and economic development at both microeconomic and macroeconomic levels. Despite these obvious interactions, it is still important to identify the extent to which SRI initiatives affect economic development and vice versa. Hence, there is a need to develop a comprehensive framework linking SRI to the economic development.

2.5 AN INTEGRATED MODEL FOR SRI AND ECONOMIC DEVELOPMENT

Figure 2.5 presents a model comparing SRI initiatives and sustainable economic development. This is an integrated framework linking aspects of SRI to economic, environmental and social aspects of sustainable economic development. It shows that SRI initiatives, through their impacts on three aspects of sustainability, lead to business or social outcomes. Two arrows between business and social outcomes suggest that there is a two-way interaction between a company’s financial and social performances. This implies that a company’s financial performance affects and/or is affected by its socially responsible activities.
Figure 2.5: Framework linking SRI to the economic development

Source: Owner's construct

**Business outcome**

Business outcome refers to increases in revenues, cost reduction and risk reduction due to investment in socially responsible activities. Increase in revenues is linked with the role of social responsibility in improving a company’s image/reputation (Hediger, 2010:522), which leads to customer’s attraction, encouraging innovation through stakeholders engagement and improving employees productivity and attracting skilled potential employees (Knox & Maklan, 2004:25). Cost reduction refers to SRI strategies that increase employees’ retention and develop effective ways of reducing waste and managing energy. Risk reduction refers to the role of social responsibility in reducing a company’s exposure to ecological, social and employee-related risks (Knox & Maklan, 2004:27). For example, a company can identify potential risks or events through stakeholders’ engagement. Furthermore, a company may minimise/avoid labour-related risks, through socially responsible programmes and by maintaining a good relationship with its stakeholders such as employees and trade unions. Overall, socially responsible investment develops a mutual trust between a company and its
stakeholders and hence plays an important role in reducing potential risks associated with boycotts and loss of a company’s reputation (Knox & Maklan, 2004:25).

➢ **Social outcome**

Social outcome refers to the contribution of socially responsible activities to improvement of social welfare. This can take place at microeconomic and macroeconomic levels. Social outcome at microeconomic level is twofold, having a direct or indirect positive impact on a specific local community and individual stakeholders (USSIF, 2012:2). The positive impact on a local community is achieved through community empowerment, employment opportunities, addressing local challenges (e.g. HIV/AIDS) and improving access to resources (Knox & Maklan, 2004:28). In addition to increasing shareholders’ value, socially responsible initiatives create benefits to other individual stakeholders such as employees, customers, and suppliers. For example, SRI initiatives encourage companies to address poor labour and human right conditions, maintain fair treatment of customers and suppliers and disclose health, safety and environmental risks associated with their operations (Carroll, 1999:275; USSIF, 2012:2). At macroeconomic level, SRI initiatives contribute to macroeconomic performance (aggregate income and expenditure and employment), macroeconomic stability (interest rate, inflation, exchange rate and money supply) and environmental stability (Hediger, 2010:524). Although these social outcomes are defined easily, Knox and Maklan (2004:33) insist that their measurement is difficult. Hence, this framework suggests that both business and social outcomes of SRI initiatives can be observed through sustainable economic development.

➢ **Sustainable economic development**

A company’s social responsibility programmes contribute to sustainable economic development by either improving social welfare or improving a company’s financial performance (Hediger, 2010:524). This implies that SRI initiatives contribute to economic, social and environmental aspects of sustainable economic development. In other words, SRI involves programmes that promote equal access to resources (inequality reduction), contribute to poverty alleviation and reduction in pollution, improving social capital and infrastructure development, increase employment of
minority groups and access to education and health care services, and improve industrial health and safety (Carroll, 1999:279; UNDESA, 2013: V). For example, SRI contributes to sustainable economic development for South Africa by investing in social and infrastructural upliftment; promoting public-private partnerships; and promoting a good investment approach that ensures a better management of resources (Herringer et al., 2009:22). This suggests that SRI initiatives may assist in addressing sustainable economic development challenges discuss in Section 2.4.1.2. In a South African context, for example, SRI plays an important role in inequality reduction by encouraging companies to implement BEE policies.

Finally, the arrow moving from sustainable economic development back to business outcome indicates that companies continue to benefit from their SRI initiative in the long-term. For example, by investing in education and training initiatives within a specific community, companies contribute to increasing long-term employment prospects in a specialist field and, therefore, reduce recruiting costs. Similarly, by investing in crime prevention programmes, a company will have less insurance and security costs because of the reduced risks of theft and other criminal activities within the community (Good, 2002:2). Apart from creating benefits, SRI initiatives may lead to technical changes and diseconomies of scale, which potentially reduce investment and employment opportunities (Paul & Siegel, 2006:10). In other words, this framework suggests that socially responsible investment may produce both positive and negative outcomes. Hence, a net effect of SRI initiatives on the economic development should be considered.

2.6 SUMMARY AND CONCLUDING REMARKS

SRI is a multidimensional concept, which arouses debates and contestations about its relevance to the business world and society. Different terms have been used to define SRI. Some of these terms include ethical investments, green investments, sustainable investments, value-based investment, community or cause-related investment, responsible investments, socially aware investments, socially conscious investments, and mission-based or mission-related investments. The two popular terms mostly used by researchers are ethical investments and socially responsible investments. The term of ethical investment was used mostly in the early years and has now been
replaced by a more modern concept of SRI. SRI can be defined as an investment process that considers social and environmental consequences of investments in order to identify companies that meet certain requirements of social responsibility. In other words, socially responsible investors integrate the ethical principles and environmental, social and governance (ESG) considerations into their investment decision making.

There are two major components of the SRI sector, SRI funds and CSR. This implies that socially responsible investors can achieve their goals by investing in SRI funds or in companies meeting high standards of CSR. SRI funds refer to unit trusts and mutual funds, which are managed by institutional and individual investors in the form of unit trusts and mutual funds, while CSR refers to companies’ decisions promoting social, corporate governance, ethical and environmental. CSR mostly refers to SRI initiatives/activities implemented by companies based on the needs of the society in which they operate. In other words, companies identify SRI initiatives that are pertinent to their relevant community.

Overall, SRI has three dimensions, which include environment, economic and social sustainability. In the South African context, these three dimensions are used by the JSE SRI Index to conduct a comprehensive and complete assessment of South African companies’ policies and practices against globally and locally related corporate responsibility standards. Thus, SRI dimensions establish the context through which socially responsible companies are identified in South Africa. It has been established that these dimensions may not provide a generic way of identifying socially responsible companies because social expectations vary with the needs of the society. However, this may not be a big issue, as socially responsible investors use various SRI strategies to identify investments that suit their individual needs.

The three strategies of SRI include screening, shareholder activism and community investment. These SRI strategies allow investors to choose their level of involvement in issues of SRI. Screening process offers investors an opportunity to align their personal values with their financial objective while earning competitive returns. It is based on three strategies, namely negative, positive, and best-of-sector screening. From investors’ point of view, the screening process plays an important role in
encouraging companies to comply with criteria of SRI. The major drawback associated with some of these screening strategies is that they tend to label a firm or an industry positively/negatively based on investors personal values. However, this drawback is minimised when socially responsible investors combine different screening approaches.

The shareholder activism strategy seeks to facilitate a direct dialogue between companies’ management and shareholders about desired changes in corporate policy and practice. In this strategy, socially responsible investors use discussions or their voting rights to influence companies’ actions towards social, environmental and ethical issues. The final SRI strategy is the community investing which gives investors an opportunity to put money to work in local communities. It allows investors to have a direct impact in improving the living standards of community members. Community investing is classified as primary investment because it has an influential and visible impact on economic development of local community. In other words, this community investing assists in measuring the effect SRI initiatives have on the society because it produces observable outputs. However, it was emphasised that community investing mostly results from other strategies such as shareholder activism.

SRI strategies play an important role towards economic development by encouraging companies to get more involved in SRI initiatives, which eventually tend to benefit the company and its stakeholders, contributing positively to companies’ financial performance by encouraging companies’ managers to improve their management strategies and to have a direct contribution to the development of the society in which they operate. Although SRI strategies explain how socially responsible investors attempt to encourage companies to adopt higher social and environmental standards, arguments presented in this chapter suggest that it may be difficult to conclude on the power of socially responsible investors in influencing companies’ behaviours towards social, ethical or environmental issues.

Important theories behind SRI strategies can be classified into two major approaches, namely shareholder’s value-maximisation and stakeholder approaches. The shareholders’ value-maximisation approach involves a group of theories (utilitarian, instrumental and slack resource) with one common view that a company has a sole
social responsibility of creating wealth for its shareholders. Advocates of this approach insist that the maximisation of shareholders’ value should be the sole motivation behind a company involvement in SRI initiatives. The shareholder’s value-maximisation approach acknowledges that profit maximisation can lead to an efficient social outcome but this can only hold in perfectly competitive economy with no externalities. Although it is possible to have a perfectly competitive industry, it may be difficult to establish an economic function without externalities. Another general point from the value-maximisation approach is that it tends to concentrate on economic aspects of SRI, while giving less attention to the other two dimensions of SRI. It insists that a company can invest in SRI without compromising the principle of profit maximisation. This can be achieved through investment in developmental projects such as infrastructure and establishing good risk management strategies. It was concluded, therefore, that value-maximisation approach mostly focuses on the process of maximising profits but it tends to give less attention to damage caused by such processes.

The stakeholder approach involves a group of theories (under managerial and relational theories) that consider socially responsible activities as a means of interaction between a company and its immediate society. Contrary to value-maximisation approach, stakeholder approach argues that companies should take into consideration all their constituencies known as stakeholders. Stakeholders refer to individuals or groups who can directly/indirectly affect (or be affected by) a company’s activities. Stakeholders usually include investors, employees, business partners, customers, government officials, non-government, academics or religious organisations, local communities, society and environment. Advocates of the stakeholder approach argue that, in a competitive environment, a company may not survive without support from all its stakeholders. They insist that companies interact with all their stakeholders in order to secure important resources provided by such stakeholders. Hence, maintaining a good relationship with all stakeholders can be a source of competitive advantage because such stakeholders have resources and power to influence a company’s survival, competitiveness and profitability. Overall, it has been shown that all theories under stakeholder approach appear to have one objective of encouraging companies to create sustainable economic and non-economic values for all stakeholders.
A critical assessment of value-maximisation and stakeholder approaches show that these two approaches agree that the long-run value of a company should be maximised. However, these approaches tend to differ when it comes to the process of maximising a company’s value, the motive behind socially responsible activities and the status of a company within a society. Arguments between these approaches are based mostly on establishing the best way of satisfying conflicting interests among stakeholders, conflicting views on social welfare maximisation and on the status of a company within society. Based the views of these two approaches, three controversial points were identified. First, it seems practically impossible to have an economy with no externalities because companies’ operations have some direct/indirect positive or negative effects on the society. Hence, the argument of maximising social welfare under the assumption of a perfectly competitive economy with no externalities may not hold in real life. Secondly, it seems difficult to maximise the value of stakeholder with conflicting interests. Thus, the principle of maximising value of all stakeholders appears to be a stressful task to socially responsible companies. Lastly, it seems difficult to establish the role of a company within a society. The value-maximisation approach argues that a company should not take part in social activities on behalf of its shareholders but it should allow individual shareholders to get involved in socially responsible initiatives themselves. On the other hand, stakeholder approach argues that a company should be considered as a citizen among citizens of society. In other words, stakeholder approach insists that companies, therefore, should have direct or indirect rights and obligations within the community as any other citizen. This poses a critical question of whether shareholders are happy to allow their companies to invest in socially responsible initiatives or if they prefer to directly get involved in SRI initiatives.

Despite these controversial views between both approaches of SRI, one can conclude that a company earn high profits for shareholders while solving social needs of the community. In other words, a responsible company acts as a conscientious citizen within a society; conducts its businesses accountably in the eyes of the community; makes decisions that do not harm any member of the community; and earn fair profits that do not become an irreparable cost to environment and the community as whole. In this context, socially responsible activities are expected to have a positive effect on sustainable economic development.
In a broad context, economic development refers to the improvement of living conditions and quality of life of the majority of the population due to economic growth, poverty alleviation, technological improvement and employment creation, the reduction of inequality and promotion of economic activities. Therefore, sustainable economic development is a multidimensional process, which is achieved only when economic and social dimensions are balanced. On the top of these economic and social dimensions, environmental aspects are considered in sustainable economic development. Sustainable economic development has challenges related to the gap between rich and poor due, environmental degradation, unsustainable consumption and production, and food insecurity and malnutrition. In other words, these challenges of sustainable economic development evolve from the interaction between people and the environment and they involve both human and natural factors. This implies that a multidimensional approach, which involves the process of addressing both human and physical environmental factors, is needed to address economic development challenges. Hence, companies’ engagement in socially responsible activities may play an important role in addressing these challenges of sustainable economic development.

SRI initiatives contribute to economic development by addressing various issues such as infrastructural development, human capital development, environmental protection, to name a few. The contribution of these SRI initiatives on sustainable economic development is observed at both microeconomic and macroeconomic levels. At microeconomic level, socially responsible initiatives contribute to sustainable economic development by improving living standards of a company’s individual stakeholders and/or having a positive impact on a specific society or a community.

At macroeconomic level, the relationship between SRI and macroeconomic conditions was classified as an interactive relationship; implying that SRI have an impact on macroeconomic conditions and *vice versa*. SRI initiatives affect the macroeconomic development of a country by contributing to infrastructural development, environmental sustainability, social upliftment and poverty reduction, while taking into account diversity, employment equity, empowerment, fair labour practices, and health and safety. In other words, SRI initiatives are one of the channels used by companies to address some of macroeconomics issues related to economic development. On the
other hand, SRI initiatives are affected by changes in macroeconomic conditions such as economic growth, interest rate, inflation and exchange rate. This implies that a company is less likely to invest in SRI initiatives if such a company is operating in economic conditions with high inflation, low productivity growth and weak consumer confidence.

An integrated framework linking SRI initiatives and sustainable economic showed that SRI initiatives, through their impacts on three aspects of sustainability, lead to business or social outcomes. This framework suggests that there is a two-way interaction between business and social outcomes. This implies that a company’s financial performance affects and/or is affected by its socially responsible activities. Business outcomes of SRI initiatives are referred to as the improvement of a company’s financial performance, while the social outcomes refer to a company’s positive impact at microeconomic and macroeconomic variables. Furthermore, both business and social outcomes of socially responsible investment contribute to sustainable economic development, which eventually affects the business performance of a company.

Overall, this chapter provided a conceptual overview of SRI and sustainable economic development; reviewed theories linking the principles of maximising investors’ wealth and social welfare; and proposed an integrated framework linking SRI and economic development. However, it did not review the empirical studies that tested the discussed concepts and theories. The next chapter, therefore, will proceed with a review of empirical research on the role SRI initiatives play in improving economic development.
CHAPTER THREE: REVIEW OF EMPIRICAL STUDIES

3.1 INTRODUCTION

The previous chapter established that there is a relationship between SRI and various macroeconomic and microeconomic variables but did not confirm the nature of that relationship. Furthermore, the review of the theoretical literature showed that SRI initiatives could have either a positive or a negative impact on companies’ financial performance. However, it is not clear whether empirical evidence backs these explanations or not. Hence, this chapter reviews the empirical findings from investigations conducted on theories explained in the previous chapter (Chapter 2). First, a review of the empirical findings on the link between corporate financial performance (CFP) and corporate social performance (CSP) is conducted. Secondly, this chapter discusses the empirical studies that investigated the link between the SRI and economic development. It then proceeds with a review of the empirical findings on SRI in the South African context. Finally, it ends with concluding remarks on all empirical studies reviewed in the chapter.

3.2 SOCIAL RESPONSIBILITY DISCLOSURE AND COMPANIES’ FINANCIAL AND SOCIAL PERFORMANCES

A company’s social responsibility disclosure mostly refers to written reports through which a company discloses information on its socially responsible initiatives to internal and external stakeholders (Kaptein, 2007:74). This definition suggests that social responsibility disclosure plays an important role in assisting stakeholders in deciding whether a company takes societal concerns into their practices. This issue of including social concerns in a company’s strategies is referred to as corporate social performance. Thus, social responsibility disclosure reveals information related to a company’s social performance. This implies that the relationship between CSP and CFP is mostly affected by the level of social responsibility disclosure. It could therefore be difficult (if not impossible) to examine this relationship in situations where socially responsible activities are not fully disclosed.

Various studies (de Grosbois, 2012; Derwall et al., 2011; Font et al., 2012; Janney et al., 2009; Kaptein, 2007; Mahoney et al., 2013; Ullmann, 1985) attempted to
investigate the relationship between a company’s financial/economic performance, social responsibility disclosure and social performance. However, there seems to be no common conclusion among these studies because they have produced mixed results. Studies by Derwall et al. (2011), Hossain et al. (2013), Lin et al. (2009), Loureiro et al. (2012), Tsai et al. (2010) and Wahba (2008) found a positive relationship, while studies by Abiodun (2012), Galema et al. (2008) and Lopez et al. (2007) found a negative relationship. This implies that socially responsible initiatives can have either a positive or a negative effect on a company’s financial performance, and the relationship between a company’s financial performance and social responsibility disclosure can be either negative or positive. de Grosbois, (2012) and Ullmann (1985:540) mention that these inconsistent results might be associated with inappropriate definitions of companies’ socially responsible initiatives and deficiencies in the empirical data and methods used in SRI research. To add to this, other researchers (de Grosbois, 2012; Dubbink et al., 2008; Kaptein, 2007) concluded that the link between financial and social performance cannot be established without a transparent disclosure of socially responsible activities. Therefore, the lack of transparency in reporting of socially responsible initiatives contributes to inconsistent findings on the relationships between companies’ financial and social performances (Dubbink et al., 2008:392).

This section provides a detailed review of empirical findings on the interactions between companies’ social responsibility disclosure, CSP and CFP. Section 3.2.1 provides a review of the studies that investigated the link between social responsibility disclosure and CSP. Section 3.2.2 proceeds with a review of studies that investigated the relationship between social responsibility disclosure and CFP, while Section 3.2.3 discusses the empirical findings on the relationship between CSP and CFP.

### 3.2.1 Social performance and social responsibility disclosure

Corporate social responsibility disclosure plays an important role in assisting stakeholders in deciding whether a certain company takes societal concerns into consideration. This suggests that a company’s social responsibility disclosure can either have a positive or a negative effect on the company's financial performance. A study by Ullmann, (1985) compared empirical findings from seven studies that
investigated the relationship between social responsibility disclosure and corporate social performance, and found mixed results. Out of the seven studies, only three of them found a significant relationship between CSP and social responsibility disclosure, while four studies found no significant correlation. In the three studies (with significant relationship), two reported a positive relationship, while one found a negative relationship between the two variables. Overall, Ullmann’s (1985) review revealed that the relationship between social performance and social responsibility disclosure appeared to be relatively weak.

Other studies (Belal & Cooper, 2011; Branco & Rodrigues, 2008; de Grosbois, 2012; Font et al., 2012; Hartman et al., 2007; Idowu & Towler, 2004; Kaptein, 2007:71; Mahoney et al., 2013; Valiente et al., 2012) also produced mixed results on the relationship between CSP and social responsibility disclosure. Font et al. (2012) investigated the relationship between disclosure of CSR policies and CSR performance in ten international hotel groups and found that there was no consistent relationship between these two factors. Overall, their findings emphasised that larger hotel groups tend to have high levels of social responsibility disclosure with less delivery (low performance of CSR), while smaller hotel groups tend to have less disclosure and a relatively high level of delivery (Font et al., 2012:1544). These findings are similar to those of Branco and Rodrigues (2008) who examined social responsibility disclosure in the Portuguese banking sector during 2004 and 2005. Branco and Rodrigues (2008) concluded that larger banks attribute greater importance to social responsibility disclosure than smaller banks. Their findings indicate that larger banks tend to treat social responsibility disclosure as part of their reputation management strategies, which are used often to improve a company’s image. Hence, the level of social responsibility disclosure tends to be higher in the larger banks than smaller banks.

Based on the aforementioned findings, the relationship between social performance and social responsibility disclosure appears to be affected by the size of a company. Generally, large companies tend to show a higher level of socially responsible disclosure than small companies do. On the one hand, large corporations tend to disclose broad and exciting CSR policies but they did not implement all of them. Hence, they tend to have gaps in the implementation of their CSR policies. On the
other hand, small companies disclose specific and narrow CSR policies with most being implemented (Font et al., 2012:1544; de Grosbois, 2012:896). To a certain degree, this can also be attributed to the fact that large companies tend to develop and disclose their all ambitious socially responsible policies but have less chances of entirely fulfilling all disclosed CSR policies.

Another cause of the weak relationship between CSP and social responsibility disclosure is companies’ tendency to under-report or overstate their social responsible activities (Font et al., 2012:1545; Ullmann, 1985:543). Some companies under-report their social responsible initiatives when they do not fully disclose the costs associated with such initiatives. This implies that socially responsible initiatives may not be reported because they are sometimes considered to be conflicting with the shareholders’ interests of value maximisation (Ullmann, 1985:543). Some companies also tend to over-emphasise their socially responsible activities when they portray themselves as being responsible, while their practices indicate the contrary (Font et al., 2012:1546). This issue of over-reporting mostly happens in environments with unstandardised or unaudited CSR reporting, where companies can make exaggerated claims of CSR that may not easily be verified (Idowu & Towler, 2004:434).

These issues of under- and over-reporting are often associated with a selective disclosure of positive information about a company’s CSR performance with limited disclosure of negative information (such as a company’s contributions to the air pollution) in an attempt to create a positive company’s image (Font et al., 2012:1546). For example, Mahoney et al. (2013) found that a number of American companies used voluntary social disclosure to maintain their good image by publicising their stronger records on socially responsible activities to stakeholders, while withholding their weak records on socially responsible activities. Moreover, Belal and Cooper (2011) found that, for companies in developing countries, the main reasons for under-reporting of CSR include factors such as poor performance and the fear of bad publicity. In other words, these companies consider social responsibility disclosure as a public relations exercise (Idowu & Towler, 2004:434), which can be used in managing reputational risks such as environmental, ethical and social reputations (Friedman & Miles, 2001:523).
Social responsibility disclosure is also challenging because it is a voluntary process driven by various market and non-market factors, which vary from country to country. A study by Golob and Bartlett (2007) compared the process of social responsibility disclosure in Australia and Slovenia and found that social responsibility disclosure is influenced by a country’s specific factors. In Australia, social responsibility disclosure was found to be influenced by management and financial concerns, while in Slovenia the same disclosure was shaped by employee, community and environmental concerns. A study by Hartman et al. (2007) on a cross-cultural analysis of disclosure of socially responsible activities for USA and European companies concluded that social responsibility disclosure was different between USA and Europe. This study concluded that USA companies tend to justify the disclosure of socially responsible activities with financial elements, while European-based companies tend to add sustainability elements in justifying their socially responsible activities. In other words, the social responsibility disclosure is mostly influenced by one factor (financial concerns) in the USA, whereas in Europe the same disclosure is influenced by two factors (financial and sustainability concerns). Therefore, social responsibility disclosure is also influenced by cultural attitudes within a country or society (Belal & Cooper, 2011:659), implying that it may be very difficult to compare social disclosure meaningfully among the companies from different countries.

Overall, the aforementioned empirical findings suggest that the main reasons for poor social responsibility disclosure include (but are not limited to) lack of resources, the profit imperative, lack of legal requirements and knowledge/awareness, poor performance and the fear of bad publicity. Due to these factors, companies tend to over-report their positive impact on the society and under-report their negative impact. It is important to emphasise that transparency in reporting companies’ social responsibility disclosure is crucial because it assists in assessing companies’ CSP. Hence, Kaptein (2007:71) reasons that, in disclosing information, companies should balance various stakeholders’ needs in situations where it may sometimes be indispensable to disclose information that affect a company’s image negatively. To add to this, it is important to acknowledge that inconsistent results on the relationship between social performance and social responsibility disclosure may be attributed to other issues such as different methodologies applied, different measures of social
performance and lack of clarity with respect to the scope of social disclosure (de Grosbois, 2012).

### 3.2.2 The relationship between financial performance and social disclosure

The link between financial performance and social responsibility disclosure is based on an assumption that social disclosure facilitates investment decisions by reducing investors’ informational uncertainty (Ullmann, 1985:541). This assumption implies that the market reacts to information related to social responsibility; implying that social responsibility disclosure should have an effect on a company’s share price. Friedman’s (1970) study held a contrary view by asserting that a company’s socially responsible activities are wasteful and, disclosing such activities could decrease a company’s market share price. However, for investors who are willing to pay a premium price for a socially responsible company, social disclosures could increase a company’s market share price. Therefore, this suggests that the relationship between the financial performance and social disclosure can be either positive or negative, depending on the investors’ views towards socially responsible initiatives.

Empirical studies (Belal & Cooper, 2011; Dubbink et al., 2008; Janney et al., 2009; Kaptein, 2007; Ullmann, 1985) that investigated the relationship between social disclosure, company image, interest and profits produced mixed results. Therefore, this tends to confirm the aforementioned assumption that the relationship between the financial performance and social disclosure can be negative, positive or non-significant. Ullmann (1985) reviewed eleven studies that investigated the relationship between financial performance and social disclosure. Three studies reported a non-significant relationship between financial performance and social disclosure, while the remaining eight found a significant relationship between these two factors. Among these eight studies, seven reported a positive relationship and one found mixed results (positive and negative). Ullmann’s (1985) findings suggest that there appears to be a positive relationship between financial performance and social disclosure.

A study by Janney et al., (2009) also revealed a positive relationship between a company’s financial performance and social responsibility disclosure. This study used an event study methodology, on a sample of 175 global companies, to investigate the market’s reactions to the announcement of companies’ affiliation with the United
Nations Global Compact (UNGC). Joining UNGC highlights a company’s commitment to supporting human rights, good labour relations, good environmental and anti-corruption practices (Janney et al., 2009:407). Hence, joining UNGC was viewed as twofold, namely transparency in social responsible disclosure, and commitment to a better social performance. Overall, Janney et al. (2009) observed a positive relationship between CFP and social responsibility disclosure. Therefore, this implies that increasing transparency in social responsible disclosure sends a good signal to the market.

Although findings tend to support a positive relationship between financial performance and social responsibility disclosure, some studies (McGuire et al., 1988; Tsoutsoura, 2004; Ullmann, 1985) raised the concern of the methodological effect on the results. It was emphasised that a positive relationship between financial performance and social responsibility disclosure was mostly found in studies that used accounting measures of financial performance. This implies that the method used to measure financial performance may have an effect on results. In addition to the methodological issues, there are other factors that explain the relationship between financial performance and social responsibility disclosure. Some of these factors may include ethical guidelines for companies’ social disclosure (Kaptein, 2007) and the issue of under-reporting and over-reporting discussed in the previous section.

Ethical factors are linked to transparency, reliability, responsibility and accountability, which guide a company’s social responsibility disclosure (Kaptein, 2007). In other words, these factors contribute to the ethical quality of a company’s social disclosure. Hence, they tend to justify the link between a company’s financial performance and social responsibility disclosure in the following ways (Dubbink et al., 2008; Kaptein, 2007):

- Transparency means that social responsibility disclosure facilitates sharing of responsibilities between companies and stakeholders in order to enhance their ability to contribute to a better society. A transparent social responsibility disclosure may also enhance efficiency by saving stakeholders’ (especially investors) time and effort spent searching for information relating to the societal activities of the company. In other words, transparent social responsibility
disclosure permits companies with high level of CSP to differentiate themselves from companies with a low level of CSP (Dubbink et al., 2008:392).

- A reliable social responsibility disclosure assists a company in gaining stakeholders’ confidence. For example, socially responsible investors would have confidence in a company if they were certain about the reliability of social information disclosed by such company.

- Social responsibility disclosure encourages companies to be more socially responsible and assists stakeholders in identifying responsible and accountable companies by encouraging companies to inform their stakeholders about the extent to which such companies realise their societal activities.

Therefore, it is clear that ethical guidelines for social responsibility disclosure can assist companies in assessing and improving the ethical quality of their social reports, and by implication, enhance the legitimacy and usefulness of social responsibility disclosure (Kaptein, 2007:71). However, one has to note that there are disadvantages attached to a full transparency. For example, full transparency may be costly to a company and some of its stakeholders, especially when it conflicts with other ethical values, such as the right to privacy of workers or other parties (Dubbink et al., 2008:393). This suggests that, in some instances, social responsibility disclosure can have a negative effect on a company’s interest. Such negative effect of social responsibility disclosure on a company’s interest could be one of the factors that explain the existence of a negative relationship between CFP and social responsibility disclosure.

Companies, therefore, may not commit to a complete social reporting, if social responsibility disclosure is expected to lead to additional costs. A study by Belal and Cooper (2011) found that companies in developing countries were not willing to commit the additional scarce resources, in terms of both time and money, for social responsibility reporting. There are two justifications behind these findings. The first justification is linked to Friedman’s (1970) assertion that a company’s main objective is to make profits and there is no room for diverting company resources to non-essential activities (Belal & Cooper, 2011:661). In other words, these companies in developing countries would only report their socially responsible activities if they are sure that such activities contributed to the maximisation of a company’s profit. The
second justification is directly linked to financial performance, where companies may forego social reporting in order to cut costs associated with social responsibility disclosure (Belal & Cooper, 2011:661). Furthermore, companies may not disclose their socially responsible initiatives because they do not have a convincing justification of costs associated with socially responsible activities, especially when shareholders’ profit is not fully maximised. This may explain the existence of a positive relationship between social disclosure and financial performance because companies with high financial performance would be expected to disclose their socially responsible initiatives, whereas companies with poor financial performance may be reluctant to disclose their socially responsible initiatives.

3.2.3 The relationship between financial performance and social performance

Empirical studies on the relationship between CSP and CFP have produced different findings. There is no consensus on the effect of socially responsible activities on a company’s financial performances. Some studies (Derwall et al., 2011; Lin et al., 2009; Loureiro et al., 2012; Luo & Bhattacharya, 2006; McGuire et al., 1988; Ruf et al., 2001; Shen & Chang, 2009; Wahba, 2008) concluded that CSP have a positive effect on a company’s economic performance, while others (Abiodun 2012; Lerner & Fryxell, 1988; López et al., 2007; Wright & Ferris, 1997) found that CSP affected companies’ financial performance negatively. In contrast, a number of studies (Alexander & Buchholz, 1978; Barnett & Salomon, 2006; Griffin & Mahon, 1997; Margolis & Walsh, 2003; McWilliams & Siegel, 2000; Roman et al., 1999; Wang et al., 2008; Wood & Jones, 1995) produced inconclusive results or found that SRI initiatives have no effect on a company’s financial performance. Some of these studies with their empirical findings are summarised in Table 3.1 and discussed in details in subsequent subsections 3.2.3.1 to 3.2.3.4.

<table>
<thead>
<tr>
<th>Author(s) and year</th>
<th>Topic investigated</th>
<th>Measure of CFP</th>
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</thead>
<tbody>
<tr>
<td>McGuire et al. (1988)</td>
<td>CSR and company’s risk and financial performance</td>
<td>Accounting- and market-based</td>
</tr>
<tr>
<td>Ruf et al. (2001)</td>
<td>The relationship between CSP and CFP</td>
<td>Accounting-based</td>
</tr>
<tr>
<td>Tsoutsoura (2004)</td>
<td>CSR and CFP in European companies</td>
<td>Accounting-based</td>
</tr>
</tbody>
</table>
Table 3.1 shows that empirical studies on the relationships between CSP and CFP mostly tend to use accounting- or market-based measures of CFP, with the exception of a few studies that used survey questionnaires. These two common measures of CFP, accounting and market-based measures tend to have a significant impact on findings (Peloza, 2009:1518). For example, a company’s social performance tends to be correlated more with accounting-based measures (such as return on equity) than with market-based measures (such as share prices) of financial performance (Orlitzky et al., 2003:403). These two measures have their weaknesses and strengths. On one hand, accounting measures capture only historical aspects of a firm’s performance and tend to be subject to bias from managerial manipulation and differences in accounting procedures (Tsoutsoura, 2004:11). On the other hand, market-based measures of CFP can be affected by other factors such as speculation (López et al., 2007:292). However, market-based measures appear to be less vulnerable than
accounting procedures and represent the investor’s valuation of a company’s ability to generate future economic return (McGuire et al., 1988:868; Tsoutsoura, 2004:12).

Table 3.1 also shows that a number of studies have produced conflicting results on relations between CSP and CFP, implying that there is no empirical consensus on the link between CSP and CFP. In other words, these studies have provided little guidance on the effect of socially responsible activities on company’s financial performance. Hence, this sub-section proceeds with a detailed review of these empirical studies based on their findings. Therefore, it starts with studies that found a significant positive relationship between CSP and CFP, proceeds to those that found a negative relationship, and ends with those that produced mixed, inconclusive and non-significant results.

3.2.3.1 Empirical evidence on a positive relationship between social and financial performances

Theoretical explanations behind a positive relationship between CFP and CSP are based on the view that socially responsible companies have an economic advantage. Proponents of this view reason that socially responsible activities increase CFP by improving companies’ brand image and reputation, employee morale and productivity, and customer satisfaction (McGuire et al., 1988:854). This implies that there are both theoretical and empirical explanations behind the positive relationship between CSP and CFP.

A study by Ullmann (1985) reviewed thirteen studies that conducted empirical investigation on the relationship between financial performance and social performance of USA companies. Out of these thirteen studies, nine reported a significant relationship between the variables. Out of these nine studies, only one study found a negative relationship, while the remaining eight reported a positive relationship between financial performance and social performance. Overall, Ullmann’s (1985) findings suggest that there appears to be a positive relationship between social and financial performances. This implies that socially responsible companies tend to outperform less socially responsible companies (Ullmann, 1985:545). These results are supported by other studies (Derwall et al., 2011; Hossain et al., 2013; Lin et al., 2009; Loureiro et al., 2012; Luo & Bhattacharya, 2006; McGuire...
et al., 1988) Ruf et al. 2001; Tsai et al., 2010; Tsoutsoura, 2004; Wahba, 2008), which found a positive relationship between CSP and CFP.

Ruf et al. (2001) investigated the relationship between CSP and accounting measures (return on sales and return on equity) on a company’s financial performance. Their findings showed that improvements in CSP have both short-run and long-term effects on CFP. This was confirmed by Tsoutsoura (2004) who tested the relationship between companies’ social responsibility and financial performance in 500 USA companies over a period of five years (1996-2000). Furthermore, a study by Lin et al. (2009) conducted a similar investigation but their focus was on 1000 Taiwanese companies during period 2002-2004. Their findings confirmed a positive relationship between CFP and CSP. However, they found that the relationship tend to be strong in the short-term with mixed results for long-term analysis. Thus, these empirical findings support the view that CSP is highly associated with a number of direct or indirect financial benefits to the company.

A study by Loureiro et al. (2012) put the focus on investigating the contribution to consumer satisfaction of the perceived socially responsible activities in terms of labour practices, community development and environmental performance in the Portuguese automobile industry. This study concluded that companies’ socially responsible activities contribute to better financial performance by directly reducing costs and increasing productivity and by indirectly increasing customer satisfaction (Loureiro et al., 2012:172). These results are similar to the findings by Jiao (2010) who measured the extent to which companies meet the expectation of its stakeholders (such as employees, customers, communities, and environment). Jiao’s (2010) results showed that stakeholders’ welfare represents intangibles benefits. More specifically, stakeholders tend to associate employees’ welfare and environmental performance with intangible value such as reputation or human capital. Other studies (Hossain et al., 2013; Luo & Bhattacharya, 2006; Tsai et al., 2010) have also confirmed that socially responsible activities play a crucial role in improving a company’s brand image, reputation and customer satisfaction, and eventually improve financial performance.
Becchetti et al. (2012) used an event methodology to investigate the market reaction to companies’ entry and exit from the Domini 400 Social Index, between 1990 and 2004. Their findings revealed that announcements of exit from a social index affected a company’s return negatively. This implies that investors react negatively to the decline in a company’s social responsibility, shown by the exit from the social index. These results are similar to those of Shen and Chang (2009) who confirm a positive relationship between CSR and companies’ financial performance.

Based on these empirical results supporting the positive relationship between CSP and CFP, companies’ engagement in socially responsible activities does not conflict with the goal of maximising a company’s value. This implies that companies can improve their financial performance by improving their involvement in socially responsible initiatives. Furthermore, these findings tend to support the stakeholder approach that companies need to consider the needs of their various stakeholders in order to survive in the ever-changing situation of global competition.

3.2.3.2 Empirical evidence on a negative relationship between social and financial performances

Having shown that a number of studies produced empirical evidence supporting a positive relationship between CSP and CFP, it is important to review other studies that found a negative relationship between these two factors. Expected negative relationship between CFP and CSP is based on the view that there is a trade-off between companies’ financial performance and social responsibility. Advocates of this view propose that socially responsible companies tend to be at a competitive disadvantage due to costs added by their involvement in socially responsible activities (Alexander & Buchholz, 1978:479; McGuire et al., 1988:854). This view of a negative relationship between CFP and CSP has been supported by empirical findings from previous studies (Abiodun, 2012; Galema et al., 2008; Lerner & Fryxell, 1988; Lopez et al., 2007; Wright & Ferris, 1997).

Lerner and Fryxell (1988) used a multi-dimensional approach to examine the effect of CSP on CSF. Their results showed that the social determinants of CFP tend to vary with the dimensions of CSP. In other words, the relationship between CSP and CFP seems to be affected by adopted measures of CFP. Lerner and Fryxell (1988)
conclude that there is a negative relationship between CSP and CFP. Using an event study methodology, Wright and Ferris (1997) investigated how USA companies were affected by their socially responsible decision of removing their investment from South Africa from January 1984 to December 1990. Their results showed that this decision of divestment had a significant negative effect on the particular company's excess returns.

Galema et al. (2008), who investigated the effect of SRI on stock returns, produced similar findings. They found that SRI has a negative effect on some variables of CFP. To add to this, a study by Janney et al. (2009) used an event study method to investigate market reactions to commitment to a better social performance for European and USA multinational companies. This study showed a negative market reaction for United States-based companies, supporting a negative relationship between CSP and CFP.

Similarly, a study by Abiodun (2012) on 10 Nigerian companies during the period 1999-2008 found a negative relationship between companies' profitability and their investment in initiatives perceived to be of social responsibility. Higher profit margins were recorded for companies with less socially responsible activities. Lopez et al. (2007) who used a bigger sample (110 companies) than Abiodun (2012) obtained similar results. Findings from Lopez et al. (2007) confirmed a significant short-term negative relationship between companies’ profitability and their investment in socially responsible activities. The plausible explanations behind these findings, by both Abiodun (2012) and Lopez et al. (2007), could be the relationship between a company's size and social responsible disclosure explained in Section 3.2.1 that large companies have high levels of social responsibility disclosure and low levels of SRI implementation. This suggests that the larger a company is, the less it tends to implement all its disclosed SRI initiatives.

3.2.3.3 Inconclusive results on relationship between social and financial performances

One of the causes of the inconsistent results is related to measures used to ascertain a company's financial performance. As shown in Table 3.1, some studies used profit maximisation as an indicator of a company's financial performance, which was
reflected by accounting measures, while others focused on value-maximisation, which is mostly related to the market value reflected by a company’s share price. Maximisation of a company’s value is not always the same as profit maximisation (Dam, 2006:17). Hence, this may explain the inconsistent results on the relationship between CSP and CFP. Even within studies that used market-based measures of CFP, there may be some inconsistencies related to risk adjustment. Some studies tend to use risk-adjusted measures of CFP, while others do not consider risk adjustment. Hence, this may lead to different results among these studies. Risk adjusted measures consider various risks when measuring financial performance.

An earlier study by Alexander and Buchholz (1978) used risk adjusted market return to investigate the relationship between the stock market performance of a company and social responsibility. This study concluded that there was no significant relationship between the degree of social responsibility and stock market performance. Furthermore, there was no significant relationship between a company’s social responsibility and its level of risk. Similar results were obtained from other early studies (Abbott & Monsen, 1979; Anderson & Frankle, 1980; Aupperle et al., 1985; Chen & Metcalf, 1980), which did not find any significant relationship between CSP and CFP. For example, Aupperle et al. (1985) concluded that there is no significant relationship between a company’s social performance and its profitability, even when both accounting-based and market-based measures are considered.

Empirical studies conducted during a later period (1990s) (Griffin & Mahon, 1997; Roman et al., 1999; Wood & Jones, 1995) mostly focused on the review of findings from previous studies. Wood and Jones (1995) reviewed empirical studies on the correlation between CFP and CSP. Their conclusions showed that the relationship between CSP and CFP was still ambiguous because causality between CSP and CFP tends to be complex. Griffin and Mahon (1997) reviewed 51 empirical studies and categorised them into three categories (negative effect, positive effect and no effect or inconclusive) based on their findings. Their results revealed that out of 51 studies, nine found no relationship between CSP and CFP or the results were inconclusive. However, their review had limitations as their findings disregarded methodological considerations of the studies under investigation.
Roman et al. (1999) modified and extended Griffin and Mahon’s (1997) review by analysing the suitability of the methodology and measurement of CSP used by each study. Roman et al. (1999) reviewed 54 empirical studies, on the same topic, for the period of 25 years from 1970s to 1997. Their finding showed that 14 of 54 studies (approximately 26%) produced inconclusive results or found no significant effect between CSP and CFP. This confirms the inconsistent nature of findings on the effect of CSP on CFP. McWilliams and Siegel (2000) insist that this inconsistency in results pertaining to the relationship between CSP and CFP was due to flawed empirical analysis. They argued that studies that used the model that excluded factors such as research and development (R&D) and advertising intensities was misspecified and would produce biased results. An example of model criticised by McWilliams and Siegel (2000) is as follows:

\[
CFP_i = f(CSP_i, SIZE_i, RISK_i, IND_i)
\]

Where: \( CFP_i \) = long-run financial performance of company \( i \) (using accounting measures),

\( CSP_i \) = a proxy for corporate social responsibility of company \( i \),

\( SIZE_i \) = a proxy for the size of company \( i \),

\( RISK_i \) = a proxy for the “risk” of company \( i \) (debt/asset ratio), and

\( IND_i \) = industry or sector of company \( i \).

McWilliams and Siegel (2000:604) reasoned that Equation (3.1) is misspecified because it does not control a company’s investment in R&D and the advertising intensity of its industry. Hence, they considered the following model to be more appropriate (specified) in capturing the relationship between CSP and CFP:

\[
CFP_i = f(CSP_i, SIZE_i, RISK_i, IND_i, RDINT_i, INDADINT_i)
\]

Where the additional variables are \( RDINT_i \) for R&D for company \( i \) (R&D expenditures/sales) and \( INDADINT_i \) for advertising intensity of the industry of company \( i \).
To confirm their claim about the misspecification of some econometric models used in testing the relationship between CSP and CFP, McWilliams & Siegel (2000) estimated both equations 3.1 and 3.2. Their results for the first model (Equation 3.1), which does not control investment in R&D, showed a positive significant relationship between CSP and CFP. However, the second model (Equation 3.2) showed a non-significant relationship between CSP and CFP. These findings suggest that CSP tends to have a neutral effect on CSP, when R&D and advertising factors are controlled. To add to this, McWilliams and Siegel’s (2000) study showed that the fitness of the model (shown by adjusted $R^2$) improved, when R&D and advertising factors were controlled. Hence, they concluded that misspecification of the model had a significant impact on the results and added that it is difficult to test the impact of CSP on CFP without simultaneously controlling certain variables such as R&D and advertising intensity. Hence, studies using accounting measures of financial performance should control for these variables.

In addition to the studies that produced inconclusive or non-significant results on the relationship between CSP and CFP, there are studies (Inoue & Lee, 2011; Kang et al., 2010; Peloza, 2009; Renneboog et al., 2008) that produced mixed results on this topic. A study by Kang et al. (2010) used two different dimensions for measuring financial performance (short-term financial performance measured by accounting profitability and long-term financial performance measured by company’s value) to examine the effect of CSR activities on financial performance value across four industries (hotel, casino, restaurant, and airline companies) of the hospitality sector in USA from 1991 to 2007. Findings of this study showed mixed results across different industries and that results tend to change with the method of measurement used. CSP was found to have a significant positivity effect on CFP in the hotel industry and a negative effect in the airline industry. However, Kang et al. (2010) found no significant relationship between CSP and CFP in the casino industry. These findings, therefore, suggested that the relationship between CSP and CFP tends to vary with the industry, supporting the use of a model (by McWilliams & Siegel, 2000) that control the industry factor.

Inoue and Lee (2011) conducted a similar study among companies within four tourism-related industries (airline, casino, hotel, and restaurant). Inoue and Lee (2011) divided CSP into five dimensions (employee relations, product quality, community relations,
environmental issues, and diversity issues) and tested the effect of each dimension on CSP. Companies’ voluntary activities for community were found to have a significant negative effect on short-term profitability for the airline industry and a significant positive effect on both short-term and long-term profitability for the hotel and restaurant industries. Inoue and Lee (2011:799) summarise the effect of each dimension on companies’ profitability as follows:

- Companies’ involvement in diversity issues had a significant positive influence on long-term profitability for the hotel industry, but had no significant influence on profitability for airline, casino, and restaurant industries.
- Corporate activities to improve employee relations had a significant positive effect on long-term profitability only for the airline industry.
- The product dimension had a significant positive influence on short-term profitability for the restaurant industry, long-term profitability for the airline industry and both short-term and long-term profitability for the hotel industry.
- Companies’ attention to the natural environment issues had no effect on both short-term and long-term profitability for all industries.

Overall, Inoue and Lee’s (2011) findings suggest that each of the five CSP dimensions has a different effect on CFP and such effects tend to vary across the four tourism-related industries. Moreover, these findings suggest that these dimensions of CSP affect short-term and long-term measures of CFP differently. Hence, it is important to include all dimensions of SRI in order to capture the full effect on CSP on CFP.

3.2.3.4 Curvilinear and inverse curvilinear relationship between CSP and CFP

Contrary to the aforementioned studies, which found non-significant or mixed results on the relationship between CSP and CFP, other studies (Barnett & Salomon, 2006) found a curvilinear and an inverse a curvilinear relationship (Wang et al., 2008). This suggests that the relationship between CSP and CFP is more complex than the simple positive, negative, or neutral one. A curvilinear or U-shaped relationship implies that socially responsible activities lead to a decline in CSP first, but at a certain stage, CFP starts to increase as the level of socially responsible activities continues to increase. An inverse curvilinear relationship between CSP and CFP suggests that CFP increases with CSP at first and then gradually starts to decrease as CSP increases.
Wang et al. (2008) observed this relationship in a study, which tested the relationship between CSP and CFP on a panel data set of 817 USA companies from 1987 to 1999. This study addressed issues related to the misspecification of the model under consideration by controlling for factors such as a company’s size and its level of R&D and advertising intensity, as shown by Equation 3.1. Based on their results from both accounting and financial measures of CFP, Wang et al. (2008) concluded that CSP improves CFP by enabling a company to gain greater control over stakeholders’ resources. However, their findings show that the high level of CSP eventually starts to decrease CFP by increasing a company’s overall costs. In other words, excessive expenditures in socially responsible activities can “inevitably transfer some portion of these expenditures to [a company’s] stakeholders in the forms of, for example, higher product prices, lower wages, or lower returns from their financial investments” (Wang et al., 2008:156).

Overall findings showed that the relationship between financial performance and social performance could be positive, negative and non-significant or inconclusive. However, a large number of reviewed empirical studies supported a positive relationship, implying that the market tends to react positively to a company’s disclosure of its involvement in socially responsible activities. This implies that empirical studies tend to provide some support for a stakeholder approach and that a company should benefit from meeting the demands of all its multiple stakeholders (Ruf et al., 2001). These financial benefits, from meeting the stakeholders’ demands, may be explained by the role of CSP in minimising risks (such as reputational risks), lowering costs (such as environment-related costs) and increasing productivity (such as increasing employees’ productivity).

### 3.3 Empirical Studies on the Link Between the SRI and Economic Development

The previous section has somewhat shown that SRI has an effect on a company’s financial performance. Beyond increasing their financial performance, companies are expected to promote sustainable economic development through their common purpose for facilitating the move towards a socially and ecologically sustainable future (Abeyesuriya et al., 2007:178). To achieve this, companies use SRI initiatives, which
mostly attend to major challenges of economic development. Some of these challenges may be common challenges such as poverty, inequality and injustice, which emerge from society, while others such as ecosystem degradation may be linked directly to company operations. Through SRI initiatives, companies, therefore, are able to mitigate their negative consequences of their operations on sustainable development (Nelson & Prescott, 2008:8). This section reviews some empirical studies on the link between SRI and sustainable economic development. Most of these empirical studies attempted to examine the role of SRI initiatives in promoting economic development through community development, poverty alleviation, improving access to education and basic healthcare, improvement of sanitation in the society, and addressing the issue of environmental degradation. Before exploring the effect of SRI initiatives on various areas of economic development, this section starts with the review of studies that proposed an assessment model used to ascertain the effect of SRI on economic development.

3.3.1 Measuring the effect of SRI on sustainable economic development

In order to determine the effect of SRI initiatives on economic development, one has to understand the model used in assessing such effect. Although there appears to be no common methodology to measure the effect of SRI initiatives on economic development, some studies (Hediger, 2000; 2010; Kanji & Chopra, 2010) shed some light on how such effect can be measured. Hediger (2010) developed a model linking SRI initiatives to sustainable economic development. This model attempts to assess a company’s impact on an economy’s aggregate income, macroeconomic performance (such as full employment), social capital and environmental quality. Overall, this model shows that SRIs contribution to economic development consists of internal value of the overall profit to a company’s shareholders and external value from direct and indirect contributions of SRI to the society (Hediger, 2010:524). This suggests that the measurement of the effect of SRI on economic development should focus on both microeconomic factors (such as improving profitability for shareholders, and the standard of living of individual households) and macroeconomic factors (such as full employment and economic growth). Although Hediger’s (2000; 2010) model tends to capture all relevant factors, its implementation may be difficult. Hence, one may question its practicability.
To overcome the challenge of practicability, Kanji and Chopra (2010) developed a model, which provides an index for measuring the effect of SRI on economic development at international, country or community levels. Their model focused on measuring the following factors of corporate social responsibility (Kanji & Chopra (2010:124-125):

- Organisational strategic planning system, which captures the organisation’s policies and procedures used to plan and implement socially responsible initiatives.

- Social accountability and social investment, which refers to the improvement of workplaces and communities. The accountability is concerned mostly with the protection of human rights, whereas social investment focuses on establishing social infrastructure and contributing to the uplifting of communities through the transfer of technology, skills, and education with the aim of creating sustainability within the society.

- Environment protection and sustainability, which deals with liability associated with the effect of companies’ operations on the environment. This involves environmental challenges such as air and water pollution and toxic waste disposal.

- Corporate governance and economic responsibility, which refers to the broad range of policies and practices used by a company’s internal stockholders to manage themselves, and fulfil their responsibilities to investors and other stakeholders. This focuses on a company’s economic responsibility to its direct stakeholders (investors, employees, and customers). These basic economic responsibilities are profitability, transparency, non-discriminating behaviour and sustainability.

- Ethics and human resources, which is about conducting business ethically. This factor focuses on the link between CSP and ethics meaning that a company has to have its own ethical training to help employees make appropriate ethical decisions, and meet the environmental and ethical concerns of consumers.

These aforementioned factors were used in Kanji and Chopra’s (2010) model to assess the effect of socially responsible initiatives on sustainable economic development. Their overall findings revealed that SRI initiatives have a positive effect
on economic development of the society at large. This was also confirmed by Kolk and Van Tulder (2010), who viewed various empirical studies that investigated CSR activities and sustainable development implications of international business. Although Kolk and Van Tulder (2010) highlighted that studies linking companies’ SRI to sustainable development tend to face challenge-related data; their review showed that SRI activities could promote sustainable economic development.

### 3.3.2 Effect of SRI initiatives on poverty and sanitation

One of the challenges of economic development is the eradication of poverty, especially in less developed countries. It is understood that companies operating within poor societies should design their SRI initiatives in line with societal priorities. In terms of research, there seems to be a limited number of studies that investigated the link between SRI initiatives and poverty alleviation. A study by Kolk and Van Tulder (2006) investigated the commitment of SRI initiatives to poverty alleviation of 18 multinational companies. Their findings show that a number of companies developed and implemented socially responsible initiatives with the aim of poverty alleviation. In addition to the issue of poverty alleviation, Abeysuriya et al. (2007:181) investigated the role of companies in addressing issues of sustainable development through the improvement of sanitation. Focusing on developing Asian countries, Abeysuriya et al. (2007:174) found that SRI initiatives had a positive effect on sustainable economic development. They showed how private companies served a wide range of social purpose while fulfilling their business imperative of profit maximisation. A good example used by Abeysuriya et al. (2007:174) was the contribution of companies’ SRI initiatives to the improvement of the status of sanitation in different developing countries of Asia.

In addition to poverty alleviation and sanitation, another objective of SRI initiatives is to facilitate companies’ contribution to development of local communities affected by their operations. This objective of community development is twofold. First, it focuses on the role of companies in reducing any negative effect of their operations on the community. Secondly, it refers to a company’s effort in designing and implementing SRI initiatives that seek to develop surrounding communities, even if such a company may have no direct negative effect on the community. Gifford et al. (2010) compared
the cases of SRI initiatives among gold mining companies operating in Peru and found that mining companies used SRI initiatives to contribute to the development of communities surrounding gold mining operations. Their findings show that SRI initiatives played an important role in reducing the effects of mining operations on the community. Gifford et al. (2010) concluded that, in the mining sector, the effect of SRI initiatives on economic development generally is observed through community infrastructure development and environmental management. This finding is similar to other studies (Derwall et al., 2011; Hossain et al., 2013; Kang et al., 2010; Luning, 2012), which found instances where SRI initiatives contributed positively to community development without compromising companies’ financial performance. These findings tend to support the stakeholder approach (discussed in Section 2.3.2 of Chapter 2), which is based on the premise that companies, through SRI initiatives, can improve their profitability while contributing to the wellbeing of society. In other words, SRI initiatives do not only contribute to the development of the society but also to microeconomic development of companies’ shareholders through the improvement of companies’ profitability. Hence, the overarching objective of this study is to assess the effect of SRI initiatives on the bottom line and on community development in South Africa.

3.3.3 SRI initiatives and other various factors of sustainable development

Considering the role of companies in addressing challenges of sustainable economic development, SRI initiatives are expected to contribute to various areas of economic development. Nelson and Prescott (2008) investigated the role of business in achieving the Millennium Development Goals (MDG). In their report, Nelson and Prescott (2008) showed that various companies, from both developed and developing countries, contributed to development through their investment in various SRI projects. Some of the projects were found to have promoted basic hygiene, nutrition and sanitation, increasing access to healthcare and basic education, providing housing and addressing the issue of environmental degradation. Examples of some of the companies’ SRI projects mentioned by Nelson and Prescott (2008:9-12) include:
Investment in public-private partnerships to increase access to clean water, energy and telecommunications. Examples of some companies that invested in these projects are Thames Water, Eskom, EdF, ABB and Vodafone.

The involvement of energy companies (such as BP, Shell, Chevron, BG Group and Exxon Mobil) in SRI initiatives that support efforts to develop renewable energy sources, especially in rural communities.

Involvement of construction companies (such as Holcim, Lafarge and Cemex) in housing projects that made an important contribution to sustainable development through provision of low-cost housing in developing countries.

The involvement of financial services companies (such as Deutsche Bank, Citigroup, Swiss Re, Munich Re and AIG) in developing banking and insurance products and services, including micro-credit and micro-insurance that facilitated easy access to funding.

The role of agribusiness and biotechnology companies (such as DuPont, Syngenta and Nestlé) in improving rural productivity, product quality and food security by working with small farmers and their cooperative.

The role of a network of leading Brazilian companies (known as Instituto Ethos) in working with a government programme to engage businesses in eradicating hunger.

Nelson and Prescott’s (2008) findings suggest that SRI initiatives have a positive effect on all dimensions of economic development. Their report also shows that companies tend to be involved in SRI initiatives that are related to their business activities. This suggests that SRI initiatives may be effective if aligned with the core business of a company. For example, companies in the construction sector may find it convenient to be involved in construction related initiatives, whereas energy companies may be more efficient in investing in initiatives-related development of renewable energy sources. These companies’ decisions of investing in initiatives related to their core business, is justified by the economic theory of specialisation. This theory states that in order to be more productive, individuals and businesses should concentrate on the activities they are suited for (Stigler, 1951:185). Knox & Maklan (2004:30) also supported the concept of specialisation in the SRI activities, and found that companies
are more comfortable in implementing SRI initiatives related to their core business operations.

In addition to specialisation, Nelson and Prescott’s (2008) findings show that SRI initiatives tend to promote the partnership between companies, government and non-government organisations (NGOs) in addressing the challenges of sustainable economic development. This implies that SRI initiatives promote the creation of a working network among parties interested in sustainable development (companies, government and NGOs in this case) through which they can develop common programmes to deal with problems faced by society. A good example, given by Nelson and Prescott’s (2008), is the partnership between Brazilian private companies and Brazilian government to engage businesses in eradicating hunger.

Overall, findings from empirical studies, reviewed in this section, suggest SRI initiatives give companies incentives to contribute to all levels of sustainable economic development. Through SRI initiatives, companies directly take part in addressing challenges facing society and/or form a partnership with government and NGO to develop relevant programmes. In other words, empirical studies tend to confirm that SRI initiatives are one of the channels through which companies contribute to economic growth and social upliftment. Two major observations can be made based on the review of this section. First, there is no common methodology of assessing the effect of the SRI initiatives on the economic development. Secondly, there is still a need for more studies on this topic, especially on the community perception of the impact of the SRI initiatives.

3.4 SOUTH AFRICAN STUDIES ON SRI

Having shown that SRI initiatives tend to have a positive effect on a sustainable development, it is important to view South African studies that focused on the SRI sector. Since the launch of SRI Index in 2004, South African companies have been encouraged to increase their involvement in environmental, economic, and social sustainability (JSE, 2013:2). In 2011, for example, a number of South Africa companies implemented, coordinated and managed various sustainable development initiatives in the areas of education and training, capacity building, community support and health care (Flores-Araoz, 2011). South African companies also continue to show
commitment in integrating SRI initiatives in their business practices, and meeting the growing investor demands for transparency in the way companies manage their impacts on sustainability (JSE, 2013:1). As South African companies increase their commitment towards SRI initiatives, there is a need for more empirical studies evaluating the impact of these SRI initiatives on the economic system. Thus, this section presents a review of empirical studies conducted on the SRI sector in South Africa, with the aim of identifying gaps that need to be filled.

Previous studies conducted on the South African SRI sector (de Jongh et al., 2007; Giamporcaro & Pretorius, 2012; Gladysék & Chipeta, 2012; Herringer et al., 2009; van der Ahee & Schulschenk, 2013; Viviers, 2007; Viviers et al., 2008; Viviers et al., 2009) focused on the status and growth of the South African SRI sector, the challenges facing this sector, the performance of SRI funds relative to their benchmark and strategies used by South African socially responsible investors. These studies used different approaches, involving both quantitative and qualitative methods and mostly focused on the performance of South African SRI funds, the reporting of SRI initiatives in South Africa and the effect of SRI and environmental sustainability.

3.4.1 Empirical studies on South African SRI funds

Studies by Herringer et al. (2009), Viviers (2007), and Viviers et al. (2009) assessed the South African the SRI sector in broad context. All these studies used both quantitative and qualitative research methodologies to determine the size of the South African SRI sector, to establish obstacles that hinder the growth of SRI and to analyse the risk-adjusted performance of SRI funds in South Africa. Findings of these studies, on screening strategies (explained in Section 2.24.1 of Chapter 2), showed that most South African SRI funds combine a cause-based investment approach (explained in Section 2.2.4.3 of Chapter 2) with a positive or best-of-sector screening method (Viviers et al., 2009). Furthermore, South African funds’ managers tend to screen investments based on the promotion of broad-based BEE and the development of social infrastructure (Viviers, 2007). Although the performance of SRI funds relatively to non-SRI funds tended to change with the sample period. Viviers (2007:326) concluded that investors can consider SRI funds as part of a well-diversified investment strategy; meaning that they present good investment opportunities.
Contrary to Viviers (2007:326), a study by de Jongh et al. (2007) investigated the state of responsible investment in South Africa in 2007 and concluded that there were common misconceptions on SRI funds. These misconceptions suggested SRI funds sometimes were considered as bad financial investments resulting in increased investment risk and reduced returns. Hence, this may discourage fund managers from investing in SRI funds. Despite, these misconceptions, De Jongh et al. (2007) further showed that, in 2007, investment in the South African SRI portfolios was estimated at R253 million. These authors emphasised that this figure was not negligible as it counted for 11 percent of assets managed by asset managers. Finally, findings by De Jongh et al. (2007) showed that, in the future, a broad range of SRI criteria was expected to play an important role in evaluating the performance of investments in South Africa. This suggests that fund managers expect the South African SRI sector to grow in the future.

On the link between the SRI initiatives and companies’ share price, a study by Gladysék and Chipeta (2012) was viewed. This study used an event methodology to investigate the effects of involvement in SRI initiatives on the shareholder wealth of companies in SRI Index from May 2004 to November 2009. Gladysék and Chipeta’s (2012) results showed that investors do not earn any significant abnormal returns when investing in the SRI Index. Furthermore, the SRI Index was not found to be outperforming the JSE All Index, implying that these two indices tend to produce the same returns during the time of announcement of the SRI Index constituents. Thus, these finding by Gladysék and Chipeta (2012) suggest that corporate social performance did not have an effect on share prices of South African companies.

These non-significant results from Gladysék and Chipeta’s (2012) study may be related to the selection of companies used in the sample. By selecting all companies in the JSE SRI Index, Gladysék and Chipeta (2012) did not consider market expectations. For example if a company X was selected in the SRI Index for the past three consecutive years, investors are likely to expect such company to be selected again in fourth year. Hence, the selection of this company X for the fourth year may not send new information to the investors due to such expectations being created by previous selections. However, if a company Y had been selected in SRI Index for the past three consecutive years, it may be seen as new information to investors, if such
company is not selected for the fourth year. Similarly, the selection of a company in the SRI Index for the first time may be treated as unexpected new information to the market. This may explain why assessing all companies in the SRI Index may not produce accurate results.

3.4.2 SRI initiatives and environmental sustainability in South Africa

With regards to the role of SRI initiatives on sustainable economic development in South Africa, companies tend to focus on initiatives that promote the social upliftment of South African communities. A study by Viviers (2007:93) showed that SRI initiatives mostly tend to focus on supporting transformational infrastructures in underdeveloped areas; promoting agricultural development by supporting resource-poor famers; providing housing to low-income households; and supporting Black-owned small or medium enterprises. This implies that the SRI initiatives may play an important role in stimulating the economic development of underprivileged South African communities.

On the environmental dimension of economic development, a study by Giamporcaro and Pretorius (2012) used qualitative and quantitative (survey) methods to assess how SRI products and strategies in South Africa considers environmental sustainability. Their findings show that SRI initiatives tend to focus more on social developmental objectives as compared to environmental goals. This finding is supported by the JSEs (2013) report on SRI Index, which shows that fulfilling the environmental criteria is still challenging foremost companies registered in the JSE. Contrary to Giamporcaro and Pretorius’ (2012) finding, the JSEs (2013) report reveals that companies’ performance in areas of social sustainability declined in 2013, mostly because of insufficient disclosure in this area. This implies that companies are only encouraged to engage in SRI initiatives but that they do not fully report those initiatives.

3.4.3 South African studies on SRI reporting

On the issue of reporting of SRI initiatives, previous studies tend to suggest that South African companies have taken the lead, especially after the launch of an SRI Index in 2004. Dawkins and Ngunjiri (2008) investigated the reporting of companies’ SRI initiatives in dimensions of environment, human relations, community, human rights, and diversity. Their study compared the reporting of companies from emerging market
economy of South Africa (top 100 companies listed on JSE) with that of companies in the leading economies (USA, Japan, UK, and German). Dawkins and Ngunjiri (2008) revealed that South African companies had a significantly higher level of SRI initiatives’ reporting than most companies in advanced economy. This is supported by Van der Ahee and Schulschenk (2013) who found that mostly South African companies are committed to the reporting of SRI initiatives in order to improve their corporate reputation. However, JSEs (2013) report on SRI Index revealed that disclosure of SRI initiatives area of social sustainability declined in 2013. In other words, the disclosure of SIR initiatives seems to be less in the social dimension than environmental and economic dimensions.

As shown by studies discussed in Section 3.2, the size of a company has an effect on social disclosure (or SRI reporting). Findings from South African studies confirm that companies of different sizes face different constraints and opportunities in the area of SRI. Consequently, findings on SRI reporting that are applicable to large companies and cannot be generalised to small and medium sized companies (Dawkins & Ngunjiri, 2008:301). This is because small, medium, and micro enterprises (SMEs) tend to experience challenges in reporting their SRI initiatives. A compounding challenge is the limited research on SRI in SMEs (Hamann et al., 2005:13).

Overall, South African based studies accentuate the need for more research on the South African SRI sector. For example, Viviers (2007:13) suggested that the demand for SRI is related closely to macroeconomic conditions such as economic growth, interest rate, unemployment, inflation, and exchange rate. However, this relationship has not been measured. Hence, there is a need for testing the interaction between the demand for SRI and macroeconomic conditions in South Africa. Furthermore, most of the studies reviewed in this section, tend to assess SRI from the point of view of companies, fund managers and the overall market, suggesting that the view of the beneficiary of SRI initiatives has not been investigated fully.

3.5 SUMMARY AND CONCLUDING REMARKS

There appears to be no empirical consensus on the relationships between SRI and various company or national indicators. Studies on the relationships between social responsibility disclosure, CSP and CFP have produced mixed results. Some studies
supported a negative or positive relationship between the variables, whereas other studies provided inconclusive or non-significant results. Inconstant results on the link between financial and social performance was found to be linked to the lack a transparent disclosure of socially responsible activities. Empirical findings suggest that the relationship between a company's financial and social disclosure is influenced by various factors such a company’s size and profitability. Larger companies tend to treat social responsibility disclosure as part of their reputation management strategies, which are used often to improve a company’s image. Furthermore, companies with high financial performance are expected to disclose their socially responsible initiatives, whereas companies with poor financial performance tend to be reluctant in disclosing their socially responsible initiatives.

Overall, empirical studies on the relationship between social responsibility disclosure and CSP suggest that the main reasons for poor social responsibility disclosure include (but are not limited to) lack of resources, the profit imperative, lack of legal requirements and knowledge/awareness, poor performance and the fear of bad publicity. Due these factors, companies tend to over-report their positive impact on society, and under-report their negative impact.

Empirical studies on the link between financial performance and social responsibility disclosure findings tend to support a positive relationship between CFP and social responsibility disclosure. However, this positive relationship can be maintained only when a company’s social responsibility disclosure is guided by transparency, reliability responsibility and accountability. A positive relationship between CFP and social responsibility disclosure was found to be linked to the issue of under-reporting and over-reporting, where companies tend to only report their socially responsible activities if they are sure that such activities contributed to the maximisation of a company’s profit. Thus, a positive relationship between social disclosure and CFP may be observed because companies with high financial performance tend to disclose their socially responsible initiatives, whereas companies with poor financial performance may not disclose their socially responsible initiatives.

Findings on the relationship between CSP and CFP showed that the market tends to react positively to a company’s involvement in socially responsible activity. This
implies that empirical study tends to provide some support for a stakeholder approach that shareholders should financially benefit when a company meets the demands of all multiple stakeholders through SRI initiatives. Hence, a large number of empirical studies (reviewed in this chapter) tend to support a positive relationship between CSP and CFP. However, there should be concern over contradicting or inclusive results on this relationship between CSP and CFP.

Plausible reasons behind these contradicting results include definitional and methodological differences, and the inconsistency in the measurement of financial performance. Some studies measured a company’s financial performance based on accounting measures, while others used market-based measurements of financial performance. Hence, this has generated a big debate on the relationship between socially responsible activities and companies’ financial performance because each of these measures has it weaknesses and strengths. However, this debate is possibly inevitable, given the different hypotheses tested by these empirical studies, differences in methodology used and differences in time periods considered.

Another point shown by empirical studies of the relationship between CSP and CFP is related to the use of the two types of methodology. The first one is the event study methodology, which mostly examines the short-term effect of CSP on CFP based on market measures of financial performance. This review of empirical studies has shown that studies that used event study methodology produced different results. Some studies found a positive or a negative relationship, while others reported a non-significant relationship. The second type of methodology used was a regression and correlation analysis, which mostly estimated the relationship between CSP and CFP based on accounting-measures of CFP. Similarly, these studies also produced mixed results. Although this tends to suggest that both methodologies produced similar results, there is still a big academic debate on the type of methodology to be used in assessing the effect of CSP on CFP. Thus, this study intends to adopt different models in order minimise the methodological errors.

The effect of SRI initiatives does not only affect companies’ performance, but may also affect the economic development at both microeconomic and macroeconomic levels. Empirical studies on the link between SRI and economic development showed that
SRI initiatives have a significant effect on sustainable economic development. Findings revealed that, through SRI initiatives, companies directly play a role in addressing challenges facing the society, or they form a partnership with government and NGO to develop relevant programmes. It was shown only that companies find it easy to design and implement SRI initiatives in their core business operations, suggesting that SRI activities are more productive if they fall under a companies’ area of specialisation. Although empirical studies tend to confirm that SRI initiatives contribute to economic growth and social upliftment, there is still need for more research on this topic, especially on the community perceptions of SRI initiatives. In other words, there is a need for determining the view of the society towards SRI initiatives. This study attempts to fill this gap by investigating the perceptions of the local community (households) towards SRI initiatives.

In the South African context, most of the studies reviewed in this chapter assessed the effect of the SRI on companies, fund managers and the overall market. It was shown that more research on perceptions of communities (beneficiaries of SRI initiatives) towards SRI initiatives is needed. Furthermore, previous studies have suggested that the demand for SRI is related closely to macroeconomic conditions such as economic growth, interest rate, unemployment, inflation, and exchange rate. However, this relationship has not been measured. Overall, empirical findings from South African studies showed that there are some gaps to be filled by more research on the South African SRI sector. To fill some of these gaps, the next chapter will conduct an econometric analysis of the SRI index and its macroeconomic determinants and establish the effect of SRI initiatives on the financial performance of South Africa companies listed in the JSE.
CHAPTER FOUR: ECONOMETRIC MODELS FOR ANALYSIS OF THE SRI INDEX AND ITS MACROECONOMIC DETERMINANTS

4.1 INTRODUCTION

The growth and performance of the SRI sector can be linked to the economic performance of a country. The review of the literature in Chapter 2 suggested that a relationship exists between the demand for SRI and macroeconomic factors namely, economic growth, interest rate, unemployment, inflation, and exchange rate. However, the review of empirical studies (in Chapter 3) highlighted that this relationship has not been extensively tested in the South African context. Furthermore, Chapter 3 established that there is no empirical consensus on how a company’s social performance affects its financial performance. More specifically, the effect of a decline in a company’s social performance on a company’s financial performance has not been tested in the South African context. This implies there are still unanswered questions on the performance of the South African SRI sector and its relations to various macroeconomic factors. In an attempt to answers these questions, this chapter discusses various econometric models used to analyse the SRI Index and its macroeconomic determinants. This chapter discusses the econometric models used to address the first three empirical objectives of this study, which were:

- To establish the effect of SRI initiatives on the financial performance of South African companies,
- To determine the volatility of the SRI Index relative to the overall stock market,
- To identify the interaction between various macroeconomic variables and the South African SRI sector.

This chapter proceeds with a discussion of the sample selection and process of collecting secondary data. It then provides a detailed description of the SRI Index. It further continues with the explanation of macroeconomic variables used in this study and finally discusses the various econometric models used in analysing the secondary data.
4.2 SAMPLE PERIOD AND DATA DESCRIPTION

Secondary data used in this chapter includes variables such as the share price and returns of companies in the SRI Index, the return of the SRI Index on the aggregate, the JSE All Share Index (ALSI), and various macroeconomic factors. The SRI Index was used to identify companies’ involvement in SRI initiatives. This index is a useful tool for companies and investors to achieve the goal of social responsibility by rewarding companies that understand their roles as corporate citizens (JSE, 2009). Thus, the SRI Index signals South African companies’ involvement in SRI initiatives. If a company is added in the JSE SRI Index, it means that such a company has improved its social performance in social responsibility, while being removed from the index is seen as an indicator of poor social performance. Therefore, the SRI Index is used as a proxy of the SRI sector in South Africa. Thus, the sample period of data analysed in this chapter was selected based on the availability of the JSE SRI Index.

4.2.1 Selection of sample period

The sample period of approximately 10 years, running from May 2004 (date of the launch of the JSE SRI Index) to June 2014 was used. Considering that variables are not available at the same frequencies, various frequencies, namely daily, monthly and quarterly were used in order to maintain the highest level of frequency available. The number of observations varied with the frequency by 40 quarterly observations, 120 monthly observations and a maximum of 2499 daily observations. Each frequency was selected based on the econometric model to be used and the empirical objective to be achieved. Macroeconomic variables were divided into two categories namely, macroeconomic growth and macroeconomic stability. The link between each of these categories and the SRI Index was analysed differently. Variables of macroeconomic growth are available on a quarterly basis; while the variables for macroeconomic stability are available on monthly basis.

To test the effect of SRI initiatives on the companies’ financial performance, companies added to the SRI for the first time and those removed from the SRI Index due to a declining involvement in SRI initiative were used. This involved the use of daily observations in order to estimate the response of daily return on the announcement of the constituents of the SRI Index. The SRI index (the proxy of SRI
sector) played an important role in the analysis conducted by this study. Thus, an overview of the SRI Index in the next subsection provides the context for the analysis.

4.2.2 Description of JSE SRI Index

SRI Index is considered as the reflection of companies’ social performance, meaning that an increase or a decrease of a company’s involvement in SRI initiatives is shown by its inclusion or exclusion in the SRI Index. JSE launched the SRI Index (JSE SRI Index) in May 2004 with the aim of responding to the growing interest in responsible investment around the world. This JSE SRI Index was launched to serve four major objectives (JSE, 2011a). First, the SRI Index seeks to identify listed companies that integrate the three pillars of the triple bottom into their business activities. These three pillars involve the sustainability of environment, society and economy. Secondly, the JSE SRI Index provides a tool for a comprehensive assessment of company policies and practices against globally and locally related corporate responsibility standards. The JSE SRI Index also serves as a channel through which socially responsible companies, registered in the JSE, are identified. Finally, the SRI Index plays an important role of contributing to the development of responsible business practice in South Africa and beyond (JSE, 2011a).

To qualify for the JSE SRI Index, companies should demonstrate high level of involvement in SRI initiatives. Companies are therefore expected to demonstrate a high standard of reporting and performance in environmental, social and corporate governance areas (JSE, 2014:4). Companies are assessed by a UK-based research organisation known as Ethical Investment Research Service (EIRIS). EIRIS uses profile and survey responses from companies taking part in the review as well as publicly available company information such as annual reports, sustainability reports and websites (JSE, 2009:2). EIRIS considers global themes and others that are very specific to the South African context such as HIV/AIDS and BEE. However, companies with no operations in South Africa are exempt from assessments related to BEE and HIV (JSE, 2013:3). Initially, companies from the JSE ALSI could voluntarily submit data in terms of a questionnaire for inclusion in the SRI Index, but as from 2013, all companies in the JSE ALSI are assessed (JSE, 2014:3). The JSE SRI Index selection
process does not exclude any specific sectors but all sectors are automatically assessed against the criteria.

The weights of companies in the SRI Index are determined by the free float market capitalisation method. This means that each company’s weight depends on its market capitalisation and the weight is adjusted every time there change in the number of constituents. The JSE SRI Index is reviewed annually, mostly in November, based on information acquired during the period preceding the review. In addition to the annual review, there are quarterly reflections to determine whether the constituent companies still conform to all the requirements. If the quarterly report shows that a company no longer meets the criteria, such company is removed from the SRI Index. Additionally, a company is removed from the JSE SRI Index if such company ceases to be a constituent of the JSE ALSI. The process of adding and removing companies from the SRI Index seeks to maintain stability in the constituents of the index and ensures that the index continues to be representative of the market. Thus, this suggests that SRI Index is closely linked to the JSE ALSI. The outcome of the selection process for the past 10 years (2004-2013), in terms of the number of companies, is summarised in Table 4.1 with details of specific variables in Figure 4.1, 4.2 and 4.3.

A comparison participation and selection of the SRI Index, in Figure 4.1, shows that there was an increasing trend in the number of companies participating in the selection of the SRI Index. Similarly, the number of companies selected for the SRI Index has been increasing. For the past 10 years, the number of companies participating in the selection process has increased by 101 percent (from 74 companies in 2004 to 157 companies in 2013). The increased participation rate in 2013 was due to the inclusion of all JSE registered companies in the selection process. This means that the participation in the selection of the SRI Index has become compulsory to all companies registered in the JSE. On an annual basis, the number of companies that participated in the selection process decreased from 74 to 58 in 2005; while the number of companies qualified decreased from 51 to 49. Although the number of companies decreases, the percentage of companies that qualified for the SRI Index in 2005 still increased by 15.56 percent (from 68.92% to 84.48%).
Table 4.1: The number of companies qualified for SRI Index: 2004-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>No of companies participated</th>
<th>Constituents of SRI Index</th>
<th>Qualification Rate (%)</th>
<th>Top40 (^1) (% of constituents)</th>
<th>Mid Cap (^2) (% of constituents)</th>
<th>Small Cap (^3) (% of constituents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>74</td>
<td>51</td>
<td>68.92</td>
<td>60.78</td>
<td>33.33</td>
<td>5.88</td>
</tr>
<tr>
<td>2005</td>
<td>58</td>
<td>49</td>
<td>84.48</td>
<td>65.31</td>
<td>26.53</td>
<td>8.16</td>
</tr>
<tr>
<td>2006</td>
<td>62</td>
<td>58</td>
<td>93.55</td>
<td>58.62</td>
<td>29.31</td>
<td>12.07</td>
</tr>
<tr>
<td>2007</td>
<td>72</td>
<td>58</td>
<td>80.55</td>
<td>60.34</td>
<td>31.03</td>
<td>8.62</td>
</tr>
<tr>
<td>2008</td>
<td>105</td>
<td>61</td>
<td>58.10</td>
<td>55.74</td>
<td>37.70</td>
<td>6.56</td>
</tr>
<tr>
<td>2009</td>
<td>109</td>
<td>67</td>
<td>61.47</td>
<td>50.75</td>
<td>44.78</td>
<td>4.48</td>
</tr>
<tr>
<td>2010</td>
<td>106</td>
<td>74</td>
<td>69.81</td>
<td>45.95</td>
<td>40.54</td>
<td>4.05</td>
</tr>
<tr>
<td>2011</td>
<td>109</td>
<td>74</td>
<td>67.89</td>
<td>48.65</td>
<td>44.59</td>
<td>6.76</td>
</tr>
<tr>
<td>2012</td>
<td>108</td>
<td>76</td>
<td>70.37</td>
<td>47.37</td>
<td>43.42</td>
<td>9.21</td>
</tr>
<tr>
<td>2013</td>
<td>157</td>
<td>72</td>
<td>45.86</td>
<td>48.61</td>
<td>43.06</td>
<td>8.33</td>
</tr>
<tr>
<td>Average</td>
<td>96</td>
<td>64</td>
<td>70.10</td>
<td>54.21</td>
<td>37.43</td>
<td>7.41</td>
</tr>
</tbody>
</table>

Data source: JSE (2013)

Figure 4.1: Participation in the SRI Index (number of companies)

Data source: JSE (2013)

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\(^1\) Top40 is an index made up of the 40 biggest companies in the JSE as measured by market capitalisation.

\(^2\) Mid Cap index includes the next 61 largest companies that are not part of the Top 40.

\(^3\) Small Cap index comprises of small companies in the JSE that are not part of the TOP 40 and Mid Cap indices.
Table 4.1 shows that the average qualification rate for the whole period of 10 years is 70.10 percent. The annual analysis, in Figure 4.2, shows that the highest qualification rate was achieved in 2006, when 94 percent of the participated companies were included in the SRI Index. A lowest performance (qualification rate of 45.86%) was observed in the year 2013 followed by 2008 (qualification rate of 58.10%). Some of the causes of low performance in the year 2013 were the decline in social performance in areas of training and development, employee relations and HIV/AIDS (Le Roux & Mollo, 2013:11). A good example of this is the 2013 strike in the mining and manufacturing sectors, which affected the social performance, in terms of employee relations, of companies in these sectors. The low performance in 2008 was linked to an increased number of participants in the selection process. A large number of the new entrants failed to meet the criteria due to their corporate structures (JSE, 2008). This low performance in year 2008 may also be associated with the global financial crisis of 2008, which affected most companies’ ability to get involved in socially responsible initiatives (Gladysek & Chipeta, 2012:438).

![Figure 4.2: Annual qualification rate (%) in SRI Index](image)

Data source: JSE (2013)

The number of companies added to and removed from the SRI Index due to their involvement in SRI initiatives are shown in Figure 4.3. This means that companies in Figure 4.3 exclude those that are added or removed due to reasons other than their social performance. The highest number of companies added at once was 10 (in 2006), while the year 2013 saw the highest number of companies (10) being removed.
from the index. On average, approximately six companies were added for the first time to the SRI Index each year, while about four companies were deleted from the JSE SRI Index each year. This indicates that the process of adding and deleting companies from the JSE SRI Index has been volatile for the past 10 years, implying that social performance increased for some companies, while it declined for other companies. For the past 10 years, the average net growth of the number of companies in the SRI Index has been two companies per year.

![Figure 4.3: Number of companies added to and removed from the SRI Index](image)

Data source: JSE (2014)

Figure 4.4 summarises the constituents of SRI index based on the size of the market capitalisation. The category Top 40 companies includes top 40 largest companies of JSE based on the market capitalisation; the Mid cap refer to the next 61 largest JSE companies that are not part of the Top 40 and the Small cap is the group of small JSE companies that are not part of the TOP 40 and Mid Cap indices. On average, 54.21 percent of the JSE SRI Index constituents were from Top40 companies, while medium and small capitalisations contributed 37.43 percent and 7.41 percent, respectively. Although Top40 companies tend to have dominated the SRI Index for the past 10 years, there appears to be a declining trend in the contribution of the Top40 companies to the overall SRI Index. The contribution of middle capitalisation (Mid Cap) to the SRI seems to have been increasing over the past 10 years, with the highest contribution of 44.8 percent in 2009. Figure 4.4 also shows that the gap between the Top40 and
Mid Cap companies within the SRI Index has decreased considerably in the past five years (2009-2013). It was also observed that the contribution of small capitalisation (Small Cap) companies of the SRI Index has been at minimal for the past 10 years. This has been caused by the low rate of participation in the selection process by small companies but the new selection process of including all companies in the JSE ALSI is expected to increase the participation rate of small companies (JSE, 2014).

Figure 4.4: The SRI Index constituents by size (%)  
Data source: JSE (2014)

Table 4.2: Contribution of sectors to the JSE SRI Index in 2012

<table>
<thead>
<tr>
<th>Sector</th>
<th>Contribution to total index (%)</th>
<th>Sector</th>
<th>Contribution to total index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>18.4</td>
<td>Mobile Telecommunication</td>
<td>3.9%</td>
</tr>
<tr>
<td>Life Insurance</td>
<td>6.6</td>
<td>General industrials</td>
<td>3.9%</td>
</tr>
<tr>
<td>General Retailers</td>
<td>6.6</td>
<td>General Financial</td>
<td>3.9%</td>
</tr>
<tr>
<td>Banks</td>
<td>6.6</td>
<td>Food and Drug Retailers</td>
<td>2.6%</td>
</tr>
<tr>
<td>Food Producers</td>
<td>6.6</td>
<td>Health Care Equipment &amp;</td>
<td>2.6%</td>
</tr>
<tr>
<td>Industrial Metals</td>
<td>5.3</td>
<td>Services</td>
<td>Real Estate</td>
</tr>
<tr>
<td>Construction &amp; Materials</td>
<td>5.3</td>
<td>Other sectors</td>
<td>23.75</td>
</tr>
</tbody>
</table>

Data source: JSE (2013)
Table 4.2 shows the contribution of each sector to the total number of companies qualified for the JSE SRI Index in 2012. The constituents of the JSE SRI Index in 2012 were distributed across various sectors but the mining sector seemed to have a bigger number of companies (18.4%) than other sectors. This is an indication that the SRI Index is very diverse and inclusive of JSE’s sectors/industries.

4.3 MACROECONOMIC DETERMINANT OF THE SRI INDEX

As mentioned in Chapters 2 and 3, interaction between the demand for SRI and macroeconomic conditions was suggested but it has not yet been tested in the South African context. To establish this interaction, this study assessed how a number of macroeconomic variables affect the South African SRI sector. The macroeconomic conditions were divided into categories where macroeconomic growth and macroeconomic stability were separated. The variables for macroeconomic growth, considered in this study, include real economic growth (real GDP growth) and employment growth rate (Garcia & Liu, 1999; Kemboi & Tarus, 2012; Naceur et al., 2007; Yang & Yi, 2008; Yartey, 2008); whereas the variables for macroeconomic stability include real interest rate differentials (difference between long-term and short-term interest rate), unexpected inflation, real money supply (M3) and real effective exchange rate (Garcia & Liu, 1999; Kemboi & Tarus, 2012; Naceur et al., 2007). These variables were selected because they have been generally linked to the stock market indices (Bayoumi & Eichengreen, 1994; Gupta & Modise, 2011; Jefferis & Okeahalam, 2000) and hence, they are expected to affect the SRI Index. Data on these macroeconomic variables were obtained from the South African Reserve Bank and Statistics South Africa websites. The South African SRI sector was represented by the weighted average closing prices of the JSE SRI Index and closing price companies in the SRI Index, which are available on McGregor BFA Library.

4.4 ECONOMETRIC MODEL FOR ANALYSIS OF SECONDARY DATA

Quantitative methods were used to achieve the two aforementioned empirical objectives. Various econometric models such as Johansen co-integration test, vector error correction model (VECM), generalized autoregressive conditional heteroscedasticity (GARCH), Granger causality test and the event study were used to analyse the data. The first part of this sub-section explains how the event study
methodology was used to access the impact SRI initiatives on financial performance of South African companies. The second sub-section describes models used to measure the volatility of the SRI Index relative to the JSE ALSI, and the third sub-section explains the models used to analyse the interaction between the SRI Index and the aforementioned macro-economic variables.

4.4.1 The event study methodology

The event study methodology was used to assess the effect of the social performance on the value of companies selected from the JSE SRI Index. Various authors (Azuma et al., 2014; Brown & Warner, 1980, 1985; Gladysék & Chipeta, 2012; Seiler, 2000; Strydöm, et al., 2009) have used this methodology to test the effect of a certain event on share returns. In the context of the current study, the event referred to the announcement of companies included in the SRI Index. Thus, this study tested whether or not the announcement of social performance of a specific company has an impact on the return of such company. The event study methodology assumes that the markets are efficient and that the event is unanticipated in order for the stock prices to react during the event period (Gladysék & Chipeta, 2012:433). To maintain this assumption of unexpected events, this study used companies added to or removed from the JSE SRI Index, as this would not necessarily be anticipated. If SRI initiatives have a positive effect on a company’s financial performance, then the market is expected to react positively to the first inclusion of a specific company in the SRI Index. Similarly, the market would respond negatively when a specific company is removed from the SRI Index. If a company’s involvement in SRI initiatives has no effect on its share returns then the market would not react when a company is removed from or added to the SRI Index.

4.4.1.1 Event window

The event study assesses the presence of abnormal returns during a relevant time known as the event window (Brown & Warner, 1985:6). The event period can be extended to some days (such as 5, 10 or 20 days) before and after the precise date of the event announcement known as the event date. Such an event date is referred to as date zero in the event period and, in this study, it refers to the announcement date of SRI constituents. This study used the 41-day event window (20 trading days
prior to the announcement date and 20 days after the announcement date). The 41-day event window was used to give socially responsible investors enough time to react to news of a specific company being added to or deleted from the SRI Index. The event window was calculated for each year based on the annual announcement dates of SRI Index constituents summarised in Table 4.3.

Table 4.3 shows that there is time lag between the announcements of SRI constituents (involvement in SRI initiatives) and the publication of the SRI Index on the JSE website (the contribution of each company towards the formation of the SRI Index). This time lag justifies the use of a long event period of 41 days, which allows the inclusion of investors’ reactions to publication of the index. Since the aim of this study is to identify the effect of companies’ involvement in SRI initiatives (social performance) on companies’ share price (financial performance), the event date for each year was set on the announcement date instead of the publication date.

Table 4.3: SRI results announcement and index publication

<table>
<thead>
<tr>
<th>SRI results announcement</th>
<th>Publication of the index</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 May 2004- launch</td>
<td>20-May-2004</td>
</tr>
<tr>
<td>19-May-2005</td>
<td>20-May-2005</td>
</tr>
<tr>
<td>25-Apr-2006</td>
<td>26-Apr-2006</td>
</tr>
<tr>
<td>27-Nov-2007</td>
<td>05-Dec-2007</td>
</tr>
<tr>
<td>26-Nov-2008</td>
<td>26-Nov-2008</td>
</tr>
<tr>
<td>30-Nov-2009</td>
<td>02-Dec-2009</td>
</tr>
<tr>
<td>01-Dec-2010</td>
<td>20-Dec-2010</td>
</tr>
<tr>
<td>06-Dec-2011</td>
<td>19-Dec-2011</td>
</tr>
<tr>
<td>28-Nov-2012</td>
<td>24-Dec-2012</td>
</tr>
<tr>
<td>27-Nov-2013</td>
<td>23-Dec-2013</td>
</tr>
</tbody>
</table>

Source: JSE (2014)

The period prior the event window is known as estimation window and is used to estimate expected return. Thus, the maximum period conspired in event study includes the estimation window and event window. This study used a maximum period of 250 daily returns per year for each company (as suggested by Brown and Warner, 1985), implying that the estimation window was 209 (250-41) days for the 41-day event window.
4.4.1.2 Estimation of abnormal return

The event study methodology is based on testing the presence of abnormal returns during the event period. The abnormal return is the difference between actual return and expected return and is estimated normally as follows (Brown & Warner, 1985:6):

\[ AR_{it} = R_{it} - E(R_{it}) \]  \hspace{1cm} (4.1)

Where: \( AR_{it} \) is the abnormal or unexpected return for company \( i \) on day \( t \), \( R_{it} \) is the actual return for company \( i \) on day \( t \) and \( E(R_{it}) \) is the expected return for company \( i \) on day \( t \).

The actual share return is measured by change in share price as follows:

\[ R_{it} = \ln \left( \frac{P_{it}}{P_{it-1}} \right) \]  \hspace{1cm} (4.2)

Where \( P_{it} \) is the share price of company \( i \) on day \( t \) and \( P_{it-1} \) is the share price on the day \( t-1 \).

The expected return, \( E(R_{it}) \), can be measured by various models including, but not limited to, capital asset pricing model (CAPM), arbitrage pricing theory (APT), the market model and zero-one model (Seiler, 2000:103). Models such as CAPM and APT rely on assumptions concerning investors’ behaviour, while the market and zero-one models rely on statistical assumptions (Mackinlay, 1997:18). The market model and CAPM are used commonly in event study but Mackinlay (1997) warns that CAPM has restrictions (assumptions) that may influence the results. Hence, he advised the use of the market model. However, other studies (Binder, 1988; Dimson & Marsh, 1986; Seiler, 2000) have shown that both CAPM and market models tend to produce similar results. Thus, this study used both the CAPM and market model and tested whether their abnormal returns were different.

The expected return with the CAPM is estimated as follows:

\[ E(R_{it}) = R_{rf} + \beta_i (R_{mt} - R_{rf}) \]  \hspace{1cm} (4.3)
Where: \( R_{it} \) is the expected return on company \( i \) during the period \( t \), \( R_{mt} \) is the return on the market (JSE ALSI), \( \beta_i \) is the slope of the regression, \( R_{rf} \) is the risk free rate (government short-term bond known as Treasury Bill). Under CAPM, the Equation 4.1 of abnormal return is:

\[
AR_{it} = R_{it} - E(R_{it}) = R_{it} - R_{rf} - \beta_i(R_{mt} - R_{rf})
\] (4.4)

Under the market model, the expected return is estimated based on a linear relationship between the asset and the market returns as follows:

\[
E(R_{it}) = \alpha_i + \beta_i R_{mt} + e_t
\] (4.5)

Where: \( R_{it} \) is the expected return on company \( i \) during the period \( t \), \( R_{mt} \) is the return on the market (JSE ALSI) during the period \( t \), \( \beta_i \) is the slope of the regression, \( \alpha_i \) is the intercept of the regression and \( e_t \) is the error term explaining the random component of the expected return (\( R_{it} \)) not explained by the market (\( R_{mt} \)). This error term is assumed zero for a normal trading company (Mackinlay, 1997:15). Thus, the abnormal return (from Equation 4.1 under the market model) is as follows:

\[
AR_{it} = R_{it} - E(R_{it}) = R_{it} - \alpha_i - \beta_i R_{mt}
\] (4.6)

The value of the abnormal return from Equations 4.4 and 4.6 is an indication of the changes in a company share price caused by the addition or deletion of such company on the JSE SRI Index. The value of \( AR_{it} \) indicates whether social performance has an impact on a particular company’s share price. If \( AR_{it} \) is different from zero, it is concluded that social performance has an impact on the share price of a particular company. This means that the following hypotheses were tested by this event study:

Hypothesis 1: Adding a company to the SRI Index for the first time has an effect on such company’ share return over the event window.

Null hypothesis (\( H_0 \)): \( AR_{it} = 0 \)

Alternative hypothesis (\( H_1 \)): \( AR_{it} \neq 0 \)

Hypothesis 2: Removing a company from the SRI Index has an effect on such company’ share return over the event window.
H<sub>0</sub>: AR<sub>it</sub> = 0

H<sub>1</sub> = AR<sub>it</sub> ≠ 0

In event study, abnormal returns are aggregated in order to draw overall conclusions for the studied event (Mahoney et al., 2013:21). The aggregation involves the calculations of average of all abnormal returns (AAR<sub>t</sub>) and the cumulative abnormal returns based on time or securities or companies considered in the sample (Mahoney et al., 2013:21). This averaging of AR is mostly done to test whether ARs are significant for each individual company during the event period or for each day of the event period. Thus, the use of different averages give an indication to whether the conclusions of the event study can be generalised. According to Binder (1988:113), the following aggregated abnormal returns can be estimated:

- The average abnormal returns (AAR<sub>t</sub>) for all companies in the sample for the day <em>t</em>:

\[
AAR_t = \frac{1}{N} \sum_{i=1}^{N} AR_{it}, \text{ where } N \text{ is the number of companies in the sample} \tag{4.7}
\]

- The cumulative abnormal returns (CAR<sub>i</sub>) which is the sum abnormal return of a company <em>i</em> during the event window:

\[
CAR_i = \sum_{t=1}^{k} AR_{it}, \text{ where } k \text{ is the total number of days in the event window} \tag{4.8}
\]

- The cumulative average abnormal returns (CAAR<sub>t</sub>) which is the sum of the average abnormal of all companies in the sample:

\[
CAAR_t = \frac{1}{N} \sum_{i=1}^{N} CAR_i \tag{4.9}
\]

4.4.1.3 Hypotheses test statistics of abnormal returns

To test for the aforementioned hypothesis, various tests were conducted. In the event study, the size (magnitude) and the sign (direction) of the abnormal return are very important (Strydom et al., 2009:73). In this study, Z-test statistic was used to test whether the abnormal returns are different from zero. Z-statistic is normally calculated as follows (Brown & Warner, 1985:7):

\[
Z = \frac{AR_{it} - E(AR_{it})}{\text{SE}(AR_{it})}
\]
\[ Z_{AR} = \frac{AR_{it}}{SD(AR_{it})} \] (4.10)

Where \( SD(AR_{it}) \) is the sample standard deviation of the abnormal return normally given by:

\[ SD(AR_{it}) = \sqrt{\frac{1}{T_0} \sum_{t=1}^{T_0} (AR_{it} - E(AR_i))^2} \] (4.11)

Where \( T_0 \) is the number of days in the estimation window, which was 209 days for 41-day event window.

The estimated Z-values were compared then to critical values from the Z-table at the 5 percent and 10 percent levels of significance. If the estimated Z-values were found to be greater than the critical Z-values then the null hypothesis was rejected, implying that estimated abnormal returns were significantly different from zero. Where the Z-values were found to be less than the critical Z-values then the \( H_0 \) was not rejected, meaning that abnormal returns were not significantly different from zero.

### 4.4.2 Generalised autoregressive conditional heteroscedasticity (GARCH)

In addition to the event methodology, a GARCH model was used to test the price volatility of the SRI Index relative to the overall stock market (JSE ALSI). The assessment of the volatility assisted in identifying whether companies in the SRI Index had high levels of return volatility, relatively to the whole stock market, during the time of announcing the SRI constituents. Proceeding from Equation 4.2 of estimating the return, the stochastic process to daily returns for SRI Index and JSE ALSI can be expressed as follows:

\[ R_t = \alpha + \theta R_{t-1} + \varepsilon_t + \varphi \varepsilon_{t-1} \] (4.12)

Where the volatility of the error term (\( \varepsilon_t \)) equals to the variance (\( \sigma_t^2 \)). This variance is a GARCH model with (p,q) lags (Achia et al., 2008) and can be presented by the following volatility equation:

\[ \sigma_t^2 = \gamma_0 + \gamma_1 \varepsilon_{t-1}^2 + \cdots + \gamma_p \varepsilon_{t-p}^2 + \beta_1 \sigma_{t-1}^2 + \cdots + \beta_q \sigma_{t-p}^2 \] (4.13)

Where: \( \sigma_t^2 \) is the return volatility of the SRI Index and the JSE ALSI;
\[ \varepsilon_{t-1}^2, \ldots, \varepsilon_{t-1}^2 \text{ are previous days information about return volatility or ARCH terms;} \]

\[ \sigma_{t-1}^2, \ldots, \sigma_{t-p}^2 \text{ are the previous volatility or GARCH terms; and} \]

\[ \gamma \text{ and } \beta \text{ are coefficients for ARCH and GARCH terms, respectively.} \]

Equation 4.13 was estimated, therefore, for both SRI Index and the JSE ALSI and the magnitude of the volatility for these two indices was compared.

### 4.4.2.1 Application of the autoregressive distributed lag and vector error correction models

For the second empirical objective of identifying the relationships between the SRI Index and macro-economic variables, multivariate co-integration tests and Granger causality test were used. In establishing the co-integration between the variables, two models, namely the autoregressive distributed lag (ARDL) and the vector error correction model (VECM) are commonly used. In this study, both models were used in order to test whether they produce similar results.

ARDL was used to test the relationship between the SRI Index and the variables related to economic growth (real GDP and employment), which are available on a quarterly basis. The VECM was used to assess the link between the SRI Index and the monthly observations in macroeconomic stability variables, which included consumer price index (CPI), exchange rate, money supply and term spread (interest on long-term government bond – Treasury bill rate).

### 4.4.2.2 Vector autoregressive models

The first general econometric model for factors related to macroeconomic stability was formulated based on previous studies (Garcia & Liu, 1999; Kemboi & Tarus, 2012; Nacuer, et al., 2008) on the link between stock market indices and macroeconomic variables as follows:

\[ SRI = f(TS, CPI, ER, M3) \]  \hspace{1cm} (4.14)
Where SRI is the real value of SRI Index (the monthly value of SRI Index adjusted for inflation). The explanation of the other variables and their expected relationship with the SRI Index are as follows:

- **TS** is real term spread or interest rate differentials (difference between long-term (10 years and more) government bond yield and the 90 days Treasury bill rate) adjusted for inflation. Term spread can either have a negative or a positive relationship with SRI Index (Gupta & Modise, 2011).
- **CPI** is the consumer price Index, which is the increase in price level (inflation). The relationship between the SRI Index and the increase in price level is expected to be negative because rising inflation tends to affect the stock market index negatively (Kemboi & Tarus, 2012; Nacuer et al., 2007).
- **ER** is real effective exchange rate which is a weighted real exchange rate of the rand measured against a basket of the currencies of South Africa’s fifteen most important trading partners. The calculation is based on trade in and consumption of manufactured goods. The real exchange effective rate was accessed from the SARB website. The expected relationship between the real exchange rate and the stock market Index can be either negative or positive (Abdalla & Murinde, 1997; Jefferis & Okeahalam, 2000).
- **M3** is the money supply which is total value of monetary aggregates plus all long term deposit with monetary banking institutions (SARB, 2014). In this study M3 was adjusted for inflationary effect. The expected relationship between the real money supply and the stock market index can either be negative or positive (Gupta & Modise, 2011).

Considering that the variables are measured in different units, the range between some of them is large and this may cause problems in the analysis. For example, the real money supply is millions while the term spread is in percentages. To minimise the range between variables, the model was changed to the logarithmic model. The logarithmic model is relevant for this study because, the focus of this analysis is on growth rate (elasticity) of SRI Index and its determinants. Thus, Equation 4.14 was changed into the logarithmic model as follows:

\[
LSRI = f(LTS, LPC, LER, LM3) \quad (4.15)
\]
Where: LSRI is the log of the real value of SRI Index, LTS is the log of real term spread, LCPI is the log of consumer price index, LER is the log of real effective exchange rate and LM3 is the log of real money supply.

Considering that variables in Equation 4.15 is expected to have a multivariate relationship where the dependent variable may be related to its own lag values and to those of independent variables; a vector autoregressive (VAR) model was selected as appropriate in modelling the multivariate relationships between the SRI Index and macroeconomic stability variables (Patterson, 2000). The VAR is a form of starting point for different analysis such as co-integration analysis, causality test, stability test, variance decomposition and impulse response (Chan, 2010; Maddala, 2001). Although the VAR is appropriate to estimate Equation 4.15, this model has some advantages and drawbacks. Some of the advantages and drawbacks of VAR models are as follows.

- **Advantages of VAR Models:**

  The first advantage in VAR models is that it treats all variables as endogenous; thus, a researcher does not have to distinguish endogenous variables from exogenous variables (Brooks, 2014:328). This is an important point for this study as the financial theory does not specify which variables, between the SRI and macroeconomic stability variables, to be treated as exogenous and previous have produced mixed results. VAR models have another advantage of flexibility because they permit “…the value of a variable to depend on more than just its own lag or a combination of white noise terms…” (Brooks, 2014:329). Hence, VAR models may have the ability of capturing more characteristics of the data. Furthermore, the absence of restrictions in VAR models allows the forecasts generated by these models to be often better than traditional structural model (Sims 1980). According to Brooks (2014:329), the more accurate forecasting of some macroeconomic variables such as unemployment rate and real GDP, is achieved with the use of VAR models instead of other several different structural specifications. Finally, the VAR model has provided a solution to some problems of such as time dependent residuals by conditioning on sufficiently many lags, spurious correlation and regression results and multicollinearity (Juselius, 2012:16). For example, when using VAR model the research does not have to worry
about the multicollinearity because multicollinearity tend to be not present in cointegration analysis with VAR model (Juselius, 2012:13).

**Drawbacks of VAR Models**

The first downside of VARs is that they use a little theoretical information about the relationships between the variables as guidance in specifying the model (Brooks, 2014:329). Another drawback of VARs is that they provide several techniques of identifying lag lengths; as a result, a researcher may face a challenge in selecting a technique of identifying the appropriate lag lengths for the VAR (Brooks, 2014:334). This is a challenge in financial data where the financial theory may have a little to say on how long changes in the variables should take to work through the system. However, this challenge of leg selection can be managed by the selecting lag lengths identified by the majority of leg selection criteria (these criteria are explained in Section 4.4.2.7 of this chapter).

In the context of this study, the VAR model derived from Equation 4.15 is as follows:

\[ LSI_t = \alpha_1 + \sum_{j=1}^{k} \beta_{1j}SI_{t-j} + \sum_{j=1}^{k} \lambda_{1j}LSI_{t-j} + \sum_{j=1}^{k} \gamma_{1j}LCPI_{t-j} + \sum_{j=1}^{k} \delta_{1j}LER_{t-j} + \sum_{j=1}^{k} \theta_{1j}LM3_{t-j} + u_{1t} \]  
\[ (4.16) \]

\[ LSI_t = \alpha_2 + \sum_{j=1}^{k} \beta_{2j}SI_{t-j} + \sum_{j=1}^{k} \lambda_{2j}LSI_{t-j} + \sum_{j=1}^{k} \gamma_{2j}LCPI_{t-j} + \sum_{j=1}^{k} \delta_{2j}LER_{t-j} + \sum_{j=1}^{k} \theta_{2j}LM3_{t-j} + u_{2t} \]  
\[ (4.17) \]

\[ LCI_t = \alpha_3 + \sum_{j=1}^{k} \beta_{3j}SI_{t-j} + \sum_{j=1}^{k} \lambda_{3j}LSI_{t-j} + \sum_{j=1}^{k} \gamma_{3j}LCPI_{t-j} + \sum_{j=1}^{k} \delta_{3j}LER_{t-j} + \sum_{j=1}^{k} \theta_{3j}LM3_{t-j} + u_{3t} \]  
\[ (4.18) \]

\[ LER_t = \alpha_4 + \sum_{j=1}^{k} \beta_{4j}SI_{t-j} + \sum_{j=1}^{k} \lambda_{4j}LSI_{t-j} + \sum_{j=1}^{k} \gamma_{4j}LCPI_{t-j} + \sum_{j=1}^{k} \delta_{4j}LER_{t-j} + \sum_{j=1}^{k} \theta_{4j}LM3_{t-j} + u_{4t} \]  
\[ (4.19) \]

\[ LM3_t = \alpha_5 + \sum_{j=1}^{k} \beta_{5j}SI_{t-j} + \sum_{j=1}^{k} \lambda_{5j}LSI_{t-j} + \sum_{j=1}^{k} \gamma_{5j}LCPI_{t-j} + \sum_{j=1}^{k} \delta_{5j}LER_{t-j} + \sum_{j=1}^{k} \theta_{5j}LM3_{t-j} + u_{5t} \]  
\[ (4.20) \]

Where: \( \alpha_n \) is the intercept; \( \beta_n, \lambda_n, \gamma_n, \delta_n \) and \( \theta_n \) are the coefficients; \( k \) is number of lags, and \( u \)'s are the stochastic error terms (known as shocks in a VAR model).
Before estimating a VAR model, it is important to determine whether series to be used are stationary because non-stationary series can produce spurious regressions (with significant coefficients that carry no real meaning) (Enders, 2004).

4.4.2.3 Testing for a unit root

To test for stationarity in the series, one can use the level of integration that explains whether data are stationary or not. This level of integration is generally presented as follows (Cheremza & Deadman, 1992:128):

$$X_t = I(d)$$

where d stands for the order of integration.

This order of integration refers to the number of unit roots in the series, or the number of differencing operations it takes to make a variable stationary. When $d = 0$, a series $(X_t)$ is integrated of order zero or $I(0)$ and is stationary. However, when $d \geq 1$, a series is integrated of order 1 or $I(1)$, or higher, and is non-stationary.

Various ways of testing for unit root include tests such as Dickey-Fuller (DF), Augmented Dickey-Fuller (ADF), the Phillips-Perron (PP) unit root tests (Brooks, 2014:362-3365; Gujarati, 2009:754-759). Unit root tests (ADF and PP) tend to produce similar results but they are criticised because they have low power and they are sensitive to the sample size and that they may lead to a poor decision in small sample sizes (Brooks 2014:364 and Gujarati 2009:759). As a way of minimising this problem of unit root test, Brooks (2014:365) suggests that results of ADF and PP unit root tests should be compared to Kwiatkowski–Phillips–Schmidt–Shin (KPSS) stationarity test to check whether they get to the same conclusion. Thus, this study used augmented Dickey-Fuller (ADF) unit root test and KPSS stationarity test and their results were compared to check whether they led to the same conclusions.

For a variable such as LSRI, the unit root test (with no trend) is set as follows:

Consider a simple regression of LSRI and its own lag:

$$\Delta LSRI_t = \varphi LSRI_{t-1} + u_t$$  \hspace{1cm} (4.21)

Where: $\Delta$ = the first difference operator; thus, $\Delta LSRI_t = LSRI_t - LSRI_{t-1}$

$\varphi$ is the coefficient and $u_t$ is the error term.
The hypothesis tests for unit root (DF, ADF and PP) in Equation 4.21 are:

- The null hypothesis \( (H_0) \): \( \varphi = 1 \) then LSRI\(_t\) has a unit root, I(1);
- Alternative hypothesis \( (H_1) \): \( \varphi < 1 \) then LSRI\(_t\) is stationary, I(0).

The KPSS test follows a different format (known as LM statistics) of testing for stationarity and its hypothesis tests are set as follows:

- The null hypothesis \( (H_0) \): LSRI\(_t\) is stationary, I(0);
- Alternative hypothesis \( (H_1) \): LSRI\(_t\) has a unit root, I(1).

Thus, the combination of these two tests (ADF unit root and KPSS stationarity tests), may yield four possible conclusions:

1. Reject \( H_0 \) with ADF and do not reject \( H_0 \) with KPSS
2. Do not reject \( H_0 \) with ADF and reject \( H_0 \) with KPSS
3. Reject \( H_0 \) with ADF and reject \( H_0 \) with KPSS
4. Do not reject \( H_0 \) with ADF and do not reject \( H_0 \) with KPSS

For conclusions to be consistent, results should fall in the first conclusion (which is stationary) or second conclusion (which is non-stationary) (Brooks, 2014:365). Otherwise, outcomes three and four produce conflicting results. As mentioned above, this study compared ADF and KPSS results to conclude on the stationarity of the variables used. Based on results of the unit root tests, one may proceed with one of following ways:

- If all variables are stationary then the normal VAR model is estimated
- If some of the variables are stationary and others are not then ARDL is estimated, but ARDL can also be used when all variables are not stationary
- If all variables are found to be non-stationary then a co-integration test is used to test whether a linear combination of them is stationary (this is a long-run relationship) (Brooks, 2002:388). If the co-integration is not present then the VAR model in the first difference is appropriate. However, if non-stationary variables are found to be co-integrated then the VECM is used to capture the error correction.
4.4.2.4 Testing for cointegration

If unit root test show that variables in VAR model are I(1), one can proceed with a co-integration approach to test if such variables are integrated. TA co-integration test establishes whether the non-stationary variables move together over the time and have a linear combination, which is stationary (Brooks, 2002:388). This study used the Johansen’s (1988 and 1991) multivariate co-integrating VAR approach to test for the long run relationship between the SRI Index and macroeconomic stability. The Johansen’s (1988 and 1991) multivariate co-integrating VAR approach is discussed by Charemza & Deadman (1997) and Enders (2004) as follows.

Considering unrestricted VAR model:

\[ Z_t = \sum_{i=1}^{k} A_i Z_{t-i} + e_t \]  \hspace{1cm} (4.22)

Where:

\[ Z_t = \begin{bmatrix} X_{1t} \\ X_{2t} \\ \vdots \\ X_{nt} \end{bmatrix} \]

is column vector of observations \( X_{1t} \) to \( X_{nt} \); and,

\( e_t \) = a column vector of random errors which are usually assumed to be contemporaneously correlated but not auto-correlated.

Assuming that all variables are co-integrated in the same order, the VAR model in Equation 4.22 can be presented as follows:

\[ \Delta Z_t = \Pi Z_{t-k} + \sum_{i=1}^{k-1} \Gamma_i \Delta Z_{t-i} + e_t \quad \text{for } k \geq 2 \]  \hspace{1cm} (4.23)

Where: \( \Pi = - (I - A_1 - A_2 - \ldots - A_k) \); and, \( \Gamma_i = - (A_{i+1} + A_{i+2} + \ldots + A_k) \), \( i = 1, \ldots, k-1 \)

According to Johansen & Juselius (1990), the matrix \( \Pi \) can be expressed as a product of two matrices:

\[ \Pi = \alpha \beta' \]  \hspace{1cm} (4.24)
where $\alpha$ and $\beta'$ are both the same since $\Pi$ is a square matrix.

The matrix $\beta'$ gives the co-integrating vectors (a matrix of long run coefficients), while $\alpha$ stand for the adjustment of parameters that shows the level of speed with which the system responds to last period’s deviations from the equilibrium (Brooks, 2002:406). Therefore, Johansen co-integration is based on the examination of the $\Pi$ matrix. $\Pi$ can be interpreted as a long-run coefficient matrix, as in the equilibrium, all the $\Delta Z_{t-i}$ will be zero, and setting the error terms ($e_i$), to their expected value of zero will leave $\Pi Z_{t-k} = 0$ (Brooks, 2014:387). Hence, the test for co-integration is conducted by looking at the rank ($r$) of the $\Pi$ matrix with the use of its eigenvalues.

- **Hypothesis testing in Johansen co-integration approach**

The Johansen methodology offers two tests for testing the number of co-integrating relationships namely, the *trace test* and the *maximum eigenvalue* test. The trace test tests the hypothesis that there are at most $r$ co-integrating vectors; while the maximum eigenvalue test tests the hypothesis that there are $r+1$ co-integrating vectors against the hypothesis that there are $r$ co-integrating vectors. Based on the discussion of Brooks (2014:387-388) and Enders (2004:352-353), these two co-integration tests are as follows:

The trace test is:

$$\lambda_{trace} = -T \sum_{i=r+1}^{n} \ln(1 - \hat{\lambda}_i) \quad (4.25)$$

The maximum eigenvalue test is:

$$\lambda_{\text{max}} = -T \ln(1 - \hat{\lambda}_{r+1}) \quad (4.26)$$

Where: $r$ is the number of co-integrating vectors under the null hypothesis, $\hat{\lambda}_i$ is the estimated value for $i$th ordered eigenvalue from the $\Pi$ matrix and $T$ is the number of usable observations (Enders, 2004:353).
\( \lambda_{\text{trace}} \) is a joint test where:

- \( H_0: \) the number of co-integrating vectors \( \leq r \) and
- \( H_1: \) the number of co-integrating vectors \( > r \).

\( \lambda_{\text{max}} \) conducts a separate test on each eigenvalue and has its null hypothesis (\( H_0 \)) on the number of co-integrating vectors that is \( r \) against an alternative (\( H_1 \)) of \( r + 1 \) (Enders; 2004:353). According to Brooks (2014:388) and Patterson (2000:620-621), this test is conducted in sequence as follows:

- \( H_0: r = 0 \) versus \( H_1: 0 < r \leq n \)
- \( H_0: r = 1 \) versus \( H_1: 1 < r \leq n \)
- \( H_0: r = 2 \) versus \( H_1: 0 < r \leq n \)
- \( \ldots \)
- \( H_0: r = n-1 \) versus \( H_1: r = n \)

Brooks (2008:352) indicates that the first test involves a \( H_0 \) of non-co-integrating vectors (corresponding to \( \Pi \) having zero rank). If the \( H_0 \) is not rejected, it would indicate that there are no co-integrating vectors and the cointegration test would be completed (Patterson, 2000:620). Contrarily, if the \( H_0 \) for \( r = 0 \) is rejected; the \( H_0 \) for \( r = 1 \) will be tested and so on. Hence, the value of \( r \) is repeatedly increased until the \( H_0 \) is no longer rejected.

### 4.4.2.5 Vector error correction model

As mentioned earlier on, if the co-integration test indicates that variables are not co-integrated, then the first difference of VAR model (Equations 4.16 to 4.20) should be used to test for short run effects or to conduct a Granger-Causality test. However, if variables are found to be co-integrated, the following VECM should be estimated.

\[
\Delta LSR_{t} = \alpha_{1} + \sum_{j=1}^{k} \beta_{1j} \Delta SRI_{t-j} + \sum_{j=1}^{k} \lambda_{1j} \Delta LTS_{t-j} + \sum_{j=1}^{k} \gamma_{1j} \Delta CPI_{t-j} + \\
\sum_{j=1}^{k} \delta_{1j} \Delta LER_{t-j} + \sum_{j=1}^{k} \theta_{1j} \Delta M3_{t-j} + \varphi_{1} u_{1t-1} + e_{t1}
\]  
\( (4.27) \)
\[ \Delta LTS_t = \alpha_2 + \sum_{j=1}^{k} \beta_{2j} \Delta SRI_{t-j} + \sum_{j=1}^{k} \lambda_{2j} \Delta TS_{t-j} + \sum_{j=1}^{k} \gamma_{2j} \Delta LCPI_{t-j} + \sum_{j=1}^{k} \delta_{2j} \Delta LER_{t-j} + \sum_{j=1}^{k} \theta_{2j} \Delta LM3_{t-j} + \varphi_2 u_{2t-1} + e_{t2} \]  

(4.28)

\[ \Delta LCPI_t = \alpha_3 + \sum_{j=1}^{k} \beta_{3j} \Delta SRI_{t-j} + \sum_{j=1}^{k} \lambda_{3j} \Delta TS_{t-j} + \sum_{j=1}^{k} \gamma_{3j} \Delta LCPI_{t-j} + \sum_{j=1}^{k} \delta_{3j} \Delta LER_{t-j} + \sum_{j=1}^{k} \theta_{3j} \Delta LM3_{t-j} + \varphi_3 u_{3t-1} + e_{t3} \]  

(4.29)

\[ \Delta LER_t = \alpha_4 + \sum_{j=1}^{k} \beta_{4j} \Delta SRI_{t-j} + \sum_{j=1}^{k} \lambda_{4j} \Delta TS_{t-j} + \sum_{j=1}^{k} \gamma_{4j} \Delta LCPI_{t-j} + \sum_{j=1}^{k} \delta_{4j} \Delta LER_{t-j} + \sum_{j=1}^{k} \theta_{4j} \Delta LM3_{t-j} + \varphi_4 u_{4t-1} + e_{t4} \]  

(4.30)

\[ \Delta LM3_t = \alpha_5 + \sum_{j=1}^{k} \beta_{5j} \Delta SRI_{t-j} + \sum_{j=1}^{k} \lambda_{5j} \Delta TS_{t-j} + \sum_{j=1}^{k} \gamma_{5j} \Delta LCPI_{t-j} + \sum_{j=1}^{k} \delta_{5j} \Delta LER_{t-j} + \sum_{j=1}^{k} \theta_{5j} \Delta LM3_{t-j} + \varphi_5 u_{5t-1} + e_{t5} \]  

(4.31)

Where: $\Delta$ is the first difference operator, $u_{1t-1} ... u_{5t-1}$ are error correction terms and $\varphi_1 ... \varphi_5$ are error correction coefficients. These error correction coefficients are expected to capture the adjustments of change in the variables towards long-run equilibrium, while the coefficients, $\beta_n, \lambda_n, \gamma_n, \delta_n$ and $\theta_n$ are expected to capture the short-run dynamics of the model.

Finally, further analysis, with the use of causality test, impulse response analysis and variance decompositions, was conducted in VAR model to trace out the responsiveness of SRI Index to shocks in macroeconomic stability. Granger causality test was conducted to identify the direction of causality between the SRI Index and these macroeconomic stability variables. In other words, this test was used to determine whether macroeconomic variables are useful in forecasting changes in the SRI JSE Index (Granger, 1969).

### 4.4.2.6 The autoregressive distributed lag model

The analysis of the link between SRI and economic growth involved the use of the autoregressive distributed lag (ARDL) modelling approach. This study used ARDL model by Pesaran et al. (2001) as this model has been used by other previous studies (Dube & Zhou, 2013; Hassler & Wolters, 2005; Ibrahim et al., 2009; Maqbool & Mahmood, 2013; Pesaran et al., 2001) which tested a long-run relationship between variables. The advantages of the ARDL is that it can be employed even if the variables are stationary I(0), non-station I(1) or a mixture of I(0) and I(1) variables (Pesaran &
Shin, 1998:371) but it cannot be used when variables are I(2). The use of the ARDL, therefore, assists in avoiding problems associated with a mixture of stationary and non-stationary variables (Dube & Zhou, 2013:204).

The standard ARDL model used to test for the relationship between SRI Index, economic growth and unemployment is expressed follows:

\[
\Delta LSRI_t = \alpha_0 + \sum_{j=1}^{k} \beta_j \Delta LSRI_{t-j} + \sum_{j=1}^{k} \gamma_j \Delta LRGDP_{t-j} + \sum_{j=1}^{k} \lambda_j \Delta LEMR_{t-j} + \phi_1 LSRI_{t-1} + \phi_2 LRGDP_{t-1} + \phi_3 LEMR_{t-1} + e_t
\]  

(4.32)

Where LSRI is the natural log of the SRI Index; LRGDP is the natural log of the real GDP (representing the economic growth); LEMR is the natural log of the employment rate. Coefficients \( \beta_j, \gamma_j, \) and \( \lambda_j \) represent short-run dynamics of the model; while \( \phi_1, \phi_2 \) and \( \phi_3 \) represent the long-run relationship. The co-integration is tested, therefore, by the following hypothesis:

Null hypothesis (H0) for no co-integration: \( \phi_1 = \phi_2 = \phi_3 = 0 \)

Alternative hypothesis (H1) for co-integration \( \phi_1 \neq 0, \phi_2 \neq 0, \phi_3 \neq 0 \)

If the H0 is not rejected, it means that there is no long-run relationship between the SRI Index, economic growth and employment rate. The rejection of H0 means that economic growth and employment rate have a long-run relation effect on the SRI and the error correction model (ECM) is needed to estimate the adjustment to the equilibrium. The ECM equation for the above ARDL model is:

\[
\Delta LSRI_t = \alpha_0 + \sum_{j=1}^{k} \beta_j \Delta LSRI_{t-j} + \sum_{j=1}^{k} \gamma_j \Delta LRGDP_{t-j} + \sum_{j=1}^{k} \lambda_j \Delta LEMR_{t-j} + \delta ECT_{t-1} + e_t
\]  

(4.33)

Where ECT refers the error correction term, which measures adjustment speed to the equilibrium.

4.4.2.7 Lags selection and diagnostic tests

The choice of lags in the VAR and ARDL models is very critical (Li & Liu, 2012). Thus, the number of lags (k) was selected based on the comparison of six criteria for lag order selection, namely the Schwarz information criterion (SIC), the Hannan-Quinn
criterion (HQC), the Akaike information criterion (AIC), sequential-modified likelihood ratio (LR) test statistic, and final prediction error test (FPE) (Brooks, 2002:257). Before interpreting VCM results, diagnostic tests such as autocorrelation, heteroscedasticity, normality and parameter stability tests were used to check whether the stochastic properties of the model were met (Maddala, 2001). ARDL diagnostic tests such as serial correlation, normality and heteroscedasticity were conducted to check if the model is fit.

4.5 SUMMARY AND CONCLUDING REMARKS

Socially responsible investors may be affected by changes in economic conditions, if the South African SRI sector responds to the changes in macroeconomic factors. The South African SRI sector is reflected by JSE SRI Index, which assesses companies’ involvement in SRI initiatives. The JSE SRI Index was launched in May 2004 as a tool for a comprehensive assessment of South African companies’ policies and practices against globally and locally related social responsibility standards. The JSE SRI Index is reviewed annually, and based on the information acquired during the review period companies can be removed from or added to the SRI Index. For the period between 2004 and 2014, the number of companies participating in the review process has increased but there was no considerable increase in the number of companies qualifying for inclusion in the index. The SRI Index was initially dominated by large market capitalisation companies (known as Top40), but since 2013 all companies registered on the JSE have taken part in the selection process. In terms of the sectoral representation, there is no sector that dominates the JSE SRI Index as all sectors/industries in the JSE tend to be represented in the SRI index.

Quantitative methods used to achieve the specified empirical objectives include various econometric models such as Johansen co-integration test, vector error correction model (VECM), generalized autoregressive conditional heteroscedasticity (GARCH), Granger causality test and the event study. The econometric models were selected based on their suitability to analyse the secondary data used in this study. The event study methodology was identifying as a suitable model to achieve the empirical objective of assessing the impact SRI initiatives on financial performance of South African companies. The GARCH model was identify as a suitable to measure
the volatility of the SRI Index relative to the JSE ALSI. The ARDL and VECM were used to analyse the interaction between the SRI Index and macroeconomic growth and stability.
CHAPTER FIVE: EMPIRICAL ANALYSIS OF THE JSE SRI INDEX AND ITS MACROECONOMIC DETERMINANTS

5.1 INTRODUCTION

Having explained various models used to achieve some empirical objectives of this study, this section proceeds with the presentation and discussion of the estimated results. First, results from the event study methodology are used to analyse the effect of the SRI initiatives on companies’ financial performance. Secondly, the estimates of GARCH model used to assess the volatility of the SRI Index relatively to the JSE ALSI are discussed. Finally, the analysis of the link between SRI Index and macroeconomic factors is presented, starting with analysis of the ARDL results and ending with VECM results.

5.2 THE EFFECT OF SRI INITIATIVES ON COMPANIES’ FINANCIAL PERFORMANCE

The microeconomic effect of SRI initiatives on companies’ financial performance (shareholders’ values) was measured by the presence of significant abnormal returns based on the event study methodology explained in Section 4.4.1 of Chapter 4. Thus, this sub-section presents the results of event study methodology. First, the issue of the appropriate model in estimating the expected return was solved by estimating abnormal returns with use of the two different models, namely the CAPM and market models. Analysis of variance (ANOVA) was used to test whether the average abnormal returns from these two models were different.

Table 5.1: ANOVA between AAR of CAPM and market model

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Variance</th>
<th>F-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAR market model</td>
<td>0.0130%</td>
<td>0.000001083</td>
<td>0.04719</td>
<td>0.82859</td>
</tr>
<tr>
<td>AAR CAPM</td>
<td>0.0126%</td>
<td>0.000000877</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Own estimate

ANOVA results in Table 5.1 show that F-value is very small and its p-value is greater than 0.5, meaning that the null hypothesis that the two means are equals is accepted. Thus, there is no significant difference between the two average abnormal returns. This is in line with results from other studies (Binder, 1988; Brown & Warner, 1985;
Dimson & Marsh, 1986; Seiler, 2000), which showed that the CAPM and market models tend to produce similar results. Given that the CAPM impose the restrictions (such as the use of risk-free rate) which may affect the results (Mackinlay, 1997:19), the market model is chosen mostly over the CAPM in the event. Hence, this study proceeded with the use of the market model in estimating abnormal returns.

5.2.1 Effect of improved performance in SRI on companies returns

The results of abnormal returns for companies added to the JSE SRI Index for the first time were discussed first to establish whether companies benefited from improving their involvement in SRI initiatives. This was achieved using descriptive analysis of the abnormal returns and inferential analysis, which involves the significance tests of the estimated abnormal returns.

5.2.1.1 Descriptions of abnormal returns for each year

The descriptive summary of average abnormal returns for each year (2005-2013) is reported in Table 5.2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>-0.015%</td>
<td>0.562%</td>
<td>0.26</td>
<td>-0.10</td>
<td>-1.220%</td>
<td>1.256%</td>
</tr>
<tr>
<td>2006</td>
<td>-0.128%</td>
<td>1.037%</td>
<td>0.03</td>
<td>0.10</td>
<td>-2.438%</td>
<td>2.209%</td>
</tr>
<tr>
<td>2007</td>
<td>0.013%</td>
<td>0.818%</td>
<td>1.77</td>
<td>0.90</td>
<td>-1.390%</td>
<td>2.710%</td>
</tr>
<tr>
<td>2008</td>
<td>0.280%</td>
<td>1.899%</td>
<td>1.40</td>
<td>-0.73</td>
<td>-5.468%</td>
<td>4.198%</td>
</tr>
<tr>
<td>2009</td>
<td>0.027%</td>
<td>0.831%</td>
<td>-0.37</td>
<td>0.37</td>
<td>-1.674%</td>
<td>1.866%</td>
</tr>
<tr>
<td>2010</td>
<td>0.013%</td>
<td>0.763%</td>
<td>-0.31</td>
<td>0.42</td>
<td>-1.419%</td>
<td>1.832%</td>
</tr>
<tr>
<td>2011</td>
<td>0.096%</td>
<td>0.868%</td>
<td>1.78</td>
<td>0.44</td>
<td>-2.223%</td>
<td>2.427%</td>
</tr>
<tr>
<td>2012</td>
<td>0.033%</td>
<td>0.590%</td>
<td>0.65</td>
<td>-0.06</td>
<td>-1.404%</td>
<td>1.513%</td>
</tr>
<tr>
<td>2013</td>
<td>-0.205%</td>
<td>0.765%</td>
<td>0.63</td>
<td>-0.90</td>
<td>-2.318%</td>
<td>0.951%</td>
</tr>
</tbody>
</table>

Source: Own estimate

The average abnormal returns for all added companies in each year were positive in most of the years with the exception of year 2005, 2006 and 2013. The years 2006 and 2008 seem to have the highest deviations from average abnormal returns (highest standard deviation); while the years 2005 and 2012 tend have lowest standard deviations, respectively. The high level of variations in stock returns in 2008 can be associated with the world financial crisis, which also affected the overall SRI Index.
(Gladysek & Chipeta, 2012:434) but there seems to be no clear explanation of the high variations in abnormal returns observed in 2006. Kurtosis values are less than three for all the years, meaning that there is a platykurtic distribution. In other words, the average abnormal returns are widely spread around the mean and this confirms a high level of variation in the abnormal average returns. The skewness values show that in some years, there was a right skewed distribution (skewness> 0) of the average abnormal returns, while in the other years, there was a left skewed distribution (skewness< 0) of the average abnormal returns. This also confirms that the abnormal returns varied from year to year.

Further descriptive analysis showed that out of 58 companies, 30 of them had positive abnormal returns over the event period, while negative abnormal returns were observed among 28 companies. When each company’s abnormal return on the event day is considered, the number of companies with positive abnormal returns increased to 33, while those with negative abnormal returns decreased to 25 companies. This suggests that some companies added to the SRI Index for the first time did not earn positive returns during the event window, meaning their involvement in SRI initiatives was not considered as good news by the market. Thus, it is important to analyse the patterns of average abnormal return for each day of the event window.

Figure 5.1: Added companies’ AAR on each day of the event window
Data source: McGregor BFA (2014)
Figure 5.1 shows that companies added to the SRI Index enjoyed positive average abnormal returns on the day of announcing the constituents of the SRI Index plus two days before and two days after announcement. In other words, these companies earned positive abnormal returns over the event period of five days. Beyond this period of five days, there seems to be no clear pattern of positive abnormal returns. This presence of positive abnormal returns in the five days of the event period seems to suggest that companies were rewarded for improving their involvement in SRI initiatives. However, the significant tests have to be conducted to confirm whether these abnormal returns were indeed different from zero.

5.2.1.2 Results of the significant tests for the abdominal returns

Results for Z-test for the types of abnormal returns considered in this study, namely AAR, CAR and CAAR are summarised in Table 5.3. The Z-value for the average abnormal returns on the announcement day (AAR) is 0.4111 and is less than the critical value of 1.96 at the 5 percent level of significance, meaning that the null hypothesis for $AAR = 0$ is not rejected. Thus, it is concluded that announcement of SRI constituents has no significant effect on the average return on the announcement day. Estimated Z-values for cumulative abnormal return (CAR) and the cumulative average (CAAR) are less than the critical values at the 5 percent level of significance. This mean that the $H_0$ that these average returns equal to zero is not rejected. Hence, the announcement of SRI constituents has no significant effect on CAR and CAAR. However, Z-value (1.6744) of CAAR is greater than the critical value of 1.65 at 10 percent, suggesting that the effect of this on CAAR is only significant at the 10 percent level of significance. Overall, these results suggest there is no statistical evidence supporting the presence of abnormal returns among the companies added to the SRI Index for the first time.

Table 5.3: Returns and Z-statistics of companies added to the SRI Index

<table>
<thead>
<tr>
<th>Type of AR</th>
<th>Returns</th>
<th>Z-Statistic*</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAR</td>
<td>0.013%</td>
<td>0.4111</td>
<td>Do not reject $H_0$</td>
</tr>
<tr>
<td>CAR</td>
<td>1.663%</td>
<td>1.6744</td>
<td>Reject $H_0$ at 10%</td>
</tr>
<tr>
<td>CAAR</td>
<td>0.518%</td>
<td>0.4776</td>
<td>Do not reject $H_0$</td>
</tr>
</tbody>
</table>

*Z-critical values (two-tailed): 1.96 and 1.65 at the 5 percent and 10 percent level of significances
Overall, event study revealed that companies added to the SRI Index did not earn significant abnormal returns. This implies that companies were not rewarded for improving their involvement in the SRI initiatives if they were not already in the SRI Index. The results are similar to the findings by Gladysék & Chipeta (2012) who found that the overall JSE SRI Index did not benefit from the announcement of its constituents. Similarly, studies by Aupperle et al. (1985), Chen & Metcalf (1980), Frankle (1980), Kang et al. (2010) concluded that there was no significant relationship between a company’s social performance and its profitability. However, these findings are contrary to those from other similar studies (Lin et al., 2009; Luo & Bhattacharya, 2006; McGuire et al., 1988; Wahba, 2008) which found that social performance has a positive effect on a company’s economic performance.

The possible explanation behind the findings of the current study may be that South African socially responsible investors may not be interested in adding to their socially responsible portfolios the companies that have just been added to the SRI Index for the first time. Hence, the announcement of a company’s inclusion in the SRI Index for the first time would have no significant effect on the share price of such companies. Based on the efficient market hypothesis (EMH), this would mean that being added to the SRI Index for the first time is not considered as a good news by investors. Thus, share returns of companies added for the first time is not affected by the announcement of SRI Index’s constituents. If this is the case, companies not already in the SRI Index have no financial incentives from improving and reporting SRI initiatives. Hence, it is important to find out whether this is also the case when a company’s performance in SRI initiatives declines. The next sub-section, therefore, tested whether companies deleted from SRI Index earned negative abnormal returns during the event period.

5.2.2 Effect decline in social performance on companies returns

For companies that are already in the SRI Index, a decrease in a company’s SRI initiatives may have a negative effect on such company’s financial performance. Thus, this section used the abnormal returns of the companies removed from the SRI Index to analyse this effect. Each year’s average abnormal returns and the associated Z-values for these companies are in Table 5.4 and Figure 5.2.
Table 5.4: Removed companies’ average abnormal returns and Z-values

<table>
<thead>
<tr>
<th>Year</th>
<th>AAR</th>
<th>Z-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>0.14%</td>
<td>0.833</td>
</tr>
<tr>
<td>2006</td>
<td>-0.87%</td>
<td>-8.871</td>
</tr>
<tr>
<td>2007</td>
<td>-0.72%</td>
<td>-2.492</td>
</tr>
<tr>
<td>2008</td>
<td>-2.03%</td>
<td>-3.946</td>
</tr>
<tr>
<td>2009</td>
<td>-1.85%</td>
<td>-2.851</td>
</tr>
<tr>
<td>2010</td>
<td>-2.01%</td>
<td>-3.086</td>
</tr>
<tr>
<td>2011</td>
<td>-0.0073</td>
<td>-2.699</td>
</tr>
<tr>
<td>2012</td>
<td>0.38%</td>
<td>0.233</td>
</tr>
<tr>
<td>2013</td>
<td>-0.97%</td>
<td>-3.205</td>
</tr>
</tbody>
</table>

Data source: McGregor BFA (2014)

Figure 5.2: All removed companies’ AAR during the event window
Data source: McGregor BFA (2014)

The results of average abnormal returns for each year (Table 5.4) show negative average abnormal returns for most of the years, except 2005 and 2012, which had positive AAR. The positive returns (2005 and 2012) are not statistically significant as their z-values are less than the critical value (at 5%) of 1.96. For most of the years, the estimated z-values are greater than the critical value of 1.96, implying that these AARs are statistically significant. This suggests that companies removed from the SRI Index earned negative abnormal returns during the event periods in most of the years. For the average abnormal returns for each day of the event period (Figure 5.2), a high level of negative AARs is observed during the period of 21 days (10 days before and 10 days after the event period).
Table 5.5: Returns and Z-statistics of companies removed from the SRI Index

<table>
<thead>
<tr>
<th></th>
<th>Returns</th>
<th>Z-Statistic*</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAR</td>
<td>-0.959%</td>
<td>-2.379</td>
<td>Reject H₀</td>
</tr>
<tr>
<td>CAR</td>
<td>-2.832%</td>
<td>-2.035</td>
<td>Reject H₀</td>
</tr>
<tr>
<td>CAAR</td>
<td>-0.863%</td>
<td>-2.141</td>
<td>Reject H₀</td>
</tr>
</tbody>
</table>

* Z-critical value at 5 percent = 1.96

The results for the significant tests for abnormal returns for the whole sample period (in Table 5.5) show that AAR was 0.959 percent with a z-value of -2.379. The absolute value of the estimated z-value is greater than the critical value of 1.96, meaning that the null hypothesis for zero AARs is rejected at the 5 percent level of significance. Thus, AARs are significantly different from zero. This implies that on average, shareholders of companies removed from the SRI Index earned a negative abnormal return on the day of announcing the SRI constituents. Z-values for cumulative abnormal returns (CAR) and cumulative average abnormal returns (CAAR) are also greater than the critical value (at 5%) of 1.96, meaning that the null hypothesis for zero CAR and CAAR is rejected at the 5 percent level of significance. This implies that announcements of companies removed from the SRI Index had a significant negative effect on cumulative returns over the event window, across the removed companies. These results suggest that South African socially responsible investors tend to expect companies in the SRI Index to maintain their involvement in SRI initiatives. In other words, the being removed from the SRI Index is considered a bad news to the companies removed. The findings are similar to those of the studies (Lin et al., 2009; Luo & Bhattacharya, 2006; McGuire et al., 1988; Wahba, 2008) that found a link between companies’ social and financial performances.

5.3 THE VOLATILITY OF THE SOUTH AFRICAN SRI SECTOR

Having shown that companies in the SRI Index are encourage to maintain the competent level of involvement in SRI initiatives, it is appropriate to analyse the volatility of the overall SRI Index. This sub-section compares the return volatility of the SRI Index and the JSE ALSI to establish whether the SRI is riskier than the overall stock market (JSE) or not. First, the descriptive analysis of the two indices returns was conducted and the results of GARCH model for the two indices were compared.
5.3.1 Descriptive analysis of SRI Index and JSE All Share Index returns

Descriptive statistics of daily returns for the SRI Index and JSE ALSI are summarised in Table 5.6. For the period between 2004 and 2014, the average daily return of the SRI Index (0.0586%) was lower than that of the JSE ALSI (0.0647). In both indices, the standard deviation is higher than the mean, suggesting the high level of volatility. However, the JSE ALSI tends to have a lower standard deviation (1.271%) than that of the SRI Index (1.422%). This suggests that the SRI Index may have been more volatile than the overall market. This is also confirmed by a higher maximum daily return of 17.027 percent and lower minimum daily return of -8.110 percent in SRI compared to a maximum of 6.83 percent and a minimum of -7.581 percent for the JSE ALSI. The descriptive analysis seems to suggest that the South African SRI sector has been slightly volatile than the overall stock market, but a more advanced volatility analysis has to be conducted to confirm the results of descriptive analysis.

Table 5.6: Summary statistics of the SRI Index and JSE All Share Index

<table>
<thead>
<tr>
<th></th>
<th>SRI</th>
<th>JSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.000586</td>
<td>0.000647</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.170271</td>
<td>0.068340</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.081102</td>
<td>-0.075807</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.014216</td>
<td>0.012705</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.531578</td>
<td>-0.214550</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>11.51726</td>
<td>3.853275</td>
</tr>
</tbody>
</table>

Data source: McGregor BFA (2014)

5.3.2 GARCH analysis of SRI volatility relatively to the JSE

The GARCH model in Equation 4.13 was estimated for both the SRI Index and JSE ALSI returns. Thus, the following equation for GARCH (1,1) was estimated:

\[ \sigma_t^2 = \alpha_0 + \alpha_1 u_{t-1}^2 + \beta \sigma_{t-1}^2 \]  

(5.1)

Where: \( \sigma_t^2 \) is the conditional variance of the error terms \( (u_t) \) in the return equation; \( u_{t-1}^2 \) is one lag of squared error term; \( \sigma_{t-1}^2 \) is the one lag of the conditional variance; \( \alpha_1 \) and \( \alpha_1 \beta \) are the coefficients to be estimated and \( \alpha_1 \) is the constant. The hypothesis tests for this GARC (1,1) are:
H_0 : \alpha_1 = 0 \text{ or } \beta = 0, \text{ there are no ARCH or GARCH errors}

H_1 : \alpha_1 \neq 0 \text{ or } \beta \neq 0, \text{ there are ARCH or GARCH errors}

If the results of the SRI Index are similar to that of the JSE ALSI, then it is concluded that the SRI Index has similar shocks to that of the overall market. Considering that variables used in GARCH model should be stationary, returns of the SRI and the JSE ALSI were checked for stationarity before estimating the GARCH model. Results of ADF unit root test, in Table 5.7, show that p-values are less than 0.01, implying that H_0 for unit root is rejected. Thus, it is concluded that both variables have no unit root, meaning that they are stationary in level.

Table 5.7: Results for ADF unit root test for SRI and JSE ALSI returns

<table>
<thead>
<tr>
<th></th>
<th>t-Statistic</th>
<th>p-values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRI returns</td>
<td>-49.23542</td>
<td>0.0001</td>
<td>SRI has no unit root</td>
</tr>
<tr>
<td>JSE ALSI returns</td>
<td>-49.11417</td>
<td>0.0002</td>
<td>JSE has no unit root</td>
</tr>
</tbody>
</table>

Source: Own calculations

Before interpreting the results of the Equation 5.1, autocorrelation and ARCH tests were conducted to test whether a GARCH model is appropriate for this analysis. This involves the use of Lagragian multiplier (LM) test to test for the hypothesis of no significant ARCH effects. Results of the LM test, in Table 5.8, report small p-values (less than 0.01); meaning that the hypothesis for non-ARCH effects, at the 1 percent level of significance, in both variables is rejected. Thus, there is significant ARCH effect in both the SRI Index and JSE ALSI daily returns; suggesting that the GARCH model is relevant for this analysis. Furthermore, no serial autocorrelation was found. Thus, one can proceed with the interpretation of estimates of Equation 5.1.

Table 5.8: Lagragian multiplier test for ARCH effects

<table>
<thead>
<tr>
<th></th>
<th>chi-square</th>
<th>p-values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRI returns</td>
<td>4.5179</td>
<td>0.0413</td>
<td>Significant ARCH effect</td>
</tr>
<tr>
<td>JSE ALSI returns</td>
<td>5.0096</td>
<td>0.0252</td>
<td>Significant ARCH effect</td>
</tr>
</tbody>
</table>

Source: Own estimate
An exploratory analysis of the presence of the volatility was conducted with the use of GARCH graphs in Figure 5.3 and 5.4.

![GARCH graph for SRI Index](image1)

**Figure 5.3: Conditional variance for SRI Index**

![GARCH graph for JSE](image2)

**Figure 5.4: Conditional variance for JSE**

The above figures reveal that there has been frequent volatility in the conditional variance of the SRI returns. A comparison of the SRI Index and the JSE ALSI shows that the conditional variances tend to move in the same direction for the two indices. It is clear that both indices experienced high level of volatility in 2006 and 2008.
However, the SRI Index was more volatile than the JSE in 2004. This high level of volatility of the SRI Index in 2004 can be linked with the announcement of the Index for the first time. This is in line with the Gladyssek & Chipeta’s (2012) findings that the SRI Index outperformed the JSE in 2004. Overall, graphical analysis shows that there seems to be no difference between the two indices, but a more formal analysis is needed to confirm whether the volatility of the SRI Index is indeed similar to that of the JSE ALSI.

Results in Table 5.9 a and b, show that the ARCH (RESID(-1)^2) and GARCH coefficients are significant at the 1 percent level of significance for both the SRI and the JSE. This implies that returns' volatility of the SRI and the JSE is influenced by own shocks (previous volatility and previous information). Interestingly, these results suggest that the volatility of the SRI Index is similar to that of the JSE ALSI and this confirms the preliminary results from Figure 5.3. and 5.4. The findings are similar to those of the study by Gladyssek & Chipeta (2012), which found no significant difference between the performance of SRI Index and the JSE ALSI during the period 2005-2009. Results from the CAPM analysis also indicate that the JSE SRI Index tended to earn risk-adjusted returns similar to conventional indices such as the JSE ALSI. However, with shape ratio analysis Chawana (2014) found that the SRI Index exhibited a higher risk level than the conventional indices, suggesting that the SRIs returns were more volatile.

Table 5.9: GARCH (1.1) results

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Variance Equation for SRI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.10E-05</td>
<td>1.86E-06</td>
<td>5.893193</td>
<td>0.0000</td>
</tr>
<tr>
<td>RESID(-1)^2</td>
<td>0.070358</td>
<td>0.012465</td>
<td>5.644270</td>
<td>0.0000</td>
</tr>
<tr>
<td>GARCH(-1)</td>
<td>0.866715</td>
<td>0.022616</td>
<td>38.32348</td>
<td>0.0000</td>
</tr>
<tr>
<td>b) Variance Equation for JSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.64E-06</td>
<td>4.37E-07</td>
<td>3.759716</td>
<td>0.0002</td>
</tr>
<tr>
<td>RESID(-1)^2</td>
<td>0.091225</td>
<td>0.010946</td>
<td>8.334319</td>
<td>0.0000</td>
</tr>
<tr>
<td>GARCH(-1)</td>
<td>0.898475</td>
<td>0.012081</td>
<td>74.36926</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Own estimate

This finding of similar behaviour between the SRI Index and conventional indices such as the JSE ALSI is contrary to the theoretical view that socially responsible companies
have an economic advantage over other companies (McGuire et al., 1988:854) or that SRI portfolios may be associated with additional risks. This finding suggests that by selecting companies with high levels of involvement in SRI initiatives, South African socially responsible investors can still earn the return similar to that of the overall market without being exposed to additional shocks (risks). Therefore, this is in line with the tenet of SRI that socially responsible investors can contribute to the wellbeing of society without compromising the returns on their investments.

5.4 INTERACTION BETWEEN SRI SECTOR AND MACROECONOMIC GROWTH

Having shown that the SRI has been highly volatile and that its volatility is similar to that of the JSE ALSI, it is important to explore the link between the South African SRI sector and macroeconomic growth. Stock market sectors such as SRI tend to play an important role in a country’s economic development, through their effect on growth factors such as economic growth and job creation (Gupta & Modise, 2011; Yang & Yi, 2008). Changes in macroeconomic growth have effect on SRI funds (Viviers, 2007:13), which eventually affect the share prices of socially responsible companies because SRI funds are formed from companies in the SRI Index. The growth of the SRI sector is linked with high growth both in short- and long-run macroeconomic growth, as economic growth of a country tend to affect companies’ competitiveness in social performance (Jenkins, 2005:536; Steurer et al., 2005:269). The growing SRI sector may also be considered as an indication of prospering economy, where companies improve their profitability and eventually have available resource for SRI initiatives (Ullmann, 1985:541). Furthermore, the grow of SRI sector is signal of a good development of the stock market which is expected to encourage macroeconomic growth by improving attracting high level of investments (Yartey, 2008) Thus, a positive relationship between the SRI sector and the two variables (Real GDP and employment rate) of macroeconomic stability is expected.

The link between the South African SRI sector, economic growth and employment was estimated using an ARDL model (described by Equations 4.32 and 4.33). The ARDL started with the unity root tests to ensure that none of the variables becomes stationary at the second difference, I(2). The results of ADF unit root test, Table 5.10, show that all variables are not stationary at their levels, I(0) but become stationary at the first
difference, I(1). This implies that one can continue with an estimation using an ARDL because none of the variables are I(2). The KPSS stationarity test also confirmed that variables are stationary at the first difference, I(1).

### Table 5.10: Results of ADF unit root test for quarterly observations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>1st difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADF t-Statistic</td>
<td>P-Values</td>
</tr>
<tr>
<td>LSRI</td>
<td>-2.061393</td>
<td>0.2607</td>
</tr>
<tr>
<td>LGDP</td>
<td>-2.344502</td>
<td>0.1637</td>
</tr>
<tr>
<td>LEMR</td>
<td>-1.269328</td>
<td>0.6346</td>
</tr>
</tbody>
</table>

### Table 5.11: Results of lag selection criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>40.23120</td>
<td>NA</td>
<td>0.007403</td>
<td>-2.068400</td>
<td>-1.936440</td>
<td>-2.022343</td>
</tr>
<tr>
<td>1</td>
<td>42.49923</td>
<td>4.032051*</td>
<td>0.006903*</td>
<td>-2.138846*</td>
<td>-1.962900*</td>
<td>-2.077436*</td>
</tr>
<tr>
<td>2</td>
<td>42.93080</td>
<td>0.743252</td>
<td>0.007131</td>
<td>-2.107267</td>
<td>-1.887333</td>
<td>-2.030504</td>
</tr>
<tr>
<td>3</td>
<td>42.96368</td>
<td>0.054795</td>
<td>0.007534</td>
<td>-2.053538</td>
<td>-1.789618</td>
<td>-1.961422</td>
</tr>
<tr>
<td>4</td>
<td>42.97612</td>
<td>0.020058</td>
<td>0.007974</td>
<td>-1.998674</td>
<td>-1.690767</td>
<td>-1.891206</td>
</tr>
<tr>
<td>5</td>
<td>42.98392</td>
<td>0.012127</td>
<td>0.008447</td>
<td>-1.943551</td>
<td>-1.591658</td>
<td>-1.820731</td>
</tr>
</tbody>
</table>

* indicates lag order selected by the criterion

Before estimating the ARDL, the lag selection criteria were used to identify the number of lags to be used in the model. Results of the lag selection criteria in Table 5.11 show that five out of six criteria indicate that one lag should be used. Thus, the standard ARDL model (Equation 4.28) was estimated with one lag.

### Table 5.12: ARDL results

<table>
<thead>
<tr>
<th>Repressors</th>
<th>Coefficient</th>
<th>Standard error</th>
<th>T-Ratio</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSRI (-1)</td>
<td>0.89814</td>
<td>0.099106</td>
<td>9.0625</td>
<td>0.000</td>
</tr>
<tr>
<td>LGDP</td>
<td>-0.04007</td>
<td>0.018742</td>
<td>-2.1380</td>
<td>0.040</td>
</tr>
<tr>
<td>LEMR</td>
<td>18.64359</td>
<td>7.12826</td>
<td>2.6154</td>
<td>0.013</td>
</tr>
<tr>
<td>C</td>
<td>-168.07</td>
<td>66.54</td>
<td>-2.5259</td>
<td>0.017</td>
</tr>
</tbody>
</table>

Source: Own calculation

Results of the basic ARDL are shown in Table 5.12. Before interpreting these results, diagnostic tests indicated that the model met all the econometric assumptions. Table
5.13 shows that there is no presence of autocorrelation, heteroscedasticity and model specification error (functional form). The cumulative sum of recursive residual (CUSUM) for the dynamic stability of this ARDL model, in Figure 5.5, shows that the residual line is within the bounds. This implies that there is no problem with stability of this ARDL model.

### Table 5.13: ARDL diagnostic tests

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>LM test</th>
<th>F test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHSQ (χ²)</td>
<td>Prob.</td>
</tr>
<tr>
<td>Serial Correlation</td>
<td>3.2988</td>
<td>0.509</td>
</tr>
<tr>
<td>Functional Form</td>
<td>0.14569</td>
<td>0.703</td>
</tr>
<tr>
<td>Heteroscedasticity</td>
<td>0.015344</td>
<td>0.901</td>
</tr>
</tbody>
</table>

![CUSUM Graph](image)

**Figure 5.5: Cumulative sum of recursive residual**

To test for the long-run relationship between the variables, the bound co-integration test was conducted and the results are summarised in Table 5.14.

### Table 5.14: Bound testing for co-integration

<table>
<thead>
<tr>
<th>Dependent variable SRI</th>
<th>Estimated F-Statistic</th>
<th>2.28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Values*</td>
<td>Lower Bound Critical Value</td>
<td>Upper Bound Critical Value</td>
</tr>
<tr>
<td>1%</td>
<td>5.15</td>
<td>6.36</td>
</tr>
<tr>
<td>5%</td>
<td>3.79</td>
<td>4.85</td>
</tr>
<tr>
<td>10%</td>
<td>3.17</td>
<td>4.14</td>
</tr>
</tbody>
</table>

*Critical values from Pesaran et al. (2001:300), Table Cl(iii)
The estimated F-value of 2.28 (in Table 5.14) is less than the lower bound critical values at all levels of significance, suggesting that the null hypothesis for no co-integrating relationship cannot be rejected. This implies that there is no long-run relationship between the SRI Index and macro-economic growth factors of real GDP growth and the employment rate, when the independent variable SRI restricted as Index is. A possible explanation behind the absence of the long-run relationship between SRI and these macroeconomic variables may be related to the model used. The ARDL model restricted the dependent variable to the SRI, while there may be more than one dependent variable. In the context of this study, a long-run relationship can run from GDP growth or employment rate. Thus, it is important to establish the causal patterns between the variables or even use the VAR model because it allows all variables to be potentially endogenous and imposes minimal restrictions on the ways in which the variables interact (Ibrahim et al., 2009:97).

Table 5.15: Results of Granger causality test

<table>
<thead>
<tr>
<th>Null Hypothesis:</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔLGDP does not Granger Cause ΔLSRI</td>
<td>0.14913</td>
<td>0.7015</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLGDP</td>
<td>17.5974</td>
<td>0.0002</td>
</tr>
<tr>
<td>ΔLEMR does not Granger Cause ΔLSRI</td>
<td>0.52684</td>
<td>0.4724</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLER</td>
<td>8.38292</td>
<td>0.0062</td>
</tr>
<tr>
<td>ΔLEMR does not Granger Cause ΔLGDP</td>
<td>0.82443</td>
<td>0.3696</td>
</tr>
<tr>
<td>ΔLGDP does not Granger Cause ΔLER</td>
<td>0.43110</td>
<td>0.5154</td>
</tr>
</tbody>
</table>

Source: Own calculations

Granger causality test was then used to assess any causal interactions between the variables. Results in Table 5.15 show that the SRI Index Granger cause both real GDP and employment rate but real GDP and employment rate do not cause the SRI Index. This suggests that previous change in GDP and employment rate do not cause changes in SRI but changes in SRI cause changes in real GDP and employment rate. In other words, SRI may not be affected by these two variables but it has an effect on them. This may then explains the absence of the long-run relationship in the ARDL model when SRI is set as a dependent variable. Since all variables were I(1), a Johansen co-integration was used to assess whether there is any co-integrating equations not captured by ARDL.
Table 5.16: Johansen co-integration results

<table>
<thead>
<tr>
<th>Hypothesised no. of CE(s)</th>
<th>Trace statistic</th>
<th>Max-Eigen statistic</th>
<th>Prob.**</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>57.45563</td>
<td>0.0000</td>
<td>21.13162</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 1</td>
<td>13.73988</td>
<td>0.1067</td>
<td>14.26460</td>
<td>0.1903</td>
</tr>
<tr>
<td>At most 2</td>
<td>3.396435</td>
<td>0.360</td>
<td>2.841466</td>
<td>0.360</td>
</tr>
</tbody>
</table>

* denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values

Johansen co-integration results in Table 5.16 show that the p-values of Trace Statistic and Max-Eigen Statistic are smaller than 0.05, which indicates that the null hypothesis of no co-integrating equation is rejected. For at most one co-integrating equation, the p-values of Trace statistic and Max-Eigen statistic are bigger than 5 percent, indicating that H₀ for at most one co-integrating equation is not rejected. Thus, it is concluded that there is one co-integrating equation, implying that there is a long-run relationship between the SRI Index and macroeconomic growth variables. The long-run or co-integration equation is as follows:

\[ \text{LGDP} = -3.687 + 0.7443 \text{ LSRI} + 1.1084 \text{ LEMR} \]  
\[ \text{S.E} \quad (0.1910) \quad (0.2317) \]  
\[ \text{t-statistic} \quad [3.896] \quad [4.783] \]  

This long-run equation shows that all coefficients are positive and t-statistics are greater than the critical t-value of 2. This means the H₀ for the LSRI and LEMR coefficients = 0 is rejected at the 5 percent level of significance. In the long-run, both the SRI Index and employment rate have significant positive effect on economic growth. If the SRI Index increases by 1 percent, the real GDP tends to increase by 0.7443 percent; while a 1 percent increase in the employment rate increases the real GDP by 1.1084 percent in the long-run. This finding confirms an expected positive relationship between the SRI sector and macroeconomic growth as suggests by Steurer et al. (2005) and Viviers (2007).

To identify the equation with adjustments to the equilibrium, VECM was estimated and results in Table 5.17 show that within co-integrating equation, the GDP has the correct sign (negative) and absolute value of its t-static (4.104) is greater than the critical t-value (2) at the 5 percent level of significance. This means that the H₀ for error
correction coefficient = 0 is rejected. The error correction coefficient is therefore significant in the GDP equation; implying that the long-run equilibrium is established in the GDP equation. Thus, the real GDP equation is used to analyse the short-run relationships. The coefficient of -0.111381 means that about 11.14 percent of deviation from equilibrium is restored within each quarter.

Table 5.17: Vector error correction estimates

<table>
<thead>
<tr>
<th>Error Correction:</th>
<th>ΔLGDP</th>
<th>ΔLSRI</th>
<th>ΔLEMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CointEq1</td>
<td>-0.111381</td>
<td>0.304648</td>
<td>-0.033848</td>
</tr>
<tr>
<td></td>
<td>(0.02714)</td>
<td>(0.37883)</td>
<td>(0.03533)</td>
</tr>
<tr>
<td></td>
<td>[-4.10464]</td>
<td>[0.80418]</td>
<td>[-0.95794]</td>
</tr>
<tr>
<td>ΔLGDP(-1)</td>
<td>0.026861</td>
<td>1.123618</td>
<td>0.108826</td>
</tr>
<tr>
<td></td>
<td>(0.16331)</td>
<td>(2.27995)</td>
<td>(0.21266)</td>
</tr>
<tr>
<td></td>
<td>[0.16448]</td>
<td>[0.49283]</td>
<td>[0.51174]</td>
</tr>
<tr>
<td>ΔLGDP(-2)</td>
<td>0.020091</td>
<td>1.815908</td>
<td>0.015256</td>
</tr>
<tr>
<td></td>
<td>(0.13477)</td>
<td>(1.88152)</td>
<td>(0.17549)</td>
</tr>
<tr>
<td></td>
<td>[0.14908]</td>
<td>[0.96513]</td>
<td>[0.08693]</td>
</tr>
<tr>
<td>ΔLSRI(-1)</td>
<td>0.058400</td>
<td>0.511530</td>
<td>-0.035904</td>
</tr>
<tr>
<td></td>
<td>(0.01468)</td>
<td>(0.20495)</td>
<td>(0.01912)</td>
</tr>
<tr>
<td></td>
<td>[3.97806]</td>
<td>[2.49588]</td>
<td>[-1.87818]</td>
</tr>
<tr>
<td>ΔLSRI(-2)</td>
<td>0.007650</td>
<td>0.32892</td>
<td>0.035555</td>
</tr>
<tr>
<td></td>
<td>(0.02030)</td>
<td>(0.28341)</td>
<td>(0.02643)</td>
</tr>
<tr>
<td></td>
<td>[0.37682]</td>
<td>[0.11606]</td>
<td>[1.34505]</td>
</tr>
<tr>
<td>ΔLEMR (-1)</td>
<td>0.094208</td>
<td>-0.606151</td>
<td>0.059694</td>
</tr>
<tr>
<td></td>
<td>(0.12405)</td>
<td>(1.73179)</td>
<td>(0.16153)</td>
</tr>
<tr>
<td></td>
<td>[0.75946]</td>
<td>[-0.35001]</td>
<td>[0.36955]</td>
</tr>
<tr>
<td>ΔLEMR (-2)</td>
<td>0.053362</td>
<td>-2.121688</td>
<td>-0.118014</td>
</tr>
<tr>
<td></td>
<td>(0.12613)</td>
<td>(1.76085)</td>
<td>(0.16424)</td>
</tr>
<tr>
<td></td>
<td>[0.42307]</td>
<td>[-1.20492]</td>
<td>[-0.71855]</td>
</tr>
<tr>
<td>C</td>
<td>0.013297</td>
<td>-0.012371</td>
<td>0.001437</td>
</tr>
<tr>
<td></td>
<td>(0.00308)</td>
<td>(0.04295)</td>
<td>(0.00401)</td>
</tr>
<tr>
<td></td>
<td>[4.32254]</td>
<td>[-0.28805]</td>
<td>[0.35875]</td>
</tr>
</tbody>
</table>

Source: Own calculations

Short-run coefficients (lags) for real GDP are positive, suggesting that previous changes in the real economic growth have a positive effect on the current real economic growth. However, the effect is not statistically significant as the t-statics for
both lags of the real GDP are so small. The coefficients of the LSRI lags are positive; implying that previous changes in the SRI Index have a positive effect on the current real economic growth. However, this effect is only significant at the first lag (the t-statics is greater than 2). This confirms the results of the Granger causality tests (in Table 5.15) which showed that the SRI Index causes the economic growth. The coefficients for employment are positive but not statistically significant (small t-statistics); suggesting that $H_0$ for the coefficients $= 0$ is not reject. Thus, it concluded that employment has no short-run effect on the real economic growth. This is similar to Granger causality results, which found no causal relationship between economic growth and employment rate. Short-run results show that the SRI Index has effect on macroeconomic growth the short-run.

5.5 THE SRI SECTOR AND MACROECONOMIC STABILITY

Having analysed the relationship between the SRI sector and economic growth, it is important to assess how the South African SRI sector interacts with other macroeconomic variables. As mentioned in Section 4.4.2.5 of Chapter 4, these variables are related mostly to macroeconomic stability and include monthly observations of the term structure, inflation, real money supply (M3) and real exchange rate. The VAR was used to test for the relationship between these variables and the SRI Index. The first step involved the unit root test and ADF results, in Table 5.18 shows that all variables had a unit root at their level but become stationary after the first difference. This implies that all variables are I(1) and may be co-integrated. Thus, the next step was to test for co-integration between the variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>First difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-Statistic</td>
<td>P-values</td>
</tr>
<tr>
<td>LSRI</td>
<td>-2.270024</td>
<td>0.1837</td>
</tr>
<tr>
<td>LCPI</td>
<td>-0.082647</td>
<td>0.9476</td>
</tr>
<tr>
<td>LER</td>
<td>-1.577618</td>
<td>0.4904</td>
</tr>
<tr>
<td>LTS</td>
<td>-1.077368</td>
<td>0.7225</td>
</tr>
<tr>
<td>LM3</td>
<td>-2.609569</td>
<td>0.0943</td>
</tr>
</tbody>
</table>

Source: Own calculations
5.5.1 Co-integration analysis of the SRI Index and macroeconomic stability

The lag selection process (in Table 5.19) in VAR model shows that four (FPE, AIC, SC and HQ) out six lag selection criteria point to the use of two lags. Thus, two lags were used in testing for co-integration.

Table 5.19: VAR lag order selection criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>693.4940</td>
<td>NA</td>
<td>4.06e-13</td>
<td>-14.34363</td>
<td>-14.21007</td>
<td>-14.28964</td>
</tr>
<tr>
<td>1</td>
<td>1469.239</td>
<td>1454.522</td>
<td>6.55e-20</td>
<td>-29.98415</td>
<td>-28.55328</td>
<td>-29.42858</td>
</tr>
<tr>
<td>2</td>
<td>1496.077</td>
<td>47.52536</td>
<td>6.33e-20*</td>
<td>-30.02243*</td>
<td>-29.18279*</td>
<td>-29.66022*</td>
</tr>
<tr>
<td>3</td>
<td>1516.244</td>
<td>33.61240</td>
<td>7.07e-20</td>
<td>-29.92176</td>
<td>-27.78480</td>
<td>-29.05796</td>
</tr>
<tr>
<td>4</td>
<td>1544.409</td>
<td>44.00655*</td>
<td>6.76e-20</td>
<td>-29.98768</td>
<td>-27.18292</td>
<td>-28.85395</td>
</tr>
<tr>
<td>5</td>
<td>1566.359</td>
<td>32.01176</td>
<td>7.44e-20</td>
<td>-29.92415</td>
<td>-26.45160</td>
<td>-28.52049</td>
</tr>
<tr>
<td>6</td>
<td>1589.720</td>
<td>31.63446</td>
<td>8.10e-20</td>
<td>-29.89001</td>
<td>-25.74965</td>
<td>-28.21641</td>
</tr>
<tr>
<td>7</td>
<td>1614.106</td>
<td>30.48228</td>
<td>8.82e-20</td>
<td>-29.87721</td>
<td>-25.06906</td>
<td>-27.93368</td>
</tr>
<tr>
<td>8</td>
<td>1643.771</td>
<td>33.99122</td>
<td>8.85e-20</td>
<td>-29.97440</td>
<td>-24.49845</td>
<td>-27.76093</td>
</tr>
</tbody>
</table>

* indicates lag order selected by the criterion

Results of Johansen co-integration test (with two legs) in Table 5.20 show that both trace and maximum Eigen value tests agreed that there are two co-integrating equations at the 0.05 level of significance. This implies that there is a long-run relationship between the variables. This finding is in line with other findings from previous studies (Chung & Shin, 1999; Garcia & Liu, 1999; Kemboi & Tarus, 2012; Mukherjee & Naka, 1995) which found a long-run relationship between the stock market sectors and variables of macroeconomic stability.

Table 5.20: Results of Johansen co-integration test statistics

<table>
<thead>
<tr>
<th>H₀: Number of Co-integrating equations</th>
<th>Trace test</th>
<th>Maximum Eigen value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trace statistic</td>
<td>P-values*</td>
</tr>
<tr>
<td>None</td>
<td>108.5286</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 1</td>
<td>62.56797</td>
<td>0.0012</td>
</tr>
<tr>
<td>At most 2</td>
<td>28.34329</td>
<td>0.0728</td>
</tr>
<tr>
<td>At most 3</td>
<td>10.01385</td>
<td>0.2797</td>
</tr>
<tr>
<td>At most 4</td>
<td>4.034589</td>
<td>0.0446</td>
</tr>
</tbody>
</table>

5.5.2 VECM results of the SRI Index and macroeconomic stability

Having established long-run relationships between SRI index and macroeconomic stability, VECM (Equations 4.27 to 4.31) was estimated in order to test the adjustment towards long-run equilibrium and the short-run dynamics between the variables. The summary if the VECM results is in Table 5.21.

Table 5.21: VECM results for the SRI Index and macroeconomic stability

<table>
<thead>
<tr>
<th>Error Correction:</th>
<th>ΔLSRI</th>
<th>ΔLCPI</th>
<th>ΔLER</th>
<th>ΔLTS</th>
<th>ΔLM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CointEq1</td>
<td>-0.027439</td>
<td>0.004851</td>
<td>-0.029735</td>
<td>-0.012253*</td>
<td>0.037866*</td>
</tr>
<tr>
<td></td>
<td>[-0.67183]</td>
<td>[1.26569]</td>
<td>[-0.73565]</td>
<td>[-4.45621]</td>
<td>[2.77676]</td>
</tr>
<tr>
<td>CointEq2</td>
<td>-0.509032*</td>
<td>0.054005*</td>
<td>-0.294366</td>
<td>0.027342*</td>
<td>0.103299*</td>
</tr>
<tr>
<td></td>
<td>[-3.38558]</td>
<td>[3.82792]</td>
<td>[-1.97831]</td>
<td>[2.70130]</td>
<td>[2.05772]</td>
</tr>
<tr>
<td>Δ LSRI(-1)</td>
<td>0.168150</td>
<td>0.009909</td>
<td>0.070469</td>
<td>0.022526*</td>
<td>0.037664</td>
</tr>
<tr>
<td></td>
<td>[1.49741]</td>
<td>[0.94044]</td>
<td>[0.63410]</td>
<td>[2.97969]</td>
<td>[1.00454]</td>
</tr>
<tr>
<td>ΔLSRI(-2)</td>
<td>-0.090758</td>
<td>0.013268</td>
<td>0.014554</td>
<td>0.028075*</td>
<td>-0.052953</td>
</tr>
<tr>
<td></td>
<td>[-0.78493]</td>
<td>[1.22289]</td>
<td>[0.12718]</td>
<td>[3.60682]</td>
<td>[-1.37164]</td>
</tr>
<tr>
<td>ΔLCPI(-1)</td>
<td>1.462644</td>
<td>0.021308</td>
<td>0.879147</td>
<td>-0.042279</td>
<td>-0.926477*</td>
</tr>
<tr>
<td></td>
<td>[1.09704]</td>
<td>[0.17032]</td>
<td>[0.66629]</td>
<td>[-0.47104]</td>
<td>[-2.08123]</td>
</tr>
<tr>
<td>ΔLCPI(-2)</td>
<td>0.022937</td>
<td>-0.025234</td>
<td>-1.183477</td>
<td>0.038269</td>
<td>-0.090758</td>
</tr>
<tr>
<td></td>
<td>[0.01768]</td>
<td>[-0.20725]</td>
<td>[-0.92161]</td>
<td>[0.43809]</td>
<td>[-0.20949]</td>
</tr>
<tr>
<td>ΔLER(-1)</td>
<td>0.068821</td>
<td>-0.000631</td>
<td>-0.094572</td>
<td>-0.014521</td>
<td>-0.077556</td>
</tr>
<tr>
<td></td>
<td>[0.58874]</td>
<td>[-0.05749]</td>
<td>[-0.81750]</td>
<td>[-1.84525]</td>
<td>[-1.98713]</td>
</tr>
<tr>
<td>Δ LER(-2)</td>
<td>0.009879</td>
<td>-0.017723</td>
<td>0.000467</td>
<td>-0.002079</td>
<td>-0.011801</td>
</tr>
<tr>
<td></td>
<td>[0.08791]</td>
<td>[-1.68082]</td>
<td>[0.00420]</td>
<td>[-0.27479]</td>
<td>[-0.31455]</td>
</tr>
<tr>
<td>ΔLTS(-1)</td>
<td>-3.019362</td>
<td>0.408724*</td>
<td>0.335795</td>
<td>0.153538</td>
<td>0.986164</td>
</tr>
<tr>
<td></td>
<td>[-1.89737]</td>
<td>[2.73721]</td>
<td>[0.21322]</td>
<td>[1.43318]</td>
<td>[1.85604]</td>
</tr>
<tr>
<td>ΔLTS(-2)</td>
<td>0.789505</td>
<td>0.189945</td>
<td>1.771008</td>
<td>-0.043159</td>
<td>0.565041</td>
</tr>
<tr>
<td></td>
<td>[0.45524]</td>
<td>[1.16722]</td>
<td>[1.03187]</td>
<td>[-0.36967]</td>
<td>[0.97581]</td>
</tr>
<tr>
<td>ΔLM3(-1)</td>
<td>0.425663</td>
<td>-0.002324</td>
<td>0.434844</td>
<td>-0.030944</td>
<td>-0.149281</td>
</tr>
<tr>
<td></td>
<td>[1.34701]</td>
<td>[-0.07838]</td>
<td>[1.39046]</td>
<td>[-1.45455]</td>
<td>[-1.41486]</td>
</tr>
<tr>
<td>ΔLM3(-2)</td>
<td>0.387631</td>
<td>0.014246</td>
<td>0.059121</td>
<td>-0.015836</td>
<td>0.069257</td>
</tr>
<tr>
<td></td>
<td>[1.24124]</td>
<td>[0.48616]</td>
<td>[0.19129]</td>
<td>[-0.75324]</td>
<td>[0.66421]</td>
</tr>
</tbody>
</table>

T-statistics in [], *significant at the 5% level of significance

VECM results in Table 5.21 show that term spread (LTS) and money supply (LM3) are significant in the first co-integrating equation (CointEq1). However, money supply was dropped because it does not have a desired negative sign; implying that the equation for LM3 is out of equilibrium. The term spread equation has a negative sign meaning...
that it constitutes true co-integrating relationship in the first co-integrating vector. In
the second co-integrating equation (CointEq2), there are four significant variables
(LSRI, LCPI, LTS and LM3) but only one of them (LSRI) has a desired negative sign.
The SRI Index, therefore, shows strong evidence of error correction to the second co-
integrating equation. The interpretation of the two co-integrating equations is that the
first equation explains the long-run equilibrium in term spread, while the second
equation explains the long-run equilibrium in SRI Index.

5.5.3 Short-run relationships of the SRI Index and macroeconomic stability

Short-run dynamics for ∆LSRI equation show that lag 1 of ∆LSRI is positive;
suggesting a positive relationship between the current change in the SRI Index and
changes in its previous quarter. The negative coefficient for ∆LSRI(-2) means that the
second lag has a negative effect on the current changes in the SRI Index. However,
the t-statistics for both lags are smaller than t-critical value of 1.684 at the 10 percent
level of significance; implying that the H₀ (for coefficient =0) is not rejected. This means
that the relationship between the SRI Index and its lags is not statistically significant
even at the 10 percent level of significant. Thus, past changes in the SRI Index do not
contribute to the current changes in the SRI Index.

Coefficients for the lags of ∆LCPI, ∆LER and ∆LM3 are positive; suggesting that
previous changes in the inflation, real effective exchange rate and real money supply
have a positive effect on current changes in the SRI Index. However, t-statics for these
coefficients are less than the critical t-value of 1.684 at the 10 percent level of
significance; suggesting that the H₀ (for coefficient =0) cannot be rejected at the 10
percent. Thus, the short-run effect of in the inflation, real effective exchange rate and
real money supply on the SRI index is not statically significant. The coefficient for the
first lag of the term spread is positive and significant at the 10 percent level of
significance (t-statistics of 1.897 > the critical t-value of 1.684). Thus, changes in term
spread of the previous quarter has a significant effect on current changes in the SRI
Index. However, this effects is not significant in second previous month (lag2). Overall,
in the short-run, the SRI Index seems to be not affected by most of the variables of
macroeconomic stability.
In the equation of inflation (ΔLCPI), there is only one significant lag (the first lag of ΔLTS); suggesting that past changes in term spread affects current changes in the inflation. In the real effective exchange equation (ΔLER), all short-run coefficients are not statistically significant, meaning that past changes in the SRI Index and other macroeconomic variables do not affect the current change in real effective exchange rate. In the term spread equation (ΔLTS), both lags of ΔLSRI are significant; suggesting that past changes in the SRI Index affect current changes in term spread. This is line with the theory, because changes in interest rate differentials (TS) affect investment decisions and changes in investment decisions affect the demand for SRI.

5.5.4 Granger causality test of the SRI Index and macro-economic stability

The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another (Granger, 1969). Results of a pairwise Granger causality are in Table 5.22.

Table 5.22: Pairwise Granger Causality Tests (Lags: 2)

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔLCPI does not Granger Cause ΔLSRI</td>
<td>0.4979</td>
<td>0.6846</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLCPI</td>
<td>0.9338</td>
<td>0.4277</td>
</tr>
<tr>
<td>ΔLER does not Granger Cause ΔLSRI</td>
<td>3.7211*</td>
<td>0.0141</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLER</td>
<td>1.9345</td>
<td>0.1294</td>
</tr>
<tr>
<td>ΔLM3 does not Granger Cause ΔLSRI</td>
<td>1.4251</td>
<td>0.2404</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLM3</td>
<td>1.0667</td>
<td>0.3672</td>
</tr>
<tr>
<td>ΔLTS does not Granger Cause ΔLSRI</td>
<td>3.5521*</td>
<td>0.0174</td>
</tr>
<tr>
<td>ΔLSRI does not Granger Cause ΔLTS</td>
<td>3.3792*</td>
<td>0.0216</td>
</tr>
</tbody>
</table>

**Significant at 1% level, *Significant at the 5% level of significance

Results of a pairwise Granger causality show that the null hypothesis for no causal relationship from LER to SRI, LTS to LSRI and LSRI to LTS is rejected. This means that there is a one-way causality from real effective exchange rate to the SRI Index, and a two-way causality between the SRI Index and the term spread. Thus, the real effective exchange rate and the term spread can be used to forecast changes in the.
SRI Index; while the SRI index can also be used to forecast changes in interest rate differentials. The causality between the SRI Index and term spread confirms the short run results from the VECM. However, the causality between the real effective exchange rate and the SRI Index is not in line with the VECM results for short run relationship. To confirm whether the real effective exchange rate has a short run effect on the SRI Index, a variance decomposition analysis for SRI Index was conducted.

### 5.5.5 Results of the SRI variance decomposition

Variance decompositions give the proportion of the movement in the dependent variables caused by their own shocks compared to shocks of other variables (Brooks, 2002:342). Variance decomposition indicates the amount of information each variable contributes to the other variables in a VAR model (Li & Liu, 2012). In this study, the variance decomposition is used to verify short-run results from the VECM and Granger causality test. The period for variance decompositions is set for 12 months (1 year) and the results for variance decomposition of the SRI Index are reported in Table 5.23.

**Table 5.23: Variance Decomposition of LSRI in macroeconomic stability model**

<table>
<thead>
<tr>
<th>Period</th>
<th>S.E.</th>
<th>LSRI</th>
<th>LCPI</th>
<th>LER</th>
<th>LM3</th>
<th>LTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.040181</td>
<td>100.0000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>2</td>
<td>0.059880</td>
<td>97.99938</td>
<td>0.000246</td>
<td>0.431882</td>
<td>1.324675</td>
<td>0.243821</td>
</tr>
<tr>
<td>3</td>
<td>0.074693</td>
<td>93.60090</td>
<td>0.037474</td>
<td>3.31037</td>
<td>2.512098</td>
<td>0.518495</td>
</tr>
<tr>
<td>4</td>
<td>0.088374</td>
<td>87.68719</td>
<td>0.129776</td>
<td>7.269606</td>
<td>3.023316</td>
<td>1.890114</td>
</tr>
<tr>
<td>5</td>
<td>0.100802</td>
<td>82.28062</td>
<td>0.243997</td>
<td>10.69863</td>
<td>3.318655</td>
<td>3.458104</td>
</tr>
<tr>
<td>6</td>
<td>0.111762</td>
<td>77.69472</td>
<td>0.362093</td>
<td>13.45297</td>
<td>3.560673</td>
<td>4.929543</td>
</tr>
<tr>
<td>7</td>
<td>0.121266</td>
<td>73.88896</td>
<td>0.478704</td>
<td>15.60798</td>
<td>3.774697</td>
<td>6.249658</td>
</tr>
<tr>
<td>8</td>
<td>0.129372</td>
<td>70.78917</td>
<td>0.592347</td>
<td>17.24909</td>
<td>3.976092</td>
<td>7.393300</td>
</tr>
<tr>
<td>9</td>
<td>0.136178</td>
<td>68.28689</td>
<td>0.703108</td>
<td>18.47081</td>
<td>4.176557</td>
<td>8.362637</td>
</tr>
<tr>
<td>10</td>
<td>0.141816</td>
<td>66.27168</td>
<td>0.811751</td>
<td>19.35996</td>
<td>4.381785</td>
<td>9.174825</td>
</tr>
<tr>
<td>11</td>
<td>0.146429</td>
<td>64.64921</td>
<td>0.919180</td>
<td>19.98790</td>
<td>4.594113</td>
<td>9.849600</td>
</tr>
<tr>
<td>12</td>
<td>0.150163</td>
<td>63.34226</td>
<td>1.026209</td>
<td>20.41187</td>
<td>4.814331</td>
<td>10.40533</td>
</tr>
</tbody>
</table>

Source: Own calculations

These results show that in the first month, all of the variance in the SRI Index is explained by its own shocks. In the second month, the SRI Index explains about 98
percent of its variation, while other variables explain only about 2 percent. The contribution of macroeconomic stability variables to the variance in the SRI Index increases gradually. After the period of a year (12 months), the SRI Index explains about 63.34 percent of its own movement; while the other variables explain the outstanding 36.66 percent. The movement in the SRI Index, at the end of a year, seems to be mostly explained the real effective exchange rate (20.41%) and the term spread (10.41%). Thus, the other two variables (LCPI and LM3) seems not explain much of the movement in the SRI Index. These results of variance decomposition seems to suggest that the SRI index is caused by real effective exchange rate and the term spread. Thus, variance decomposition analysis confirms the results of Granger causality test. Thus, the real effective exchange rate and the term spread can be used to forecast changes in the SRI Index; suggesting that these two variables affect the demand for SRI in the short-run.

5.5.6 Diagnostic test of VECM for the SRI Index and macroeconomic stability

To confirm whether the VECM results are reliable, various diagnostic tests had to be conducted. In this study, serial autocorrelation and heteroscedasticity tests were used. Results for the autocorrelation test in Table 5.24 show that the p-values (prob.) for 12 lags are greater than 0.05, meaning that the null hypothesis for no serial correlation at each lag could not be rejected. Thus, there is no serial autocorrelation in the VECM residuals. It should be noted that multicollinearity is not a problem in VAR model, especially when variables are co-integrated (Jesulius, 2012:14).

Table 5.24: VECM residual serial correlation LM tests

<table>
<thead>
<tr>
<th>Lags</th>
<th>LM-Stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.93503</td>
<td>0.2802</td>
</tr>
<tr>
<td>2</td>
<td>11.37256</td>
<td>0.2510</td>
</tr>
<tr>
<td>3</td>
<td>9.040406</td>
<td>0.4336</td>
</tr>
<tr>
<td>4</td>
<td>3.998831</td>
<td>0.9115</td>
</tr>
<tr>
<td>5</td>
<td>5.561694</td>
<td>0.7829</td>
</tr>
<tr>
<td>6</td>
<td>6.078081</td>
<td>0.7321</td>
</tr>
<tr>
<td>7</td>
<td>1.874078</td>
<td>0.9933</td>
</tr>
<tr>
<td>8</td>
<td>2.581450</td>
<td>0.9786</td>
</tr>
<tr>
<td>9</td>
<td>14.39417</td>
<td>0.1090</td>
</tr>
<tr>
<td>10</td>
<td>5.593091</td>
<td>0.7799</td>
</tr>
</tbody>
</table>

Null Hypothesis: no serial correlation at lag order h
For heteroscedasticity, a chi-square of 84.09 with a p-value of 0.4767 was obtained, meaning that the null hypothesis for no heteroscedasticity could not be rejected at the 0.05 level of significance. Thus, the interpreted VECM results are reliable as the residuals are homoscedastic and have no serial correlation.

Overall, the findings on the relationship between the SRI Index and macroeconomic stability revealed that the South African SRI sector tends to have long-run effects on variables of macroeconomic stability but it is not affected by these variables. In the short-run, the real effective exchange rate and the interest differentials are the key determinants of the movement in the SRI Index. This suggests the South African SRI sector is linked with a country’s macroeconomic stability.

5.6 SUMMARY AND CONCLUDING REMARKS

Socially responsible investors may be affected by changes in economic conditions, if the South African SRI sector responds to the changes in macroeconomic factors. The South African SRI sector is reflected by JSE SRI Index, which assesses companies’ involvement in SRI initiatives. Companies selected for the SRI are expected to be rewarded for good social performance, especially if South African socially responsible investors are able to influence the overall market. Similarly, the market would respond negatively when a specific company is removed from the SRI Index for a declining involvement in SRI initiatives. If this is the case, announcement of the constituents of the SRI Index should be linked with significant abnormal returns. For the past ten years (2004-2014), the average abnormal returns of companies added to the SRI Index for the first time, has been very volatile. Most of companies added to the SRI Index enjoyed positive average abnormal returns, especially on the day of announcing the SRI constituents. However, such abnormal returns were not statistically significant. In other words, companies that are not already in the SRI Index are not rewarded for improving their involvement in the SRI initiatives. On the contrary, companies deleted from the SRI Index earned significant negative abnormal returns, implying that companies in the SRI Index are encouraged to maintain their involvement in SRI initiatives.

Although the JSE SRI Index makes it easy to identify South African companies with high levels of involvement in SRI initiatives, it may also bring its own exposures that
are different from that of the general stock market. This means that the volatility SRI Index returns may be different from that of the overall market. From 2004 to 2014, the South SRI sector has been slightly more volatile than the overall stock market but the difference in volatility is not statistically significant. In fact, the volatility of the SRI has been almost similar to that of the overall South African stock market. This implies that socially responsible companies do not have an economic advantage over other companies and neither do they have additional risk exposures. Thus, socially responsible investors can contribute to the wellbeing of the society without exposing themselves to the additional shocks (volatility) or compromising the returns on their investments.

Overall, there appears to be an interaction between the SRI Index and macroeconomic growth as well as microeconomic stability. The relationship between economic growth and the SRI sector seems to be the same in both short and long-runs. The South African SRI sector has a considerable effect on economic growth but changes in economic growth seem to have no effect on the SRI sector. In addition to economic growth, the SRI sector is also linked to improvement of macroeconomic stability but only in the long-run. However, macroeconomic stability variables such, interest differentials and the real exchange rate seem to have an effect on the demand for SRI in the short-run. In the long-un, the development of the South African SRI sector is associated with employment creation, economic growth and macroeconomic stability. However, this effect of SRI sector on macroeconomic development may not necessarily reflect the community’s perceptions of SRI initiatives. Thus, the next chapter (Chapter 5) of this study conducted a further analysis on the local community views of SRI initiatives.
CHAPTER SIX: SRI INITIATIVES AND MICRO-ECONOMIC DEVELOPMENT: A CASE OF THE SRI INITIATIVE IN BOPHELONG TOWNSHIP

6.1 INTRODUCTION

Companies are corporate citizens within the community and they are expected to be relevant to the community in addressing challenges faced by the society at large. To achieve this task companies use SRI initiatives to contribute to the wellbeing of the society within which they operate. Evidence has shown that South African companies continue to increase their involvement in SRI initiatives in the areas of education and training, capacity building, community development and health care (Flores-Araoz, 2011; JSE, 2012). SRI initiatives are based mostly on the role of companies in integrating social, economic, and environmental dimensions to fulfil the needs of its stakeholders (Barthorpe, 2010:6). This means that each company develops meaningful SRI initiatives in its own context and defines its own implementation process in harmony with its strategies and business propositions (Cramer et al., 2004:6). Thus, each company identifies SRI initiatives, which are relevant to the economic sustainable development of its specific communities and are in line with the company’s ethos. This suggests that SRI initiatives may address macroeconomic and microeconomic factors, depending on a companies’ involvement in community activities. The measurement of the impact of SRI initiatives on economic development should focus therefore on both microeconomic factors, such as improving the profit to shareholders and the standard of living of individual households, and macroeconomic factors, such as employment, and economic growth (Hediger, 2010:524).

Chapter 5 covered the macroeconomic component of this study, by examining the link between macroeconomic variables and the SRI Index, and addressed some microeconomic issues by assessing the effect of the SRI initiatives on companies’ financial performance. This chapter continued with an assessment of the effect of SRI initiatives on local microeconomic development. It used the case of an SRI project of re-roofing houses in Bophelong Township, implemented by Company X (not mentioned to maintain confidentiality) to achieve the remaining empirical objectives.

Through community engagement, Company X initiated a project of re-roofing houses of community members. In collaboration with Emfuleni Local Municipality, Company X
re-roofed 2200 houses in the two townships (Bophelong and Boipatong) of Emfuleni Local Municipality, Gauteng province, South Africa. This SRI initiative provided new roofs to more than 10000 households’ members, created temporary employment and provided useful skills to community members. This study conducted a full assessment on the effect of this SRI initiative on the community of Bophelong Township, with the aim of achieving the following objectives:

- identify the views of local community towards SRI initiatives,
- establish the involvement of the local community in designing and implementing the SRI initiatives,
- examine how close the SRI initiatives (re-roofing project in this case) match the expectations expressed by the community (meeting some of the housing needs of the community),
- assess the perceived impact of the SRI initiative (re-roofing project) on the local community of Bophelong, and
- determine the effect of the SRI initiatives on the image of the company involved.

This chapter discusses the steps followed in achieving the aforementioned objectives and presented the findings on the perceived impact of the re-roofing project on local economic development. The next section (6.2) starts with the description of sample selection, proceeds with an explanation of data collection process and ends with a detailed discussion of the methods used in the analysis. Section 6.3 presents the results and discusses the findings, while Section 6.4 provides a summary and concludes the discussion of the chapter.

6.2 METHODOLOGY

As mentioned in the previous section, this chapter seeks to conduct a full assessment of how the re-roofing project contributed to the welfare and development of the communities of Bophelong. Assessments of this nature may involve estimations of benefits that can be easily quantified (such job creation and monetary value of services provided) and other benefits (such as social impact) that may not be estimated easily. The focus of this chapter is to determine the community’s perceived impact of the SRI initiative undertaken by Company X. To achieve this, a combination of qualitative and quantitative research designs was used. A combination of both qualitative and
quantitative methods tends to address some limitations such as selection bias, loss of some information and lack of generalisability (Rao et al., 2003), which may be encountered when only one method is used on its own. Thus, interviews and survey questionnaires were used to collect data from community members of Bophelong.

6.2.1 Sampling process

The sampling process refers to different techniques used to gather information from the population and ensures that the collected data is representative of the population (Warner, 2013:3). A good sampling process covers basic elements such as the description of the target population, identification of the sampling frame, the illustration of the sampling procedure and determination of the sample size and data collection process (Black, 2013:224). This sub-section explains the process of sampling followed in this study, starting with the targeted population, sample frame, sampling procedure and the sample size.

6.2.1.1 Target population and sample selection

The target population for this chapter includes all households in Bophelong, which benefitted from the SRI initiative of re-roofing houses. In selecting the area and the company, a non-probability convenience sampling method was used. In non-probability convenience sampling, the researcher selects sample elements that are convenient, meaning that elements are selected because they are available, nearby or willing to participate in the research (Black, 2013:231). Company X was selected because of two reasons. First, it is based in Vaal Triangle where it was convenient for the researcher to access its SRI initiatives. Secondly, it has been in the JSE SRI Index for the past 10 years, since 2004. This shows that it consistently performs well in implementing SRI initiatives. The initiative of re-roofing houses was selected because it targeted specific households that can be easily identified. This project involved the re-roofing of 2200 houses in the two townships, Bophelong and Boipatong, which belong to the Emfuleni Local Municipality in the Gauteng province. This study focused on the township of Bophelong because the process of re-roofing was completed fully in this township at the time of this study, whereas the Boipatong re-roofing process was still in the implementation phase. Thus, Boipatong township could not be part of this study.
Households who participated in the survey were selected randomly from a list of households who benefitted from the re-roofing initiative. To supplement the survey questionnaire, semi-structured interviews were used in order to get information on the participants’ experiences and perceptions towards SRI initiatives. In the second round of selecting the participants for the interviews, a non-random purposive sampling method, also known as judgement sampling was used. This method was chosen because it allows a researcher to choose participants who are assumed to possess and provide valuable information to the research questions. In addition, purposive sampling method gives a researcher the flexibility in deciding the type of information to be known and how to get the information (Black, 2013:232). By using the purposive sampling method, the researcher had the flexibility and opportunity to select participants to be interviewed based on quality of information they have due to their involvement in the SRI initiative of re-roofing houses in Bophelong.

6.2.1.2 Sample size

In selecting sample size, important factors to be considered include the number of variables, the nature of the analysis and sample size used in other similar studies and resources constraints (Black, 2013:224). One can also select sample size based on the number of observations needed for the data analysis. For example, a sample size between 200 and 500 observations may be sufficient for a multiple regression analysis or impact evaluation (Israel, 2013:4). This study used a sample of 250 questionnaires but only 247 of them were deemed legible for analysis. This sample size is within the recommended range for the analysis to be conducted. Furthermore, the strategy of selecting sample size based on the level of precision, also known as sampling error, was used to confirm the precision of this sample size. To achieve this, the following formula (Israel, 2013:4) was estimated:

\[ n = \frac{N}{1+N(e)^2} \]  

(6.1)

Where: \( n \) is the sample size, \( N \) is the population size and \( e \) is the level of precision.

Using the population of 800 households (the number of re-roofed houses in Bophelong) at the 6 percent level of precision, a sample of 206 would be said to be adequate.
\[ n = \frac{800}{1 + 800(0.06)^2} = 206.19 \] (6.2)

It should be noted that the level of precision is mostly set between 1 percent and 10 percent and the lower level of precision is desired. Thus, a sample of 247 questionnaires was big enough for this study.

### 6.2.1.3 Data collection and questionnaire design

Fieldworkers collected data during November and December 2013. Fieldworkers interviewed household members by reading the questions aloud and writing down the answers given by interviewees. In case the participants could not speak English, the questions were translated into the local languages. The design of the questionnaire, used for obtaining the necessary information, had three major parts, which covered three different aspects. The first part captured information on households’ socio-economic and demographic characteristics, while the second part contained questions on the perceived impact of the re-roofing project at various stages, including its impact on the company’s image. The final part of the questionnaire included open questions that captured participants’ additional comments on the SRI initiative of re-roofing houses.

The questionnaire was pretested by conducting interviews using a small sample of 30 participants who were not part of the survey. After the preliminary test, the researcher was able to make an observation on the participants’ reactions and the problems inherent in the survey were identified and corrected. This ensured that the data collection plan for the main study followed an appropriate procedure and minimised any errors that may be caused by improper questionnaire design.

The data collected from the survey questionnaire was supplemented by more information gathered through interviews with community members and company representatives. Six participants (three community members, one community leader and two company representatives) were interviewed.

### 6.2.2 Evaluation methods

This study adopted an evaluation method that combines qualitative evidence with a quantitative survey process. Qualitative methods involve the process of identifying
major themes from interviews with community leaders, company representatives and open questions to the beneficiaries. On the other hand, a quantitative method used included data analysis (such as descriptive statistics, principal component analysis (PCA), graphical analysis, cross tabulations, and regression to identify patterns of the impact of the project on the community.

6.2.2.1 Quantitative analysis

First, principal component analysis (PCA) was used to categorise participants into economic status (SES) based on the assets they own. Principal component analysis is a multivariate statistical technique used to reduce the number of variables in a data set into a smaller number of dimensions (Vyas & Kumaranayake, 2006). In the context of this study, PCA was used to group participants into categories of socio-economic status. Using factor scores from PCA, a variable was generated for each participant. This variable was used as socio-economic score where a higher score refers to a higher socio-economic status (Vyas & Kumaranayake, 2006:464). Either the socio-economic score can be used as a continuous variable in the regression model or it can be used to categorise participants into different socio-economic status groupings (Filmer & Pritchett, 2001). In this study, three categories of SES (low, middle and high) were generated from socio-economic scores.

In addition to PCA, descriptive analysis (such as mean, standard deviation, frequencies and cross tabulation) was used to identify the impact of the initiative as perceived by households. After establishing the households’ perceived impact of the project, the following model (Rao & Fedessarollo, 2002) was used to estimate the effect of various socio-demographic factors on the perceived impact of the SRI initiative of re-reroofing houses in Bophelong:

$$PHB_j = f (HSEC_j)$$  \hspace{1cm} (6.3)

Where $PHB_j$ is the probability that the SRI initiative met households expectations/preferences and $HSEC_j$ is a vector of households’ characteristics. To measure whether households’ expectations were met, households were classified as either being satisfies with SRI initiative or not satisfied. This means that the dependent variable was categorical with a dichotomous nature (with only two categories). Thus,
a binary logistic regression was selected as an appropriate model to predict categorical outcomes using a mixture of categorical and continuous predictors (Pallant, 2013:175). Hence, the estimated equation from the above model is as follows:

\[ HB_j = \beta_0 + \beta_1 GHH_j + \beta_2 AHH_j + \beta_3 MHH_j + \beta_4 EDHH_j + \beta_5 ESHH_j + \beta_6 SES_j + \beta_7 HS_j + \beta_8 NES_j + \beta_9 NHS_j + e_j \] (6.4)

Where: Household’s status of satisfaction with the SRI initiative (1= satisfied and 0 = not satisfied) and j represents each household;

\( GHH \) is the gender of the household’s head (1 = female and 0 = male);

\( AHH \) is the age category of the household’s head (10 years between categories);

\( MHH \) is the marital status of the household’s head (1 = married or staying with a partner and 0 = otherwise);

\( EDHH \) is education attainment of the household’s head (from low to high level of education);

\( ESHH \) is the employment status of the household’s head (1 = unemployed and 0 = otherwise);

\( HS \) is the household’s size (the total number of people living within a household);

\( SES \) is the social-economic status of the household (1= low SES and 0= medium and large SES);

\( NES \) is the number of years a household has stayed on the site;

\( NHS \) is the number of houses on the site;

\( \beta_1, \beta_2, .. \beta_9 \) are the coefficients to be estimated, \( \beta_0 \) is the intercept and \( e_j \) is the error term.
The hypothesis test for coefficients in the above model was as set as follows:

\[ H_0: \beta_1, \beta_2, \ldots, \beta_9 = 0 \]

\[ H_1: \beta_1, \beta_2, \ldots, \beta_9 \neq 0 \]

If the \( H_0 \) was rejected in favour of \( H_1 \), then it was concluded that the households’ characteristic has a significant effect on the status of satisfaction with the SRI initiative. However, if \( H_0 \) was not rejected, it was concluded that the households’ characteristics has no significant effect on the status of satisfaction with the SRI initiative.

6.2.2.2 Qualitative analysis

In qualitative analysis, data recorded from interviews were transcribed into word-for-word transcripts and printed out to allow the researcher to read them and identify the themes. Individual’s responses were linked to the questions asked during interviews to identify consistencies and differences. After bringing all the data of each question together, the common themes were identified and categorised according to their link with the information gathered from the survey questionnaire. Then, patterns and connections between survey and major themes from interviews were identified and used to explain the household’s perceived impact of the SRI project on local economic development.

6.2.3 Data description

In order to understand the impact of the re-roofing project on the Bophelong community, it is important to provide a description of the participants and the status of the re-roofed houses. The socio-economic and demographic information of participants includes factors such as socio-economic status, household size, employment status, gender, age, and level of education of the household’s head. The description of houses re-roofed by the SRI initiative involves the identification of the number of houses on the site, the material composition of the wall and the floor of the main house, and the number of years a respondent has stayed on the site.

This process of identifying households characteristics is important as the selection of the SRI beneficiaries was based on the shape of the houses. Only, specific houses,
identified by the local municipality, were targeted, regardless of the characteristics of the members of those households. In case the shape of the roof had changed the house was not re-roofed.

6.2.3.1 Participants’ demographic information

This sub-section provides detailed demographic information of participants. Variables discussed here include the household size, gender, age and employment status of the household’s head.

6.2.3.1.1 Household size

The distribution of the size of households used in the sample is summarised in Table 6.1. The number of people per household varied between one member (minimum) and 10 members (maximum) per household. The total number of household members within the 247 surveyed households was 931, meaning that the average household size was approximately 3.7 persons. Inferring this to the total number of households (2000) that benefitted from the project suggests that more than 7600 people benefited from the re-roofing project. This average household is in line with the 3.1 household size for Emfuleni Local Municipality in the 2011 census and it is comparable to a 3.4 average household size for the whole of South Africa in 2011 (Statistics South Africa, 2012).

Table 6.1: Household size

<table>
<thead>
<tr>
<th>No of household’s members</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>2</td>
<td>53</td>
<td>21.5</td>
<td>29.6</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>20.2</td>
<td>49.8</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>16.2</td>
<td>66.0</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>20.2</td>
<td>86.2</td>
</tr>
<tr>
<td>6</td>
<td>19</td>
<td>7.7</td>
<td>93.9</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>3.2</td>
<td>97.2</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>1.2</td>
<td>98.4</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>.8</td>
<td>99.2</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>.8</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>247</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: survey data (2013)
6.2.3.1.2 Gender distribution of the household’s heads

Figure 6.1 shows gender distribution of the household’s heads. Out of 247 households, females accounted for 63.4 percent of the household's heads, while males accounted for 36.4 percent. This is in line with national demographics as a similar gender distribution is established nationally. This implies that the re-roofing project impacted households mostly headed by females. Since households headed by females are identified generally as being vulnerable within the society (Chant, 2003:3), the re-roofing project achieved one of the goals of SRI initiatives, where companies are expected to be relevant to the community by assisting the vulnerable groups within society (Katsoulakos & Katsoulakos, 2006).

![Figure 6.1: Gender distribution of the household’s heads](image)

**Figure 6.1: Gender distribution of the household’s heads**

Source: Survey data (2013)

6.2.3.1.3 Employment status and age of the household’s heads

Figure 6.2 illustrates the employment status of the household’s heads, while Table 6.2 reports the age categories of the household’s heads.
Figure 6.2: Employment status of the household’s head

Source: Survey data (2014)

Table 6.2: Age category of the household’s head

<table>
<thead>
<tr>
<th>Age category</th>
<th>Number of HH</th>
<th>Percentage</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 21 years</td>
<td>3</td>
<td>1.21%</td>
<td>1.21%</td>
</tr>
<tr>
<td>21 to 25 years</td>
<td>3</td>
<td>1.21%</td>
<td>2.43%</td>
</tr>
<tr>
<td>26 to 30 years</td>
<td>11</td>
<td>4.45%</td>
<td>6.88%</td>
</tr>
<tr>
<td>31 to 40 years</td>
<td>33</td>
<td>13.36%</td>
<td>20.24%</td>
</tr>
<tr>
<td>41 to 50 years</td>
<td>41</td>
<td>16.60%</td>
<td>36.84%</td>
</tr>
<tr>
<td>51 to 60 years</td>
<td>42</td>
<td>17.00%</td>
<td>53.85%</td>
</tr>
<tr>
<td>Above 60 years</td>
<td>114</td>
<td>46.15%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

It is noted that 51 percent of the household’s heads were not economically active, meaning that most of them were old people or had disability that could not allow them to work. Thus, are not counted as unemployed. Within those in labour force, 26 percent of the sampled household’s heads were unemployed, while 23 percent (17% in formal sector and 6% in informal sector) were employed. This implies that a proportion of participants that can earn salaries or wages count for less than a quarter of the total sample. In Table 6.2, the household heads’ age category shows that 46.1 percent of the household’s heads had reached retirement age, implying that the majority of beneficiaries of the SRI project were not economically active. It is evident, therefore,
that the SRI initiative of re-roofing houses targeted the needy households mostly headed by retired individuals who may not be able to address their housing problems.

6.2.3.1.4 Educational level of the household’s head

Table 6.3 reports the level of education of the household’s head. This table shows that 34.8 percent of the household's heads have no schooling, while 42.9 percent did not complete primary school. In other words, 77 percent of the household’s heads do not have primary schooling education. This could explain why the majority of the household’s heads were not employed, as observed in Figure 6.2. The majority of the beneficiaries of the re-roofing project have a low level of education. Thus, they would not be able to secure employment, which would enable them to address their housing needs.

Table 6.3: Education of the household’s head

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No schooling</td>
<td>86</td>
</tr>
<tr>
<td>Grade 1-4</td>
<td>3</td>
</tr>
<tr>
<td>Grade 5</td>
<td>102</td>
</tr>
<tr>
<td>Grade 6</td>
<td>2</td>
</tr>
<tr>
<td>Grade 7</td>
<td>2</td>
</tr>
<tr>
<td>Grade 8-9</td>
<td>8</td>
</tr>
<tr>
<td>Grade 9</td>
<td>4</td>
</tr>
<tr>
<td>Grade 10</td>
<td>8</td>
</tr>
<tr>
<td>Grade 11</td>
<td>2</td>
</tr>
<tr>
<td>Grade 12</td>
<td>6</td>
</tr>
<tr>
<td>Tertiary education</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>247</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.2.3.1.5 Participants’ socio-economic status

The socio-economic status (SES) of a household was identified based on the assets each household owns. Constructing a socio-economic index for a specific community depends on the objectives of the study and the use of the generated SES (Filmer & Pritchett, 2001; Vyas & Kumaranayake, 2006:465). In the context of this study, the SES index was used to group participants into categories of socio-economic status and to assess how these categories of the SES perceived impact of SRI initiatives. The other motivation related to the fact that the calculation of SES allowed for an
objective measure of the status of the re-roofing project. Thus, PCA was used to derive the SES index and to group participants into categories of socio-economic status. Using each household’s assets as a measure of socio-economic status, PCA with one component showed that most of the participants were on the category of low SES. This was also confirmed by use of three components in PCA, which explains 40.47 percent of the common variance. This implies that beneficiaries could be categorised into three categories of SES, namely low, middle and high socio-economic statuses. Cronbach’s alpha test was used to test the internal consistency of the SES index. The value of this alpha was 0.781, which is above the acceptable value of 0.7 (Pallant, 2013:101). This, therefore, indicates that the derivative of the SES index could be regarded as a reliable measure. The categories of SES are in Table 6.4.

Table 6.4: Asset based socio-economic status of the households

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low socio-economic status</td>
<td>192</td>
<td>77.7</td>
<td>77.7</td>
</tr>
<tr>
<td>Middle socio-economic status</td>
<td>46</td>
<td>18.6</td>
<td>96.4</td>
</tr>
<tr>
<td>High socio-economic status</td>
<td>9</td>
<td>3.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>247</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey data (2013)

The categories of SES, in Table 6.4, show that 77.7 percent of participants were in the category of low SES, while middle and high SESs counted for 18.6 and 3.6 percent, respectively. This confirms other demographic information that the majority of the project’s beneficiaries fall in the category of disadvantaged groups. There could be a major positive effect of this SRI initiative in that the households who received assistance might not have been able to fix their roofs if it was not for the SRI project. This finding also points to the possible need for additional interventions in this community, as many of the households are of a low socio-economic status.

Overall, the description of SES and other demographic characteristics of participants revealed that the re-roofing project addressed the needs of a disadvantaged group of people, as mentioned by Katsoulakos and Katsoulakos (2006) that SRI initiatives should mostly play an important role in assisting vulnerable groups of people in the society.
6.2.3.2 The status of the houses addressed by the SRI initiative

Having described the key demographic characteristics of the participants, the next step is to provide a detailed description of the houses addressed by the SRI project. Some households had big site with many small houses, especially at the back yard, but only one house (with a specific shape) was re-roofed. In some cases, the re-roofed house was not even the main house. If the house was extended, the extension of the house was not re-roofed as the re-roofing project only focused on houses with the specific shape. Table 6.5 shows that the number of houses in a single site ranged from 1 to 5 houses. However, only two participants have 5 houses in one site. It is clear that 76.5 percent of sites have only one house, meaning that the re-roofed house was the only house in the site. Most of the houses were built of bricks (Table 6.6) with tiled floors.

Table 6.5: Number of houses in the site

<table>
<thead>
<tr>
<th>Houses in the site</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>189</td>
<td>76.5</td>
<td>76.5</td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>15.0</td>
<td>91.5</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>6.5</td>
<td>98.0</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>1.2</td>
<td>99.2</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>.8</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>247</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

Table 6.6: Material used for the wall of the main house

<table>
<thead>
<tr>
<th>Material used for the wall</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricks</td>
<td>76.1</td>
</tr>
<tr>
<td>cement/concrete</td>
<td>14.2</td>
</tr>
<tr>
<td>Corrugated/zinc</td>
<td>7.3</td>
</tr>
<tr>
<td>Tiles</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

Regarding ownership of the houses, Table 6.7 shows that 89.1 percent (78.6 + 10.5) of participants owned the house, with or without a title deed, while only 0.8 percent of the participants were renting. This suggests that beneficiaries mostly stay in their own houses, implying that the SRI project benefited house owners directly.
Table 6.7: Ownership of the re-roofed houses

<table>
<thead>
<tr>
<th>Ownership of the house</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner with a title deed</td>
<td>194</td>
<td>78.6</td>
</tr>
<tr>
<td>Owner without a title deed</td>
<td>26</td>
<td>10.5</td>
</tr>
<tr>
<td>Renting</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Using the house without paying rent</td>
<td>25</td>
<td>10.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>247</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

Table 6.8 shows that approximately 80 percent of the participants have been staying on their site for more than 20 years. The average number of years stayed on site was estimated to be 38 years per beneficiary. This implies that the re-roofing project benefited house owners who stayed on the site for more than three decades and were not able to change or fix their old roofs. This again emphasises that the SRI project targeted a disadvantaged group of people. Hence, the re-roofing project was in line with the principles of SRI strategy of community investing by supporting a vulnerable group within the society (Schueth, 2003).

Table 6.8: Number of years stayed on the site

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 10</td>
<td>31</td>
<td>12.55</td>
</tr>
<tr>
<td>11 to 20</td>
<td>21</td>
<td>8.50</td>
</tr>
<tr>
<td>21 to 30</td>
<td>26</td>
<td>10.53</td>
</tr>
<tr>
<td>31 to 40</td>
<td>73</td>
<td>29.55</td>
</tr>
<tr>
<td>41 to 50</td>
<td>49</td>
<td>19.84</td>
</tr>
<tr>
<td>51 to 60</td>
<td>36</td>
<td>14.57</td>
</tr>
<tr>
<td>61 +</td>
<td>11</td>
<td>4.45</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.3 THE PERCEIVED IMPACT OF THE SRI PROJECT OF RE-ROOFING HOUSES

Having shown that the SRI initiative of re-roofing houses benefited a group of people that may be categorised as disadvantaged within the society, this section proceeds with the discussion of the findings on how the community of Bophelong perceived the impact of this SRI project. The assessment of how the beneficiaries perceived this SRI initiative followed the three major phases of a project. By definition, a phase represents a grouping of similar activities that has a very loosely defined beginning and end.
Phases typically follow each other, where the prior phase is essentially complete before the beginning of the next phase; however, phases do not have clear-cut end dates and some activities in an early phase of the project may continue into the later phases. The three phases evaluated in this study include planning, delivery and post-delivery phases. This assists in establishing whether the SRI project met the community's expectations at all stages.

This section involves discussion of the results from the survey questionnaire and some of related comments generated through interviews. In testing for the reliability of the scales used to assess perceived impact at the aforementioned three stages, Cronbach’s alpha (as an internal consistency test) was used. The values of this alpha were 0.791 for the scale of the planning stage, 0.806 for the scale of the delivery stage and 0.839 for the scale of the post-delivery phase. The overall internal consistency for the overall scale of all stages was α=0.798. These values were above the acceptable value of 0.7 (Pallant, 2013:101), indicating that the scales used to assess the perceived impact of the SRI project of re-roofing houses, are reliable.

6.3.1 Community perceptions of the planning phase of the SRI initiative

The perceptions of the participants were captured quantitatively through the participants’ responses to the survey questions on planning of the project, shown in Table 6.9, and through a qualitative analysis of responses to open questions and from interviews. Table 6.9 shows that the majority of participants tend to strongly agree with all the statements. Overall, 82.2 percent of the participants were happy with the planning process. However, it should be noted that 17 percent (15+2) disagreed with the fairness of the selection process, while 12.1 percent (10.9 + 1.2) disagreed with the consideration of beneficiaries’ input into the SRI initiative of re-roofing houses. These participants perceived the selection process as not open. There seems to be lack of clarity about who should have benefitted from the initiative and about why the company decided to help the community. Therefore, this is not in line with the ideas that the community should have the right and the power to define expectations for those companies operating within its boundaries (Freeman, 2010:33; Toppinen, 2011:121).
### Table 6.9: Participant’s responses on the planning process (%)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understood the objectives of the project</td>
<td>6.5</td>
<td>1.6</td>
<td>4.9</td>
<td>3.2</td>
<td>83.8</td>
</tr>
<tr>
<td>I was asked for input</td>
<td>6.1</td>
<td>0.8</td>
<td>5.3</td>
<td>2.4</td>
<td>85.4</td>
</tr>
<tr>
<td>My input was considered</td>
<td>10.9</td>
<td>1.2</td>
<td>6.9</td>
<td>2</td>
<td>78.9</td>
</tr>
<tr>
<td>The selection process was fair</td>
<td>15</td>
<td>2</td>
<td>5.3</td>
<td>2.4</td>
<td>75.3</td>
</tr>
<tr>
<td>I knew what was expected of me</td>
<td>7.3</td>
<td>1.2</td>
<td>6.5</td>
<td>2.8</td>
<td>82.2</td>
</tr>
<tr>
<td>Overall, I was satisfied with planning</td>
<td>7.7</td>
<td>0.8</td>
<td>6.5</td>
<td>2.8</td>
<td>82.2</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

However, qualitative analysis shows that beneficiaries’ inputs were taken into consideration. The company representatives and community leader’s response on the issue of taking communities’ suggestions was as follows:

*Our initial plan was to replace the old roof by a new one but we were advised by the community not to remove old roofs but to put the new roof on top. We then changed to this method and had to make sure that the gap between two sheets was closed properly, as requested by the beneficiaries of this SRI project.*

Regarding the selection process, the company’s representative mentioned that:

*The selection was based on the shape of the house. We targeted specific houses with old roof and we worked with local municipality in this process of identifying the houses.*

Furthermore, open questions showed that the majority of participants were happy with the planning process, but a few individuals expressed dissatisfaction with the communication process as well as the selection process. For example, some of the beneficiaries commented as follows:

- *I am happy, but I do not understand why the project did not change the roofs of some of my neighbours.*
- *I came home one day and found a new roof without anyone explaining anything.*

These comments suggest that some beneficiaries were not informed fully about the whole process of the re-roofing project. This may further suggest that there was need
for a follow-up with community members after the project’s completion. Since a small number of participants expressed these issues, they may be linked to the lack of attending community meetings by such members. Company’s representatives and the community leaders indicated that several meeting were held within the community but some members of the community did not attend these meeting. Thus, the issue of not attending community meetings may be a potential reason for not understanding the background behind this SRI initiative.

The lack of understanding could also spell challenges, where through this SRI project, the company has created an expectation that more of the community’s infrastructural challenges would be addressed as it was observed in qualitative responses. These findings emphasised the importance of community engagement in planning of SRI initiatives. A proper community engagement ensures a full interaction between companies and the community (Freeman, 1999:234; Steurer et al., 2005:267) which eventually improves the company’s competitiveness and profitability (Good, 2002:4; Hitt, et al., 2009:20).

6.3.2 Perceived effect of the SRI initiative at implementation phase

The delivery phase included the actual process of changing the roof. Survey questions for this section were designed to capture the involvement of the community during this process and to identify whether the SRI initiative did not create any unexpected inconveniences.

6.3.2.1 Inconveniences during the delivery of the SRI project

Participants’ responses on the issue of inconveniences are in Table 6.10. This Table shows that the majority (84.2%) of the participants were inconvenienced by the process of changing the roof and thought that it took longer than they expected. This may be linked to the issue of an inadequate communication process, which did not prepare beneficiaries for this implementation process, in advance. This inadequate communication between the company delivering the SRI initiative and community may sometimes undermine the perceived impact of the SRI. However, the inconveniences observed during the process of re-roofing houses should not be considered as a big issue as it may not be easy to change the roof without creating any inconveniences.
Table 6.10: Responses on the inconveniences

<table>
<thead>
<tr>
<th></th>
<th>Re-roofing process inconveniented my household</th>
<th>The re-roofing of my house took longer than I expected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>13</td>
<td>5.3</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>14</td>
<td>5.7</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>4.5</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>208</td>
<td>84.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>247</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.3.2.2 Community willingness and ability to work on the SRI project

Beneficiaries’ willingness to work on the SRI project was captured by three questions, which asked whether beneficiaries were willing to work as volunteers, to work on the project for a wage, and whether some of them had required skills before joining the project. The distribution of the responses to these questions, in Figure 6.3, shows that only 30 percent of participants were willing to do some volunteering work on their houses, while 72.1 percent would have worked on their houses if they were paid. However, it is interesting to see that the majority of those who disagree with volunteering on their houses did not have the required skills. Similarly, many of those who were willing to be employed with pay (strongly agree) did not feel that they have the required skills. This shows a mismatch between the skills and the willingness to work on this SRI project. One can say this was an opportunity missed by unemployed beneficiaries as volunteering could have given them some skills that could assist them in finding jobs in future after the completion of this SRI project.
Figure 6.3: Beneficiaries willingness and ability to work on the project

Source: survey data (2013)

Qualitative analysis confirms that community members were not willing to do any volunteering work on the re-roofing project. However, it was mentioned in the interview with the company’s representative and community leaders that:

*We had volunteers, but none of them were from Bophelong community. This team of volunteers was made of employees of Company X, who received the necessary training needed on the project.*

This implies that by volunteering, members of Bophelong community could have benefitted from this training, which may have a long-term positive impact on the community. The element of training is very important in the literature of SRI as it emphasises on the role of SRI initiatives in developing local communities through capacity building (Luning, 2012:205; Rajak, 2008:310). In this study, this empowerment depends on whether the re-roofing initiative provided enough
skills/experience that could assist community members to get employment after the project. This can be clarified by the next sub-section, which assessed the impact of the project in terms of creating employment opportunities.

6.3.2.3 Short-term and long-term employment opportunities from SRI initiatives

The employment opportunities created by the re-roofing initiative were evaluated in twofold: short and long-term opportunities. Short-term employment opportunities refer to temporary employment created during the delivery of the SRI project, whereas long-term opportunities involve exposure to the future employment (after the project) due to the skills gained from the SRI project. Participants’ responses on questions related to these two impacts are summarised in Table 6.11 and 6.12.

Table 6.11: Responses on the creation of short-term employment opportunity

<table>
<thead>
<tr>
<th></th>
<th>My household benefited during the project implementation (e.g. temporarily employment or any other benefits)</th>
<th>The project employed some of my neighbours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>28</td>
<td>11.3</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>2.0</td>
</tr>
<tr>
<td>Neutral</td>
<td>9</td>
<td>3.6</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>3.2</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>197</td>
<td>79.8</td>
</tr>
<tr>
<td>Total</td>
<td>247</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: survey data 2013

Table 6.11 shows that 83 percent (79.8 + 3.2) of the participants agreed that their household members temporarily benefitted from the project during the implementation process. In addition, 53.8 percent (52.2 + 1.6) also agreed that the project provided short-term employment to their neighbours, who were unemployed. Qualitative analysis also confirmed that this SRI project created temporary employment. For example, a number of beneficiaries and non-beneficiaries who were interviewed stated that:

*Other than the experts, the team that worked on the re-roofing project was strictly composed of members of Bophelong community. We know them; they are household members and our neighbours.*
The company’s representative and community leaders confirmed that the labour employed on the SRI project of re-roofing houses was strictly from the Bophelong community.

Table 6.12: Responses on the long-term impact of the SRI initiative

<table>
<thead>
<tr>
<th>The re-roofing project provided useful skills to some members of our community</th>
<th>Some community members were able to use the skills gained from the project to get a job somewhere else</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>25</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Neutral</td>
<td>11</td>
</tr>
<tr>
<td>Agree</td>
<td>5</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>247</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

In addition to these short-term benefits, the project also had a long-term impact on the community of Bophelong. Participants’ responses, in Table 6.12, show that 85 percent (83 +2) of participants agreed that the SRI project provided useful skills to the community, while 10.5 percent disagreed with this statement. To add to this, 87.4 percent (84.6+2.8) agreed that community members were able to use the skills gained from the project to get a job elsewhere. This is an indication that the SRI project did not only have short-term impacts, but also had a long-term impact on the Bophelong community. Qualitative evaluation also confirmed these short-term and long-term impacts. It was stated in the interviews that members of the Bophelong community, who worked on the project, were trained beforehand and received certificates of participation at the end of project. Some of community members mentioned that:

*Most of our neighbours who worked on the project used the skills gained from the project to find a job elsewhere at the end of the project.*

These findings indicated the SRI initiative of re-roofing houses in Bophelong Township, contributed to the local economic development (LED) and provided employment. This implies that this SRI initiative contributed towards improvement of microeconomic and macroeconomic performance, as suggested by Hediger’s 2010 model (discussed in Section 3.3.1). These findings are similar to those of other studies (Abeysuriya et al., 2007; Derwall et al., 2011; Gifford et al., 2010; Hossain et al., 2013;
Kang et al., 2010; Kolk & Van Tulder, 2006; Luning, 2012) which found that SRI initiatives contributed positively to both microeconomic and the macroeconomic development. Furthermore, these findings confirmed the SRI strategy of community investing, which seeks to achieve various economic objectives such as infrastructural development, job creation and improvement of the standard of living in the community (Viviers, 2007:87).

6.3.3 The perceived impact of the SRI initiative at post-delivery phase

This section presents both quantitative and qualitative analysis of participants’ responses on the impact of the SRI project after the phase of delivery. It includes participants’ responses to both perceived positive and negative impacts on their housing and the community as whole.

6.3.3.1 Perceived long-term effect of the SRI initiative

The responses on how beneficiaries perceive the new roof and its effect on the whole house (in Table 6.13) shows that 91.5 percent (87 + 4.5) of participants at least agreed that their new roof is better than they expected, which implies that the new roof exceeded beneficiaries’ expectations. Furthermore, 89.5 percent (84.6 + 4.9) agreed that the new roof increased the value of their house. The majority of the participants are happy with the new roof and agreed that the re-roofing project responded to some of their housing needs. This means that the re-roofing project met the basic principle of the CSR, which states that companies’ SRI initiatives should respond to the needs of the society (World Economic Forum, 2002).

Table 6.13: Perceived effect of the SRI initiative on the community’s housing needs

<table>
<thead>
<tr>
<th>Response</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My roof is better than I expected</td>
<td>5.7%</td>
<td>0.4%</td>
<td>2.4%</td>
<td>4.5%</td>
<td>87%</td>
</tr>
<tr>
<td>My whole house is better than it was before the new roof</td>
<td>4.5%</td>
<td>0.4%</td>
<td>2.8%</td>
<td>2.8%</td>
<td>89.5%</td>
</tr>
<tr>
<td>New roof has made the maintenance of my house very easy</td>
<td>4%</td>
<td>0.4%</td>
<td>2.4%</td>
<td>3.2%</td>
<td>89.9%</td>
</tr>
<tr>
<td>The new roof has increased the value of my house</td>
<td>5.7%</td>
<td>0.4%</td>
<td>4.5%</td>
<td>4.9%</td>
<td>84.6%</td>
</tr>
<tr>
<td>Overall, I am happy with my new roof</td>
<td>4.5%</td>
<td>0.4%</td>
<td>2.8%</td>
<td>3.2%</td>
<td>89.1%</td>
</tr>
<tr>
<td>The reroofing project respond to my housing needs</td>
<td>4%</td>
<td>0.4%</td>
<td>3.6%</td>
<td>3.6%</td>
<td>88.3%</td>
</tr>
</tbody>
</table>
Qualitative responses also show that the project responded to community needs, and some participants indicated that they would like Company X to help with other challenges they face. For example, most comments from participants were as follows:

- *I am very happy that they replaced the roof of my house as the old one was leaking.*
- *Thanks to Company X for changing the roofs of our houses. They should also help with the clinic, roads and additional rooms to the house.*

These comments suggest that Bophelong community members were happy with the re-roofing project and still expected Company X to get involved with more projects. This implies this SRI initiative created more expectations within the community of Bophelong and the company’s representative acknowledged that:

> All expectations of communities cannot be addressed at once. This (SRI initiatives) is a continuous process but we will continue to work with the community.

Furthermore, both community members and the company’s representatives agreed that the SRI project increased the relationship between the company and the community members. The company’s representative commented that:

> The project improved our relations with the community and opened the door for the community to approach the company. Ordinary community members are now confident in approaching the company to discuss issues of concern in the community.

These findings suggest that community members can now interact with the company on the challenges and hardships faced by the community. This implies that SRI initiatives enabled Company X to be considered as any other member of community. This is in line with the concept of corporate citizenship from the relational theory (discussed in Section 2.3.2.2), which states that, through SRI initiatives, companies are considered as any other citizen within a community (Matten et al., 2003:111). This corporate citizenship was among the objectives of the re-roofing initiative, which involved, according to the company, community empowerment and development as well as corporate citizenship.
6.3.3.2 Negative perceptions of the SRI initiative

Although it has been established that the SRI initiative of re-roofing houses had a positive impact on the Bophelong community, it is necessary to evaluate whether there were some negative impacts from this SRI project. Thus, beneficiaries’ responses to questions related to the perceived negative impacts are summarised in Table 6.14.

Table 6.14: The perceived negative impact

<table>
<thead>
<tr>
<th>Statements on negative impact</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The new roof more noisier, when it rains, than the old roof</td>
<td>28.3%</td>
<td>2.4%</td>
<td>4.9%</td>
<td>2%</td>
<td>62.3%</td>
</tr>
<tr>
<td>The project has created some additional costs</td>
<td>46.3%</td>
<td>1.6%</td>
<td>2%</td>
<td>2.4%</td>
<td>47.6%</td>
</tr>
<tr>
<td>Some of my neighbours, who did not benefit from the project, are jealous of my new roof</td>
<td>24.7%</td>
<td>4.5%</td>
<td>1.6%</td>
<td>2.85%</td>
<td>66.45%</td>
</tr>
</tbody>
</table>

Source: Survey data

This table shows that 64.3 (62.3 + 2) percent of participants agreed that the new roof is noisier when it rains than the old one, while 50 (47.6 + 2.4) percent agreed that the project has created some additional costs. Qualitative analysis showed that few beneficiaries of this SRI project experienced challenges after the completion of the project. Some indicated that their new roof is leaking, while others complained about the space (left between the sheets), which is now a hiding place for rats. In addition, a number of participants complained of the poor quality of the workmanship during the project delivery. Although the number of complaints was small, they point to some long-term negative effects of this SRI initiative. This suggests that companies tend not to plan for the management of any effects (such as potential costs) that may arise after the implementation/delivery of a SRI initiative. This is related to companies’ deviation from high levels of CSI in the long run, mentioned by Goss and Roberts (2007:i). It would be important for the company to evaluate the status of the re-roofed housing in the future to assess further costs / negatives, which could be ameliorated. It is also possible that the company could have communicated their long-term involvement as some residents have assumptions that the company would come back to provide remedies for any future problems with their roofs. In the interview, the company’s representative highlighted that the company had no intention of involvement after the
delivery because it had to proceed with re-roofing of houses in other townships such as Boipatong. Thus, any emerging problem from the completed houses was a responsibility of local authority (municipality), which collaborated with the company in implementing the project. However, community members seemed not to understand this partnership between the company and the local government.

Table 6.14 further shows that 69.2 (66.4+2.8) percent of the participants agree that there was a jealousy between beneficiaries and those who did not benefit. This was confirmed by the following comment from a couple of participants.

I am very happy with the re-roofing project but others (those who did not benefit) are not happy.

This is an indication that, to a certain degree, the implementation of the SRI project negatively affected social cohesion in the community of Bophelong. This issue of decreasing social cohesion within the community normally happens when there is a low level of community engagement, suggesting that the community of Bophelong did not clearly understand the process of selecting beneficiaries. This finding suggests the implementation of SRI initiatives needs to involve a continuous community engagement in order to ensure that both companies and the community fully benefit from such SRI initiatives (Hitt et al., 2009:20; Steurer et al., 2005:267).

6.3.4 SRI initiatives and household’s characteristics

Having shown that the project had mostly a positive impact on the community of Bophelong, the remaining analysis is to identify determinants of the impact of SRI initiatives. Hence, this sub-section presents the findings on how variables such as socio-economic status of the household, household size, gender, age and education level of the household’s head affect the perceived impact of the SRI initiative. This sub-section starts with the explanation of the index for overall perceived impact and the cross tabulations between this perceived impact and household’s characteristics.

6.3.4.1 Satisfaction with overall perceived impact of the SRI project

The perceived impact of the SRI project was assessed based on the five questions on the overall impact of the project. These questions were based on the following
statements: ‘overall, I was satisfied with the implementation the re-roofing project’; ‘overall, I was satisfied with the way the project was planned’; ‘my roof/house is better than I expected’; ‘the new roof has made the maintenance of my house very easy’; ‘overall, I am happy with my new roof’; and ‘the project respondent to some of my housing needs’. From these questions, a SRI Index was constructed with expected lowest score of five and highest score of 25. In order to identify the status of a participant’s perceived impact, an average score for each participant was calculated. This average score was between one and five, and a participant with an average score above three (meaning that that he/she agrees with the five statements) was categorised as satisfied with the overall impact of the SRI project. A participant with an average score less than or equal to three was considered as being dissatisfied with SRI project. Participants’ status of satisfaction of the SRI project of re-roofing houses is in Figure 6.4.

Figure 6.4 shows that 82.2 percent of the participants were satisfied with the overall impact of the SRI project, while the remaining 17.8 percent were not satisfied. This implied that the SRI project of re-roofing houses met participants’ expectations, suggesting that community members received this project to address the housing needs within the community of Bophelong Township. This finding is in line with the theory of SRI, which states that companies’ SRI initiatives should meet expectations of the society Toppinen (2011:121).

Figure 6.4: Distribution of participants’ satisfaction with impact of the SRI project

Source: Survey data (20130
6.3.4.2 Socio-economic status and satisfaction with the SRI initiative

The distribution of status of the overall perceived impact of the SRI initiative within the three socio-economic statuses is in Table 6.15. This table shows that 16.1 percent of participants of low SES were not satisfied, while the remaining 83.9 percent were satisfied with the SRI initiative. Within the middle SES, the number of dissatisfied participants increased to 21.7 percent, while the number of those who were satisfied decreased to 78.3 percent. A further decrease is observed within the high SES, where 66.7 percent of participants were satisfied with the overall process of the SRI project; while 33.3 percent were dissatisfied. These results suggest that the level of satisfaction with the SRI project decreased with SES, implying that participants of low SES were more satisfied with the project than those of higher SES were. Thus, disadvantaged groups of the society tend to show more appreciation of SRI than other groups. This justifies why the SRIs strategies encourages companies to channel their community investments towards vulnerable groups of the society (Schueth, 2003:191).

Table 6.15: Perceived impact of the SRI initiative and socio-economic status

<table>
<thead>
<tr>
<th>Socio-economic status (SES)</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Low SES</td>
<td>16.1%</td>
<td>83.9%</td>
</tr>
<tr>
<td>Middle SES</td>
<td>21.7%</td>
<td>78.3%</td>
</tr>
<tr>
<td>High SES</td>
<td>33.3%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Total</td>
<td>17.8%</td>
<td>82.2%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.3.4.3 Household's heads gender and satisfaction with the SRI initiative

The overall satisfaction within the gender of the household's heads (HH) is in Table 6.16. The majority (84.7%) of participants from female-headed household were satisfied with the SRI project, while 15.3 percent of them were dissatisfied. However, the number of satisfied participant was less (77.8%) in male-headed households. This also emphasises that the impact of this SRI initiative was more appreciated within female-headed households.
### Table 6.16: Perceived impact of the SRI initiative and gender of the HH

<table>
<thead>
<tr>
<th>Gender of the HH</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Male</td>
<td>22.2%</td>
<td>77.8%</td>
</tr>
<tr>
<td>Female</td>
<td>15.3%</td>
<td>84.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.8%</td>
<td>82.2%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

### 6.3.4.4 Satisfaction with the SRI and HHs level of education

Having shown that less privileged community’s members tend to perceive SRI initiatives positively, one would expect household with lower level of education to perceive the SRI of re-roofing to be beneficiary. Table 6.17 reports the satisfaction with the process of the SRI within HHs education levels. A high level of dissatisfaction (25.2%) is observed among HHs with a level of education between grade 4 and 7, whereas the highest satisfaction was within the HHs with postgraduate qualifications. Overall there appears to be no clear trend on the level of satisfaction with the SRI project among these different education categories.

### Table 6.17: Perceived impact of the SRI initiative and education level of HH

<table>
<thead>
<tr>
<th>Education of HH</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Up to grade 3</td>
<td>14.0%</td>
<td>86.0%</td>
</tr>
<tr>
<td>Grade 4-7</td>
<td>25.2%</td>
<td>74.8%</td>
</tr>
<tr>
<td>Grade 8-11</td>
<td>4.3%</td>
<td>95.7%</td>
</tr>
<tr>
<td>Matric</td>
<td>16.7%</td>
<td>83.3%</td>
</tr>
<tr>
<td>Tertiary education</td>
<td>13.0%</td>
<td>87.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.8%</td>
<td>82.2%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

### 6.3.4.5 Satisfaction with the SRI within HHs age categories

The distribution of the satisfaction with the overall process of the SRI initiative among different age categories of the HHs is Table 6.18. The age is important as young HHs may be less satisfied than the old HHs. The HHs below 30 years showed a highest level of dissatisfaction (21.4%) followed by those between 60 and 69 years (20.9%).
The highest level of satisfaction with the SRI initiative was observed among the HHs between 50 and 59 years old. Once again there seems to be no clear trend of the level of satisfaction among different age categories, suggesting that the satisfaction with the SRI may not be influenced by the age of the HHs.

### Table 6.18: Perceived impact of the SRI initiative and HHs age categories

<table>
<thead>
<tr>
<th>HH Age Category</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Below 30 years</td>
<td>21.4%</td>
<td>78.6%</td>
</tr>
<tr>
<td>30-39 years</td>
<td>14.3%</td>
<td>85.7%</td>
</tr>
<tr>
<td>40-49 years</td>
<td>18.8%</td>
<td>81.3%</td>
</tr>
<tr>
<td>50-59 years</td>
<td>14.5%</td>
<td>85.5%</td>
</tr>
<tr>
<td>60-69 years</td>
<td>20.9%</td>
<td>79.1%</td>
</tr>
<tr>
<td>70 years and above</td>
<td>19.1%</td>
<td>80.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.8%</strong></td>
<td><strong>82.2%</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

### 6.3.4.6 Satisfaction with the SRI within HHs employment status

Results on level of perceived satisfaction with the SRI initiative within categories of employment status of the HHs are in Table 6.19. These results reveal that participants from households headed by employed heads tend to be more satisfied than those from households headed by unemployed ones. Participants from households headed by unemployed heads were less satisfied (76.2%) than those with HHs employed formally (85.7%). This lower level of positive impact on satisfaction among these households headed by unemployed heads may be linked with the issue of high expectations of providing employment created by the project, as discussed in Section 6.1. Unemployed HHs seemed to expect the SRI initiative of re-roofing to employ all of them and this was not possible. These findings point to an inadequate community engagement, especially during the planning of SRI initiative. A proper community engagement would minimise this dissatisfaction among unemployed HHs by promoting a full interaction between companies and the community (Steurer et al., 2005:267).
Table 6.19: Perceived impact of the SRI initiative and employment status of the HH

<table>
<thead>
<tr>
<th>Employment status of the HH</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Formally employed</td>
<td>14.3%</td>
<td>85.7%</td>
</tr>
<tr>
<td>Informal sector</td>
<td>0.00%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>23.8%</td>
<td>76.2%</td>
</tr>
<tr>
<td>Not economically active</td>
<td>18.3%</td>
<td>81.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.8%</td>
<td>82.2%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.3.4.7 Satisfaction with the SRI and HHs marital status

Results of the cross tabulation between satisfaction with the SRI initiative and HHs marital status are in Table 6.20. This table shows the majority (82.8%) of participants from households headed by unmarried heads, were satisfied with the overall impact of the SRI project of re-roofing; while 17.2 percent were dissatisfied. The number of satisfied participants appeared to be lower (80.3%) within participants from households headed by married heads, while the number of dissatisfied ones counted for 17.7 percent. Considering that unmarried HHs are mostly female who may not have proper means of supporting their households to ensure the well-being of their families (Chant, 2003:3), this finding emphasises that SRI initiatives are more acknowledged within a vulnerable group. This is in line with the SRI strategy of community investing (discussed in Section 2.2.4.3), which states that SRI initiatives should target disadvantaged communities (Schueth, 2003:191).

Table 6.20: Perceived impact of the SRI initiative and marital status of the HH

<table>
<thead>
<tr>
<th>Marital status of the HH</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Not married</td>
<td>17.2%</td>
<td>82.8%</td>
</tr>
<tr>
<td>Married</td>
<td>19.7%</td>
<td>80.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.8%</td>
<td>82.2%</td>
</tr>
</tbody>
</table>

Source: survey data (2013)
6.3.4.8 Satisfaction with the SRI within different household sizes and houses on the site

Table 6.21 summarises the perceived satisfaction of the SRI initiative within different household sizes.

**Table 6.21: Perceived impact of the SRI initiative and household size**

<table>
<thead>
<tr>
<th>Total number of people in a HH</th>
<th>Overall perceived impact status</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15.0%</td>
<td>85.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>18.9%</td>
<td>81.1%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>12.0%</td>
<td>88.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>17.5%</td>
<td>82.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>22.0%</td>
<td>78.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>21.1%</td>
<td>78.9%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>12.5%</td>
<td>87.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>33.3%</td>
<td>66.7%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>More than 9</td>
<td>50.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.8%</strong></td>
<td><strong>82.2%</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

Participants from households of four members and less appear to be more satisfied with the SRI initiative. A high level of dissatisfaction was observed within participants from households with eight members (33.3%) and nine members and above (50%). This suggests that households with many members were not satisfied with the SRI initiative of re-roofing houses. These findings are confirmed by the results in Table 6.22, which shows that the level of dissatisfaction was very high among participants from households with many houses on the site. Households with many members tended to have more than one house on the site; hence, they expected all the houses on their site to be re-roofed. However, the SRI initiative targeted specific houses and as a result, did not re-roof all the houses on the site. Therefore, these participants were dissatisfied when some of their houses were not re-roofed. Again these high expectations are related to the inadequate community engagement during the planning of the project, as discussed in Section 6.3.1 of this chapter.
Table 6.22: Perceived impact of the SRI initiative and number of houses in the site

<table>
<thead>
<tr>
<th>Number of houses on the site</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>1</td>
<td>13.2%</td>
<td>86.8%</td>
</tr>
<tr>
<td>2</td>
<td>32.4%</td>
<td>67.6%</td>
</tr>
<tr>
<td>3</td>
<td>31.3%</td>
<td>68.8%</td>
</tr>
<tr>
<td>4 and above</td>
<td>66.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.8%</strong></td>
<td><strong>82.2%</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)

6.3.4.9 Satisfaction with the SRI and the number years stayed on the site

Table 6.23 represents participants’ satisfaction and dissatisfaction of the perceived impact of the SRI initiative based on the number of years they have lived on the site. There appears to be an increasing trend, where the level of dissatisfaction tends to be high among the participants who have stayed for many years on the site. For example, the number of dissatisfied participants was lower (6.1%) among those who stayed on the site from one to 10 years compared to that (27.3) of those who stayed on the site for 60 years and more. Participants who stayed on the site for a longer period seemed to have more expectations from the SRI initiative. These findings suggest that participants who stayed on the site for a longer period were more dissatisfied with the impact of the SRI initiative because they had many houses on the site. As shown in Table 6.23, having many houses on the site created higher expectations that were not met by the re-roofing project.

Table 6.23: Perceived impact of the SRI initiative and number of years on the site

<table>
<thead>
<tr>
<th>Number years on the site</th>
<th>Overall perceived impact status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not satisfied</td>
<td>Satisfied</td>
</tr>
<tr>
<td>1-10 years</td>
<td>6.1%</td>
<td>93.9%</td>
</tr>
<tr>
<td>11-20 years</td>
<td>18.2%</td>
<td>81.8%</td>
</tr>
<tr>
<td>21-30 years</td>
<td>16.0%</td>
<td>84.0%</td>
</tr>
<tr>
<td>31-40 years</td>
<td>25.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>41-50 years</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>51-60 years</td>
<td>25.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>60 years and above</td>
<td>27.3%</td>
<td>72.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.8%</strong></td>
<td><strong>82.2%</strong></td>
</tr>
</tbody>
</table>

Source: survey data (2013)
6.3.5 Regression analysis of factors influencing satisfaction with the SRI initiative

Having shown that the status of satisfaction with the SRI initiative varied with households’ characteristics, it is important to test whether these characteristics have significant effects on the satisfaction with the SRI initiative. Before estimating the regression, a correlations among the variables was conducted to detect if there was a multicollinearity. The variables of the education attainment was found to be highly correlated with employment status and was not highly correlated with the dependent variable. The education was dropped from the model and the following binary logistic regression (from Equation 6.4) was estimated. The regression results are summarised in Table 6.24.

\[ HB_j = \beta_0 + \beta_1 GHH_j + \beta_2 AHH_j + \beta_3 MHH_j + \beta_4 ESHH_j + \beta_5 SES_j + \beta_6 HS_j + \beta_7 NES_j + \beta_8 NHS_j + e_j \]  

(6.5)

Before interpreting regression results, one has first to discuss the output related to the goodness fit of the model. The omnibus tests for coefficients set the null hypothesis for a poor fit, meaning that high chi-square and low p-values are desired. In the binary regression results in Table 6.24, the chi-square of 115.333 with a p-values of 0.000 (<0.01) suggests the null hypothesis for poor fit is rejected at the 1percent level of significance. Thus, the model passes the goodness fit’ test. Homer and Lemeshow test, which is interpreted differently from omnibus test, set the null hypothesis for the good fit and the alternative hypothesis for the poor fit of the model. Low chi-square (8.622) and high p-value (0.375) suggest the null hypothesis for good fit of the model cannot be rejected even at the 10 percent level of significance. Thus, Homer and Lemeshow test also concludes that there is evidence supporting the good fit of the model. Finally, Cox & Snell and Nagelkerke R Square values give an indication of the amount of the variation in the dependent variable explained by the model from a minimum of zero to a maximum of 1 (Pallant, 2013:183). The obtained R Square values of 0.373 and 0.497 indicate that 37.3 percent and 49.7 percent of the variability in the satisfaction with the SRI initiative is explained by the household’s characteristics considered in this model.
### Table 6.24: Regression results of the perceived impact

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>Sig.</th>
<th>Odds Ratios</th>
<th>95% C.I.for OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHH</td>
<td>0.640</td>
<td>0.367</td>
<td>0.081*</td>
<td>1.897</td>
<td>0.924 - 3.894</td>
</tr>
<tr>
<td>NSS</td>
<td>-0.038</td>
<td>0.104</td>
<td>0.716</td>
<td>0.963</td>
<td>0.786 - 1.180</td>
</tr>
<tr>
<td>NHS</td>
<td>-0.363</td>
<td>0.207</td>
<td>0.080*</td>
<td>0.696</td>
<td>0.464 - 1.044</td>
</tr>
<tr>
<td>HHS</td>
<td>0.097</td>
<td>0.086</td>
<td>0.261</td>
<td>1.102</td>
<td>0.930 - 1.305</td>
</tr>
<tr>
<td>SES</td>
<td>1.078</td>
<td>0.369</td>
<td>0.004***</td>
<td>2.939</td>
<td>1.425 - 6.062</td>
</tr>
<tr>
<td>AHH</td>
<td>0.216</td>
<td>0.117</td>
<td>0.065*</td>
<td>1.241</td>
<td>0.987 - 1.560</td>
</tr>
<tr>
<td>MSHH</td>
<td>0.423</td>
<td>0.417</td>
<td>0.311</td>
<td>1.527</td>
<td>0.674 - 3.459</td>
</tr>
<tr>
<td>ESHH</td>
<td>-0.557</td>
<td>0.457</td>
<td>0.223</td>
<td>0.573</td>
<td>0.234 - 1.403</td>
</tr>
<tr>
<td>Constant</td>
<td>1.39</td>
<td>1.12</td>
<td>0.121</td>
<td>4.015</td>
<td>-----</td>
</tr>
</tbody>
</table>

**Omnibus Tests of Model Coefficients**

<table>
<thead>
<tr>
<th>Log likelihood: 227.08</th>
<th>Cox &amp; Snell R² = 0.37</th>
</tr>
</thead>
</table>

**Hosmer and Lemeshow Test**

| Chi-square = 8.622 | P-value = 0.375 |

*** significant at 1 percent, ** significant at 5 percent and *significant at 10 percent

Source: Survey data

Results in Table 6.24 shows that coefficients for most of the variables have positive signs, except number of houses on the site (NHS), employment status of the household head (ESHH) and number of years stayed on the site (NSS) whose coefficients are negative. Since these are the expected signs, one has to proceed with interpretation of the effect of each variable.

The coefficient for HH gender (GHH) is positive and its p-value is less than 10 percent; meaning that the null hypothesis that this coefficient equals zero is rejected at the 10 percent level of significance. This implies that having a participant from female-headed household, as compared to a male-headed household, increases the probability of being satisfied with the SRI initiative. The odd ratio of 1.897 implies that participants from female-headed households were 89.7 (1.87-1) percent more likely to be satisfied with the SRI initiative than those from male-headed households. This confirms the cross tabulation results, which showed that participants from female-headed households were more satisfied with the SRI initiative than those from male-headed households were. Therefore, this implies that less privileged members of the
community (female-headed households in this case) acknowledge the SRI initiatives. This finding explains the SRI strategies of community investing (discussed in Section 2.2.4.3) that encourage companies to channel their SRI initiatives towards the vulnerable groups within the community (Schueth, 2003:191).

The coefficient for number of years stayed on the site (NSS) is negative; meaning that the probability of being satisfied with the SRI initiative deceases as the number of years a participant stayed on the site increases. This suggests that participants who stayed on site for a longer period tend to have more expectations, probably because they had built more houses on the site and only one of them was re-roofed. However, the p-value for this coefficient of 0.716 is greater than 0.1, suggesting that the null hypothesis for the coefficient = 0 cannot be rejected. Thus, the effect of the number of years stayed in the site on the satisfaction with the SRI initiative is not statistically significant at the 10 percent level of significance.

The coefficient for the number of houses in the site (NHS) is negative, implying that the probability of being satisfied with the SRI initiative of re-roofing houses increases as the number of houses in the site decreases. The p-value of 0.080 is greater than 0.1, meaning that that the null hypothesis for the coefficient = 0 is rejected at the 10 percent level of significance. Thus, the number of houses on the site has statistically significant effect on the probability of being satisfied with the SRI initiative. The odd ratio of 0.696 means that having an addition house on the site decreases the likelihood of being satisfied with the SRI initiative by 30.4 (0.696 -1) percent. The explanation of this finding is in qualitative analysis, which revealed that the community was not fully informed about the types of houses to be re-roofed as some of the members did not attend the community meeting during the planning of the SRI initiative. Thus, they expected all houses on the site to be re-roofed. This point highlights the importance of a proper community engagement in ensuring that the perceived value of SRI initiatives is not undermined (CCI, 2012:3; Freeman, 1999:234).

A positive coefficient for social-economic status (SES) suggests that belonging to a household of low SES, compared to medium and high SES, increases the probability of being satisfied with the SRI initiative. The p-value of 0.004 is less than 0.01, implying that the null hypothesis (for coefficient = 0) is rejected at the 1 percent level of
significance. Thus, SES has a statistically significant influence on the probability of being satisfied with the SRI initiative of re-roofing house. The odd ratio of 2.939 means that participants form a household of low SES were 193.9 (2.939-1) percent more likely to be satisfied with the SRI initiative of re-roofing house than those from households of medium and high SESs. This confirms the cross tabulation results, which showed that the participants of low SES were more satisfied with the SRI initiative than those of medium and higher SES were. This finding suggests that disadvantaged groups of the society tend to show more appreciation of the SRI initiatives than other groups. This is in line the SRI's strategies of community investments which encourages companies to channel their SRI initiatives towards vulnerable groups of the society (Schueth, 2003:191).

The coefficient for age category of the household is positive, suggesting that the probability of the being satisfied with the SRI initiative increases as the age category of the household head increases. The p-value of 0.065 is less than 0.1; suggesting that the null hypothesis for the coefficient equals zero is rejected at the 10% level of significance. Thus, the age category of the household head has significant effect on the satisfaction with the SRI initiative. The odd ratio of 1.241 means that the likelihood of being satisfied with the SRI initiative increases by 24.1 (1.241-1) percent as age category of household’s head increases by 10 years. This means the impact of the SRI initiative was perceived more positively among the older participants.

P-values for coefficients of household size, marital status and employment status of the household’s head are greater than 0.1, suggesting that the null hypothesis that these coefficients = 0 cannot be rejected at the 10 percent level of significance. This suggests household size, marital status and employment status of the household’s head did not have a statistically significant influence on the probability of being satisfied with the SRI initiative of re-roofing house.

6.3.6 SRI initiative of re-roofing project and the company's image

Having established the influence of various variables on the perceived impact on the SRI initiative, the remaining analysis is related to the impact of the project on the image of Company X. This analysis involves participants’ responses to questions related to knowledge of the company and their view of it before and after the SRI project.
Table 6.25: Perceived impact of the SRI project on the company’s image

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Strongly agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know that roof was changed by Company X</td>
<td>23.9%</td>
<td>4.9%</td>
<td>3.2%</td>
<td>3.2%</td>
<td>64.8%</td>
</tr>
<tr>
<td>I did not know much about Company X before the re-roofing project</td>
<td>10.1%</td>
<td>10.4%</td>
<td>2.8%</td>
<td>4.9%</td>
<td>71.8%</td>
</tr>
<tr>
<td>The project has changed the way I see Company X</td>
<td>15.0%</td>
<td>3.6%</td>
<td>4.5%</td>
<td>4.0%</td>
<td>72.9%</td>
</tr>
<tr>
<td>After the project, I consider Company X as a responsible company</td>
<td>4.9%</td>
<td>0.4%</td>
<td>3.6%</td>
<td>5.3%</td>
<td>85.8%</td>
</tr>
</tbody>
</table>

Source: Survey Data (2013)

Participants’ responses on such questions are summarised in Table 6.25. This table shows that 68 (64.8 + 3.2) percent of the participants were aware that their roofs were changed by Company X, while 28.8 (23.9 + 4.9) percent of them seemed not to know that Company X was involved in the re-roofing of their houses. This suggests that this proportion (28.8%) of beneficiaries was not informed fully about the re-roofing project; putting the emphasis on the issue of communication break-down between the company and beneficiaries before implementation, as highlighted in section 5.31. The next statement shows that 76.7 (71.8 + 4.9) percent of participants agreed that they did not know much about Company X before the SRI project, meaning that the project created awareness of the company. One should note that this question indicates that community members knew something about the company, but not much. Thus, the SRI project has increased community awareness about Company X. The SRI project did not only create awareness but also changed the way community members (76.9%) view the company. In fact, 91.1 (85.8 + 5.3) percent of participants agreed that they now see Arc Company X as a responsible company. This implies that the project achieved the company’s objectives of community acceptance and understanding of its corporate strategies in terms of CSR.

These findings are similar to others studies (Hossain et al., 2013; Luo & Bhattacharya, 2006; Tsai et al., 2010), which found that SRI initiatives played a vital role in improving a company’s image and reputation within the society. These findings, therefore, suggest that SRI initiatives do not only benefit the community but may also contribute to a company’s profitability by improving the position of the company within the society. This is in line with stakeholder approach (discussed in Section 2.3.2 of Chapter 2).
which states that SRI initiatives assist a company in maintaining a good relationship with all stakeholders and this eventually becomes a source of competitive advantage in a competitive environment (Good, 2002:4; Freeman, 2010:33).

### 6.4 SUMMARY AND CONCLUDING REMARKS

SRI initiatives involve different activities in the area of governance, environmental sustainability, and social and economic development. SRI initiatives are aligned mostly with the needs of the community and, therefore, can be viewed differently by various communities. Thus, an assessment of the impact of SRI initiatives can involve the collection of views for different individuals within the community and the companies involved in delivering SRI initiatives. Furthermore, it is important to align the assessment with the main objective of the SRI initiative. Company X, initiated and completed an SRI initiative of re-roofing houses with the community of Bophelong Township in the Emfuleni Local Municipality in Gauteng province of South Africa. An assessment of the perceived impact of this re-roofing initiative included a combination of qualitative and quantitative evaluation methods, with the use of a survey questionnaire and in-depth interviews with various community members.

The process of re-roofing was based mostly on types and the shape of house roofs targeted, meaning that it targeted specific houses, and in most cases, only one house per site was re-roofed. The majority of the sites covered by the SRI project had only one house and most of the beneficiaries have been staying on the site for more than 20 years and as a result, had extended their houses or had more than one house on the site. Although the demographic and socio-economic characteristics of beneficiaries were not the key focus of the SRI initiative, most of the beneficiaries came from households headed by females, with low socio-economic status and a low level of education; suggesting that they can be classified among the disadvantaged group of the community. The SRI initiative of re-roofing houses, therefore, benefitted less privileged community members of Bophelong, and this is in line the SRI strategy of community investing.

The SRI initiative of re-roofing houses did not only have short-term impact but also had a long-term impact on the community of Bophelong. This implies that the impact of the re-roofing project did not end with the provision of having a new roof but it
created temporary employment and provided skills that opened doors for future employment. Thus, most community members who worked on this SRI initiative were able to find employment elsewhere at the end of the project. Furthermore, the project increased the relations between the company and community members and contributed positively to the company’s image within the community of Bophelong.

Identified challenges of the SRI initiative of re-roofing are related to inadequate community engagement, especially during the planning stage of the SRI project. The inadequacies in communication, especially on the process of selecting beneficiaries, might have negatively affected social cohesion within the community of Bophelong. Despite these challenges, community members were satisfied with the SRI project of re-roofing the houses and agreed that the SRI project responded to some of their housing needs. A high level of perceived satisfaction was observed among the households with low economic status and households headed by a female or unemployed head. Socio-demographic factors such as gender and age of the household head, socio-economic status and the number of houses per site have a significant impact on satisfaction with the SRI initiative of re-roofing houses. The SRI initiative of re-roofing positively impacted the relationship between the company and community members, while at the same time, it created expectations for future initiatives within the community.

Overall, this assessment of the perceived impact of the SRI initiative of re-roofing houses showed that this initiative had both short- and long-term positive effects on the community of Bophelong. The view of the communities members plays a very important role in the literature of SRI as it bridges the gap caused by the problem of reporting SRI initiatives in numbers, which do not give a clear picture of how these SRI initiatives affect the end-users (society), especially in the long-term. In general, it can be concluded that SRI initiatives do not only benefit the community but also contribute to the improvement of a company’s image within the society.
CHAPTER SEVEN: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

Changes in economic, environmental and social conditions have exposed our society to many challenges such as hunger and poverty, epidemic diseases and dramatic climate changes. As business entities operating within the community, companies have an immense task of assisting the community to address these various challenges. To carry out this task, companies use SRI initiatives. Companies’ SRI initiatives mostly focus on environmental, social and economic activities that seek to improve the wellbeing of the society. These activities involve the promotion of social justice, community development, providing a healthy environment, and improving local infrastructural development. The SRI initiatives tend to be mostly developmental, suggesting that SRI may have an effect on the economic development. This study used various econometric models to analyse such effects of the SRI on economic development in South Africa. More specifically, as empirical objectives, this study:

- Assessed the effect of SRI initiatives on the financial performance of companies within the SRI Index;
- Determined the volatility of the SRI Index relative to the overall stock market;
- Identified the interaction between South African SRI sector and macroeconomic growth and stability;
- Identified the involvement of the local (Bophelong) community in designing SRI initiatives;
- Determined the expectations/preferences of a local community towards implemented SRI initiatives;
- Examined how close the SRI initiatives match the preferences (or expectations) expressed by the community of Bophelong; and
- Determined how various socioeconomic and demographic characteristics of community members affect their perceptions towards SRI initiatives.
The current chapter summarises the findings and concludes the study. It proceeds with summaries of the reviewed theoretical approaches and the major empirical findings. It then provides conclusions and the necessary recommendations. Finally, it outlines the limitations of the study and suggests areas for future research.

7.2 SUMMARY OF THE STUDY

7.2.1 Theoretical background

The theoretical background of this study was twofold, namely the conceptual review of SRI theories and the review of empirical studies that tested these theories. The conceptual review involved the discussion of theoretical approaches explaining the need and the role of SRI, while the review of empirical studies compared the findings from previous studies related to this topic.

7.2.1.1 Theoretical concepts of SRI

Socially responsible investment refers to investment strategies that encourage individual investors and companies to include social related issues in their investments. SRI is a multidimensional concept, which arouses debates and contestations about its relevance to the business world and society. Different terms have been used to define SRI but the most used in research are ethical investments and socially responsible investments. The term ethical investment was used mostly in earlier years, and has been replaced by a more modern concept of SRI. SRI can be defined as an investment process that considers social and environmental consequences of investments in order to identify companies that meet certain requirement of social responsibility. In the South African context, three dimensions are used by the JSE to conduct a comprehensive assessment of South African companies’ policies and practices of social responsible investments.

Socially responsible investors can achieve their goals by investing in SRI funds or by directly investing in companies that meet high standards of corporate social responsibility (CSR). SRI funds refer to investments managed by institutional and individual investors in the form of unit trusts and mutual funds, while CSR refer to SRI initiatives/activities implemented by companies based on the needs of the society in which they operate. Both CSR and SRI are explained broadly by the three strategies
of SRI, namely screening, shareholder activism and community investment. The screening process plays an important role in encouraging companies to comply with criteria of SRI. It offers investors an opportunity to align their personal values with their financial objectives while earning competitive returns. Shareholder activism strategy seeks to facilitate a direct dialogue between companies’ management and shareholders about incorporating SRI in corporate policy and practice. The strategy of community investing gives investors and companies an opportunity to have a direct impact on improving the life standard of the community members. Community investing is classified as primary investment of SRI because it has an influential and visible impact on economic development of local community.

Approaches explaining theories behind these SRI strategies tend to stimulate discussions and contestations about the motive behind SRI initiatives and their relevance to the companies and the community at large. In this study, these approaches have been classified into two major categories, namely shareholder’s value-maximisation approach and stakeholder approach. On the one hand, shareholders value-maximisation approach involves a group of theories with one common view that a company should have a sole social responsibility of creating wealth for its shareholders. Proponents of this approach insist that the maximisation of shareholders’ value should be the sole motivation behind a company involvement in SRI initiatives. This approach of valuation maximisation mostly focuses on the process of maximising profits but it tends to give less attention to the damage caused by such a process.

On the other hand, stakeholder approach involves theories that consider socially responsible activities as a means of interaction between a company and its immediate society. The stakeholder approach argues that companies should take into consideration all their constituencies known as stakeholders. Stakeholders refer to every individual or group who can directly/indirectly affect (or be affected by) a company’s activities. Advocates of stakeholder approach argue that, in a competitive environment, a company may not survive without a support from all its stakeholders. This means that maintaining a good relationship with all stakeholders can be a source of competitive advantage because such stakeholders have resources and power to influence a company’s survival, competitiveness and profitability. In general, theories
under stakeholder approach normally have one common objective of encouraging companies to create sustainable economic and non-economic values for all stakeholders through SRI initiatives.

Despite some differing views, these SRI theories tend to agree that SRI initiatives can contribute to economic development through the improvement of living conditions of the majority of the population by promoting economic growth, poverty alleviation, technological improvement, employment creation and increased economic activities. This means that companies’ SRI initiatives play an important role in balancing economic, environmental and social dimensions. In this study, this balance was explained by integrated framework linking SRI initiatives and sustainable economic development. This framework highlighted that the link between SRI initiatives and sustainable economic development can be observed at both microeconomic and macroeconomic levels. At microeconomic level, socially responsible initiatives contribute sustainable economic development by improving of living standards of company’s individual stakeholders and/or having a positive impact on a specific society or a community, while at macroeconomic level, SRI initiatives tend to contribute to improvement of macroeconomic conditions.

7.2.1.2 Empirical studies on SRI

Having suggested that SRI initiatives may have an effect on both micro- and macroeconomic development, then it was imperative to check whether the empirical findings from previous studies support this claim or not. Overall, a company’s involvement in SRI initiatives are expected to affect companies’ financial performance but empirical studies on the relationships between company’s social and financial performances have produced mixed results. Some studies supported a negative or positive relationship between the variables, whereas other studies provided inconclusive or non-significant results. The link between a company’s financial and social performances was found to be affected mostly by the lack of transparent disclosure of socially responsible activities. This lack of transparency for poor social responsibility disclosure is caused by the lack of resources, lack of legal requirements and knowledge/awareness, poor performance in SRI and the fear of bad publicity. Due to these factors, companies tend to over-report their positive impact on the society and
under-report their negative impact on the society. The reporting of a company’s social performance is very important as it is among the tools used to assess companies’ involvement in SRI initiatives.

In addition to reporting of company’s SRI initiatives, the relationship between a company’s social performance and financial performance is also affected by methodological differences in the empirical studies and the inconstancy in the measurement of financial performance. Some studies measured a company’s financial performance based on accounting measures, while others used market-based measurements of financial performance. Hence, this has generated a debate on the relationship between socially responsible activities and companies’ financial performance because each of these measures has it weakness and strengths. In the context of this study, the market-based measurements of financial performance was used and supplemented with other econometric analysis in order to minimise error related to the model.

Another point shown by empirical studies of the relationship between companies’ social and financial performance is related to the use of two types of the methodology, namely the event study methodology and regression analysis. The event study methodology is based on market measures of financial performance and is mostly used to examine the short-run effect of social performance on financial performance. The regression analysis is combined mostly with correlation analysis and tends to estimate the relationship between social performance and financial performance based on accounting-measures of financial performance. The review of empirical studies has shown that both the event study methodology and regression analysis produced mixed results. This mixed pattern of results provides evidence that the relationship between companies’ financial performance and social performance could be positive, negative or non-significant. This mixed pattern is part of the ongoing big debate on this topic and such debate is possibly inevitable, given the empirical studies seem to test different hypotheses, use different methodologies and consider different in sectors or industries at different time periods.

A review of empirical studies on the link between SRI and economic development showed that SRI initiatives have a significant effect on sustainable economic
development, suggesting that through SRI initiatives companies directly play a role in addressing challenges facing the society. Although empirical studies confirmed that SRI initiatives contribute to economic growth and social upliftment, it was identified that there is still need for more research on the community’s perceived impact of SRI initiatives.

7.2.2 **Empirical findings of the study**

The empirical analysis of this study was conducted on primary and secondary data. First, an econometric analysis of the SRI Index and its macroeconomic determinants was conducted. This analysis used secondary data to achieve the first three objectives of this study, which involved establishing the effect of SRI initiatives on the financial performance of South Africa companies; determining the volatility of the SRI Index relative to the overall stock market; and identifying the interaction between of various macroeconomic variables and the South African SRI sector. The second part of empirical analysis focused on the community’s views of the impact of the SRI initiatives on the local economic development. This analysis was based on the case of re-roofing SRI initiative implemented by a specific company (identified as X) in Bophilong Township. The primary data were collected from community members of Bophilong Township, who benefited from the SRI initiative, with the use of survey questionnaire and interviews. Since these two parts of the empirical finding aimed to achieve different objectives, their summaries are provided separately.

7.2.2.1 **Findings on the SRI Index and its determinants**

The review of the literature suggested the SRI sector seems to interact with macroeconomic conditions. To assess this link between the SRI Index and its macroeconomic determinants, econometric models such as Johansen co-integration test, vector error correction model (VECM), generalized autoregressive conditional heteroscedasticity (GARCH), Granger causality test and the event study methodology were used. The analysis was based on secondary data running from May 2004, which was the date of the launch of the JSE SRI Index, to June 2014. Factors considered include variables such as the share price and returns of companies in the SRI Index, the return of the whole SRI Index and the JSE All Share Index, and various
The SRI Index was used as proxy of the SRI sector because this index reflects companies' involvement in SRI initiatives.

The JSE SRI Index was launched in May 2004 as a tool for a comprehensive assessment of South African companies’ policies and practices against globally and locally related social responsibility standards. The JSE SRI Index is reviewed annually and based on the information acquired during the review period; companies can be removed from or added to the SRI Index. For the period between 2004 and 2014, the number of companies participating in the review process has increased but there was no considerable increase in the number of companies qualifying for inclusion in the index. On average, six companies were added to the SRI Index each year, while about four companies were removed from the index each year. This implies that that the involvement in SRI initiatives increased for some companies, while it declined for other companies.

To test the effect of SRI initiatives on the companies' financial performance, companies added to the SRI for the first time, and those removed from the SRI Index due to a declining involvement in SRI initiative were used, and an event study methodology, with an event period of 41, was used for analysis. From 2004 to 2014, the average abnormal returns of companies added to the SRI Index for the first time was very volatile. Most of companies added to the SRI Index enjoyed positive average abnormal returns on the day of announcing the SRI constituents but such abnormal returns were not statistically significant. On contrary, companies removed from the SRI earned significant negative abnormal returns, implying that companies in the SRI Index are encouraged to maintain their involvement in SRI initiatives.

Besides testing returns earned by companies’ involved in SRI initiatives, their risk exposure was tested. The GARCH model was used to test whether the SRI Index has its unique exposures. Thus, the volatility of the SRI Index relative to the whole stock market was tested. The conditional variance graphs revealed that the volatility of the SRI Index has been similar to that of the overall South African stock market and this was supported by GARCH results, which showed that returns’ volatility of both the SRI Index and the JSE ALSI has been similar. This implies that South African socially responsible investors are not exposed to unique risks, and as result, they can
contribute to the wellbeing of the society without exposing themselves to the additional exposures.

Interaction between the SRI Index and variables of macroeconomic growth and stability was tested by using the VECM and ARDL models. The ARDL results failed to confirm a long-run relationship effect of economic growth and employment on the SRI Index. However, the use of Johansen co-integration test revealed that the SRI has a long-run effect on economic growth. In other words, the relationship between economic growth and the SRI sector was found to be one way in both short- and long-runs; suggesting that the South African SRI sector has a considerable effect on economic growth, but change in economic growth seems to have no effect on the SRI sector.

In addition to economic growth, the South African SRI sector also was found to be linked to improvement of macroeconomic stability variables. In the short-run, the SRI Index was found to have a significant effect on variables of the macroeconomic stability but no significant effect was found of these variables on the SRI Index. In the long-run, the SRI tends to be effected by the macroeconomic stability variables. This means that the demand for socially responsible investments is driven by changes in macroeconomic conditions in long-run but not in the short run.

Overall, the results on interaction between the SRI Index and macroeconomic variables suggests development of the South African SRI sector is associated with employment creation and increase in the quantity and the quality of investment, which eventually contributes to the economic growth and economic stability. This effect of SRI on macroeconomic development may also be assessed at local economic development through an analysis of the local community views of SRI initiatives discussed in the sub-section that follows.

7.2.2.2 Findings on perceived effect of SRI initiatives on local microeconomic development

To assess the effect of SRI initiatives on local microeconomic development, a case of the re-roofing project, implemented by Company X in a local area was used. This SRI initiative involved the re-roofing of 2200 houses in the two townships, Bophelong and
Boipatong, which belong to the Emfuleni Local Municipality in the Gauteng province. This study focused on the township of Bophelong because the process of re-roofing was completed fully in this township at the time of this study, whereas the Boipatong re-roofing process was still in the implementation phase. This assessment was conducted in order to achieve the empirical objectives of identifying the views of local community towards SRI initiatives; establishing the involvement of the local community in designing and implementing the SRI initiatives; examining how close the SRI initiatives match the expectations expressed by the community; identifying the perceived impact of the SRI initiative on the local community of Bophelong; and determining the effect of the SRI initiatives on the image of company involved in SRI initiatives.

Using a combination of a quantitative research method, by means of survey questionnaire, and qualitative method, through interviews, the data collected from 247 beneficiaries of the project and another six participants (three community members, one community leader and two company representatives) who were interviewed. The perceived impact of the SRI initiative was assessed based on the three major phases of a project, namely planning, delivery and post-delivery phases. This type of assessment was followed in order to establish whether the SRI project of re-roofing houses met the community’s expectations at all stages.

The analysis of demographic and socio-economic characteristics of participants showed that the SRI initiative benefited less privileged members of the community. Most of beneficiaries were from households headed by females, with low socio-economic status and a low level of education. This suggests that the SRI initiative provided a new roof to less privileged community members, and this is in line with the SRI strategy of community investing. In addition to providing a new roof to beneficiaries, this SRI initiative created temporary employment and provided skills that opened doors for future employment. Thus, the SRI initiative of re-roofing houses did not only have short-term impact but also had a long-term impact on the community of Bophelong.

Another finding of this study was that the majority of beneficiaries were not willing to assist as volunteers on the SRI initiative. Interestingly, most of these beneficiaries
were unemployed and did not have the skills required to work on the re-roofing project; meaning that volunteering could have exposed them to some training. Considering that community members who worked on the project were able to get employment at the end of the project, volunteering could have given these community members some skills and experience that could assist them in finding jobs in the future.

In addition to employment opportunities, the SRI initiative of re-roofing houses increased the relations between the company and community members and contributed positively to the company’s image within the community of Bophelong. Findings of this study showed that this initiative responded to community needs in terms of housing and participants indicated that they have started communicating with Company X on how it can help with other challenges they face. This initiative opened the door for the community to approach the company as it was indicated that ordinary community members are now confident in approaching the company to discuss issues of concern in the community. This implies that the initiative achieved the goal of corporate citizenship as the company now is considered as any other member of the community due to its involvement in this SRI initiative.

Major challenges of the SRI initiative of re-roofing were related mostly to inadequate community engagement, especially during the planning of the SRI initiative. Due to these inadequacies in communication, some participants mentioned that this SRI initiative created some additional costs. However, this study did not identify any quantifiable costs associated with this SRI initiative. Due to this inadequate communication, some of the community members did not understand the process of selecting beneficiaries and as a result, some members who did not benefit from the initiative were jealous of those who benefitted. This issue of jealousy can create tensions among community members and this may eventually reduce the social cohesion within the community of Bophelong.

Despite these challenges, community members were satisfied with the SRI initiative of re-roofing the houses and agreed that this initiative responded to some of their housing needs. A high level of perceived satisfaction with the SRI initiative was found among the households with low economic status and households headed by a female or unemployed head. Factors such the number of years stayed on the site and the
number of houses per site also tend to have a significant impact on satisfaction with the SRI initiative of re-roofing houses. Overall, the SRI initiative of re-roofing positively impacted the relationship between the company and community members; while at the same time, it created expectations for future initiatives within the community.

7.3 CONCLUSIONS

A critical assessment of value-maximisation and stakeholder approaches shows that the two approaches of SRI theories agree that the long-run value of a company should be maximised but they differ on the process of maximising a company’s value. Regardless of different views of SRI theories, it should be understood that responsible companies are expected to act as a conscientious citizen within a society. This means that they should conduct their businesses accountably in the eyes of the community and make decisions that are not harmful to any member of the community and environment. This can be achieved through companies’ involvement in SRI initiatives and such involvement are not associated with additional risk exposures to companies involved. However, declining in involvement in SRI initiatives has a negative effect on share return, implying that Thus, this study concludes that South African socially responsible investors consider unexpected decline in companies’ social performance as bad news.

The demand of SRI is linked to changes in macroeconomics condition such as economic growth and macroeconomic stability. The significant interaction between the growth of the SRI Index and macroeconomic growth and stability means that a stable and growing economy is needed to ensure the development of the South African SRI sector. In stable economic conditions, companies can generate more profit and eventually have more funds to allocate to SRI initiatives, which eventually contribute to both microeconomic and macroeconomic development. Thus, this the interaction between SRI sector and changes in macroeconomic factors found by the current study is important for investors and policy makers.

At microeconomic level, companies’ involvement in the SRI initiatives is perceived positively by the local community members; meaning that the SRI has a perceived positive impact on local economic development in Bophelong Township. It is important to note that this impact is mostly maximised when the community is involved in
designing and implementing SRI initiatives. This is a very critical point of the SRI and it is in line with the strategy of community investing, which focuses on improving the standard of living in the community through capacity building such as training and employment creation. Thus, the analysis of the case of re-roofing houses in Bophelong provided some insight on how the local community perceive impact of the SRI initiative.

SRI initiatives do not only benefit the receiving community members, but also improve the company’s image and reputation within the community. A well-implemented SRI initiative tends to increase a company’s awareness within the community and has an effect on how the community views such a company. If not communicated well to the community, SRI initiatives may create high expectations that cannot be met by a company involved in SRI. These high expectations should however not undermine the contribution of SRI initiatives on economic development as all expectations of communities cannot be addressed at once. Hence, a company’s involvement in SRI initiatives is a continuous process, which changes with the need of the community.

7.4 RECOMMENDATIONS AND IMPLICATIONS OF THE STUDY

SRI initiatives seem to affect company performance negatively and the growth of the SRI sector has significant effect on macroeconomic conditions. For SRI initiatives to contribute to the economic development, they should be aligned with the needs of the community. This can be achieved through an increase in community involvement in planning of SRI initiatives so that community members can be part of the process of SRI. As much as companies are expected to implement socially responsible initiatives, community members should also be encouraged to meet these companies halfway. Based on the findings of this study, this section attempts to suggest some recommendations that may be relevant to government, companies, investors and the community at large.

- Encouraging companies in the SRI Index to be consistent in their involvement in SRI initiatives

Considering that a decline in a company’s involvement in SRI initiates is associated with significant negative returns; companies in the SRI Index should be encouraged
to maintain their involvement in SRI initiatives. This will keep companies in the SRI Index and avoid sending bad signal to the market, that a company is no longer social responsible. Companies’ managers are therefore encouraged to meet investors’ expectations by developing appropriate strategies to maintain good social performance.

- **Promoting the growth of the SRI sector**

The growth of the South African SRI sector is linked with changes in macroeconomic conditions, suggesting that improving investment in SRI funds will eventually boost macroeconomic growth. Thus, policies encouraging South African funds managers to channel their investments in SRI related investments should be developed. A good strategy to adopt is the model of government pension fund which involves investing the majority of the pension money in SRI funds. This strategy can encourage companies to be more social responsible. This will eventually boost South African SRI Sector without compromising investment’s profitability as the volatility of the SRI Index was found to be similar to that of the overall market.

- **Ensuring growing and stable macroeconomic conditions**

Since link between macroeconomic conditions and the growth of the SRI Index has been established, growing and stable macroeconomic conditions would promote growth in the SRI Sector. Thus, policy-makers should maintain growth and stability in economy in order to ensure stability in demand for SRI and hence, promote the development of the SRI Sector.

- **Encouraging SRI initiatives in companies’ area of specialisation**

Companies should be encouraged to implement and maintain SRI initiatives in their area of specialisation. SRI activities are more productive if they fall under a company’s area of specialisation as fewer resources can be used when a company is dealing with its routine activities. Thus, assessment of companies’ social performance should consider developing ways of encouraging companies to implement their SRI initiatives that are mostly in line with the area of specialisation. SRI initiatives in a company area of specialisation may improve the impact of SRI initiatives on the development of the
community, as long as such initiatives are aligned with challenges faced by the community.

- **Encouraging private-public partnership in SRI initiatives**

  The government should find ways of working with companies in private-public partnership initiatives in SRI, which may assist in addressing socio-economic challenges facing the community in low income area such as Bophelong. Community leaders should also play their role in this process by finding ways of getting companies and other interested stakeholders on board so that they can channel any future SRI initiatives towards addressing issues raised by the community members, such as a clinic- and house-extensions.

- **Improving the involvement of community members in SRI initiatives**

  Companies and community leaders should ensure that the involvement of community members in planning of SRI initiatives is improved so that the negative effects of SRI initiatives are minimised. This can minimise the issue of misunderstandings by aligning community expectations with the objective of SRI initiative to be implemented.

- **Community engagement should be a continuous process**

  Community engagement should not end with the implementation of the SRI initiatives but it should be a continuous process, even after the delivery of the SRI project. This could involve hosting follow-up meetings between companies involved in SRI initiatives and the community at the end of the project. This continuous process can assist in finding ways of identifying and addressing the possible negative effect of the SRI initiatives.

- **Linking volunteering with SRI initiatives**

  Volunteering should be used to maximise the impact of the SRI on the local community development. Unemployed community members should be encouraged to work as volunteers on the SRI initiatives so that they can develop skills that may assist them in finding employment after the completion of the SRI initiative. This may also reduce the costs associated with a specific SRI initiative and hence, leaving companies with
additional funds to increase the number of beneficiaries or implement more SRI initiatives.

7.5 LIMITATIONS AND AREAS FOR FUTURE RESEARCH

Limitations this study mostly emerge from the analysis of SRI initiatives at local community. The perceived impact of SRI initiatives found by this study was related to a specific project, which addressed the housing needs of the local community. Thus, one has to be careful in generalising these findings to SRI initiatives of a different nature. Additionally, the sample used in this study mostly comprise of the population from Bophelong Township where the reroofing project was completed, suggesting that there is a need of a follow-up study once the re-roofing in the second township of Boipatong is completed. Lastly, this study mostly focused on the beneficiaries of the SRI projects (due to financial limitations) with a limited number of non-beneficiaries being interviewed; meaning that perceptions of non-beneficiaries were only captured through interview. Thus, it was not possible to compared perceptions across beneficiaries and non-beneficiaries of this SRI initiative. To address some of these limitations, the following areas may be explored for future research:

- Different projects can be used to identify the perceived impact of companies’ SRI initiatives that can be generalised across different sectors;
- A comparison of high income and low income areas on a larger scale (nationwide survey) can assist in establishing how various groups perceive the impact of SRI initiatives; and
- Further studies on links between volunteering and SRI can shed more light on how the effect of SRI initiatives can be maximised through volunteering of community members.
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van der Ahee, G., & Schulschenk, J. 2013. The State of Responsible Investment in South Africa. Ernst & Young, Climate Change & Sustainability Services.


ANNEXURE: QUESTIONNAIRE

NB: The information in this questionnaire will be treated confidentially

<table>
<thead>
<tr>
<th>Questionnaire #</th>
<th>Date</th>
<th>House Number</th>
<th>Interviewer</th>
</tr>
</thead>
</table>

Please note that the Head of the household should preferably answer the questionnaire

### A BACKGROUND INFORMATION

1. **What is the position of the respondent in the Household?**
   - Head (1)
   - Spouse (2)
   - Child (3)
   - Extended family member (4)
   - Boarder (5)

2. **Gender of the head of the household**
   - Male (0)
   - Female (1)

3. **How many housing units are on the site**

4. **Record one main material used for the walls of the dwelling**
   - Bricks
   - Cement / concrete
   - Corrugated iron / zinc
   - Wood
   - Plastic
   - Cardboard
   - Tile
   - Mud
   - Thatching
   - Asbestos

5. **What is the main material of the dwelling floor?**
   - Natural floor (mud/send)
   - Bricks
   - Wood
   - Cement
   - Tile
   - Capet
   - Other, specify:__________

6. **What language do you mostly speak at home?**
   - Sesotho
   - IsiZulu
   - Sepedi
   - Tshivenda
   - isiNdebele
   - English
   - IsiXhosa
   - Siswati
   - Afrikaans
   - Other:__________

7. **How long have you (respondent) stayed in the house (years)**

8. **What is the ownership status of the house in which you live?**
   - Owner with a Title Deed
   - Owner without a Title Deed
   - Renting
   - User without paying rent
   - Other, specify:__________

### B HOUSEHOLD COMPOSITION

*Please provide the following information about your households*

1. **Number of people in the household**

2. **Composition of members**
   - (Code list 2)

3. **Age of each member in years**

4. **Sex**
   - Male = 0; female = 1

5. **Marital Status**
   - (code list 5)

6. **Highest qualifications (still at school)**
   - (Code list 6)

7. **Qualifications (not at school)**
   - (Code list 7)

8. **Employment Status**
   - (Code list 8)

9. **Sector of employment**
   - (Code list 9)

10. **(10 – 13 for unemployed only)**
    - Skills of unemployed (list 10)

11. **Duration of unemployment in years**

12. **What is the Unemployed doing presently?**
    - (list 12)
<table>
<thead>
<tr>
<th>INCOME (Take home pay per month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Wages/salaries (Formal)</td>
</tr>
<tr>
<td>14 Old Age Pension</td>
</tr>
<tr>
<td>15 Child Grant from Government</td>
</tr>
<tr>
<td>16 Other Grants from Government</td>
</tr>
<tr>
<td>17 Help (family/relatives/help in kind)</td>
</tr>
<tr>
<td>18 Informal activities</td>
</tr>
<tr>
<td>19 Other (Specify)</td>
</tr>
</tbody>
</table>

### Assets

Record whether the household has the following assets

<table>
<thead>
<tr>
<th>CASSETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1 Refrigerator</td>
</tr>
<tr>
<td>2 Television</td>
</tr>
<tr>
<td>3 Radio</td>
</tr>
<tr>
<td>4 Bath/shower in house</td>
</tr>
<tr>
<td>5 Air-condition (at least 1)</td>
</tr>
<tr>
<td>6 Microwave</td>
</tr>
<tr>
<td>7 Kitchen appliances (Blender, Coffee maker, etc…)</td>
</tr>
<tr>
<td>8 Dishwasher</td>
</tr>
<tr>
<td>9 Washing machine</td>
</tr>
</tbody>
</table>

### Assessment of Re-Roofing Project

Household involvement in planning of project (prior to implementation)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My household was informed about the project proposal at least 6 months prior the implementation of the project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2 The proposal of reroofing my house was clearly explained to me/my household before hand</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3 My household had a clear understanding of objectives of the project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4 My household was asked to give an input (opinions/suggestions) on the reroofing project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5 The project proposal took into account my inputs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6 The process of selecting beneficiaries was fair</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7 I knew what was expected from me before the process of re-roofing my house began</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8 Overall, I was satisfied with the way the project was planned</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Implementation of the project (involvement and impact)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The re-roofing process inconvenienced my household</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2 The re-roofing process took longer than I expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3 If my household would have been asked to assist with re-roofing of my house, without any pay, we would assist</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4 If a member (s) of my household was offered a temporary job on the project, he/she would take it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5 Some of my household members had some skills/experience needed for the re-roofing project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Impact/perceived benefits after the completion of project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>My roof/house is better than I expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My whole house looks better than it was before the re-roofing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The new roof has made the maintenance of my house very easy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Overall, I am happy with my new roof</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The project respondent to some of my housing needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The new roof has increased the value of my house</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I don’t like the new roof because it is noisy when it is raining</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Some of my neighbours are not happy with their new roof</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Some of my neighbours, who did not benefit from the project, are jealous of my new roof</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The new roof has increased (or will increase) costs of maintaining my house</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Re-roofing my house was not a good idea</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The impact of the project of the company's image</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I’m aware that the roof of my house was changed by Company X</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I did not know much about Company X before the re-roofing project</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The reroofing project has changed the way I see Company X</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>After the project I consider Company X as a responsible company</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Additional comments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>What is the most significant impact of the project to your household? (Anything you liked the most about project)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What aspects of the project could have been improved? (Anything you did not like about the project)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other comment or concern regarding the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>