

## **Capital Market Performance of Social Responsibility Investing (SRI) Firms**

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**Abstract:** *As corporate social responsibility (CSR) becomes increasingly emphasized recently, socially-responsible investing (SRI) funds have attracted capital market participants' interests. The study examines the capital market performance of the firms whose stocks are selected into the SRI funds. An SRI fund is the one that screens the companies whose stock investors buy on a list of socially-responsible criteria. So, the firms whose stocks are included in SRI fund (i.e., SRI firms) are meant to carry out well their social responsibility. While CSR activities are socially desirable, the study examines whether CSR firms perform well in capital market as they may convey good corporate image to their present and potential customers and capital investors. The study empirically tested the hypothesis with the capital market performance measure of Tobin's Q, based on a sample of 1,994 year-firms whose stocks were included into SRI funds during the period from 2007 to 2010 in Korea (SRI funds were launched to market mainly from year 2007 in Korea). The study found that SRI fund firms performed better in the capital market (Korea Securities Market).*

**Keywords:** *Corporate Social Responsibility, CSR, Social Responsibility Investing, SRI, Market Performance, Tobin's Q*

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### **1. INTRODUCTION**

#### **1.1 Background and Purpose of the Research**

As corporate social responsibility (CSR) becomes increasingly emphasized recently, socially-responsible investing (SRI) funds have attracted capital market participants' interests. An SRI fund is the one that screens the companies whose stock investors buy on a list of socially-responsible criteria. So, the firms whose stocks are included in SRI fund (hereafter, SRI firms) are meant to carry out well their social responsibility.

Professional management has been enlarging its investment according to sustainable and responsible investing (SRI) strategies. It is asserted that "the individuals, institutions, investment companies, money managers and financial institutions that practice SRI seek to achieve long-term competitive financial returns together with positive societal impact. SRI strategies can be applied across asset classes to promote stronger corporate social responsibility, build long-term value for companies and their stakeholders, and foster businesses, generate jobs or introduce products that will yield community and environmental benefits" (US SIF Foundation, 2012).

A report in the United States also showed that SRI has grown substantially recently: the total US-domiciled assets under management using SRI strategies expanded from \$3.74 trillion at the start

of 2012 (22% increase since the end of 2009) to \$6.57 trillion at the start of 2014, an increase of 76%. These assets now account for more than one out of every six dollars under professional management in the United States. The assets and numbers of funds incorporating ESG (Environmental, Social and Governance) criteria have continued a dramatic growth since 2007: an increase to \$4.31 trillion in 925 distinct ESG funds in 2014, more than four times the \$1.01 trillion tracked in 2012 (US SIF Foundation, 2012 and 2014).

In this kind of business environment, CSR and SRI activities have played more and more important role and thus, the enormous resources the corporations have expended in those activities have significant implications to their shareholders. Are those activities are also worthwhile to the shareholders in terms of their long term wealth increase? Would ESG (or SRI) factors, when integrated into investment analysis and decision making, offer investors performance advantages, especially potential long-term advantages? To answer this question many studies have been done for more than thirty years, but their findings have been mixed and ambiguous.

This study, employing a research design somewhat different from previous studies, examines the capital market performance of the firms their stocks are selected into the SRI fund portfolio in Korea and attempt to provide an answer.

## 1.2 Research Composition

The remainder of the research is constructed as follows. Part 2 reviews the previous research on the financial or capital market performance of the CSR firms or SRI (so called, ethical) funds. Part 3 establishes the research hypothesis and describes the research model and the criteria and procedure of the sample selection. Part 4 discusses the empirical results of the study, and Part 5 presents the summary and limitations of the study.

## 2. LITERATURE REVIEW: FINANCIAL/ MARKET PERFORMANCE OF SRI OR ETHICAL FUNDS/ FIRMS

Due to the recent movement toward mutual benefits anticipated among companies and society, managers and investors are increasingly aware of the importance of social responsibility. Following this movement, prior studies on CSR such as Adams and McNicholas (2007), Carroll (1999), Dhaliwal et al. (2012), Magness (2006), and Orij (2010) discuss the theoretical background of ethical behaviors of firms. Firms' decisions over ethical behavior such as monetary donations are heavily influenced by the interests or overall philanthropic view of their stakeholders, namely, stockholders, customers, employees, governments, local communities and managers (Bentham, 1996, Carroll, 1999; Freeman, 2010; Garriga and Mele, 2004). Lev et al. (2010) argue that firms may conduct CSR activities to develop their reputations because they believe a good reputation leads to increased sales. Johnson (1966) reports that firms in a monopolistically competitive market use charitable contributions as a means of gaining a strategic advantage over their competitors.

Over the last three decades in OECD countries, increasingly more firms have been certified as Socially Responsible (CSR). This leads to research attempting to establish a link between CSR certification/activities and the financial performance of firms.

Luther et al. (1992) investigate U.K. ethical unit trusts and find weak evidence of out-performance of ethical funds over their conventional counterparts on a risk-adjusted basis. However, they consider their results as limited on the basis of being too varied, as well as too closely correlated with low yields to allow for any relation between returns and ethical effects in SRI portfolios. They also find a small company bias and low dividend yields for their screened portfolios. Hamilton et al. (1993) compare the returns between seventeen SRI funds and one hundred and seventy conventional investment vehicles established before 1985, and also between fifteen SRI funds and one hundred and fifty conventional investment vehicles established since 1986. They do not find any significant difference between both groups.

Waddock and Graves (1997) construct a CSP (Corporate Social Performance) index (as proposed by Ullman (1985), based on the eight CSP attributes rated across the entire S&P 500 by an

independent rating service firm, KLD (Kinder, Lydenberg, Domini). For a sample of 467 firms, they use this CSP index and profitability measure (ROA, ROE & ROS) as dependent and independent variable alternately, controlling for size (total sales, total assets, number of employees), debt level, and industry, and find not only that changes in corporate social performance (hereafter, CSP) positively influences financial performance, but also the opposite, that changes in financial performance positively influence CSP, which supports the slack resource theory: Better financial performance potentially leads to more slack resources available for CSP activities. Derwall et al. (2005) examine environmentally friendly and environmentally non-friendly stock portfolios and find significant outperformance by the former portfolio. Derwall et al. (2011) argue that the different investment styles of investors might be the reason for the variety of results.

Poddi (2009) consider that such ambiguity came mainly from the static nature of the analyses and from whether performance is affected more by certification costs or by increasing sales due to its effect on reputation, and used a CSR index that intersects two of the three main international indices (Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index) so as to find that CSR firms have better long-run performance, due to higher sales and profits arising from reputation effect, reduced long run costs and increased social responsible demand, outweighing some initial costs. Dhaliwal et al. (2012) report that CSR disclosures affect analysts' behavior in a more favorable way.

Contrary to the above evidences for a positive link between CSR certification and the performance of firms, the following studies have reported a negative link. Gregory et al. (1997) find that ethical funds tend to underperform their benchmarks, employing a matched pair and a cross-sectional analysis. Mallin et al. (1995) compare the market performance between ethical trust funds (namely, SRI trust funds) to non-ethical funds, and find that ethical trust funds outperform non-ethical trust funds, but that both trust fund groups perform worse than the market. Statman (2000) finds that average return on SRI mutual funds is a higher, but not significantly, than conventional mutual funds.

Bauer et al. (2005) examine German, UK, and US ethical mutual funds. They find no evidence of significant differences in risk-adjusted returns between ethical and conventional funds for the period between 1990 and 2001, and that ethical funds seem to be less exposed to market variability than conventional funds. Bauer et al. (2006) extend their 2005 study to the Australian market using the same methods. They investigate the performance of 25 ethical mutual funds compared to the World scope Australian Index, and find the same performance for the period between 1996 and 2003. Kreander et al. (2005) study 60 European funds, 30 ethical and 30 non-ethical over the period from 1995 to 2001, using a matched pair analysis (on the basis of age, size, and investment universe), and find no signs of significant outperformance of the ethical funds over the non-ethical funds. They use log returns to reduce the effect of skewness in the return distribution.

As seen so far, the results of the studies in OECD countries have been ambiguous and not shown any common relationship. However, most studies in Korea in this area have revealed that CSR activities or CSR firms lead to higher financial performance. Kook et al. (2011) find that CSR activities improve the corporate values in Korea's market. Kim (2009), investigating the characteristics of the firms that participate in CSR activities, shows that CSR firms tend to have longer age, higher growth potential, and better corporate governance, and that CSR activities are positively related to the firm value. Based on this, he suggested that firms can derive a long-term benefit through CSR activities although such activities are cost factors in the short run.

Shin (2011) analyzes empirically the effects of CSR expenditure (contribution expenditure ratio and KEJII(Korea Economic Justice Institute index)) on market value of firms listed on Korea Exchange, and showed that the CSR expenditure has nonlinear and inverted U shaped effects on firm value since CSR expenditure has a positive and significant effect on firm value as the investment on intangible assets (reputation), whereas it has a negative and significant effect on firm value as the overinvestment by management discretion and the excessive perquisite consumption for maximizing manager's private utility. KEJII has a positive and significant effect on firm value. CSR expenditure has positive and significant effects on large firms as well as small and medium firms firm.

Yoon et al. (2012), for a sample of seventy one SRI fund corporations in Korea for the period of early 2003 through late 2010, find that SRI corporations perform relatively better financially after being included into SRI funds than before being included: the inclusion into SRI funds has significant positive effects on each of the two profitability measures such as operating profit margin and return on equity, and on each of the two growth measures such as revenue growth and operating profit growth. They also find that a control variable, the size of SRI funds has significant positive effects on those four financial measures, and that another control variable, the number of employees has also significant positive effects on the profitability and growth measures except for no significant effects on the return on equity measure. They interpret this result as SRI entities becoming superior investment targets by both institutional and individual investors. The analysis results are as follows.

### 3. RESEARCH MODEL AND SAMPLE SELECTION

#### 3.1 Research Model

As discussed in the literature review, the associations between CSR firms or funds and their financial/market performance have appeared mixed or ambiguous even though they tend to be positive in Korean studies.

The rationale for possible negative association seems to be that CSR firms incur costs and thus competitive disadvantage that might otherwise be avoided (e.g., make investment in pollution control when other competitors do not), and that there are few readily measurable economic benefits to CSR activities while there are numerous costs which directly reduce profits and shareholder wealth. This line of thinking is fundamental to Friedman's (1970).

On the other hand, the rationale for possible positive association seems to be based on the notions that firms' SRI strategies would enhance the corporate image, reputation and respect from the consumers, building long-term value for them through increased sales revenue and employee's morale and productivity, and that, where a trade-off exists between the firm's explicit costs (e.g., higher payment to employees, maintaining good employee relationship) and its implicit costs (e.g., product quality costs), the latter is potentially substantially greater than the former.

This study, not taking sides, is conducted to find which rationale is more valid, especially in Korean business environment, applying a more appropriate research design which previous studies did not adopt. This study's design is better than others in two respects as follows.

First, almost all of the above studies focus on some particular CSR activities or ethical/SRI funds. They compare their performances with those of their benchmarks. However, the performance of an ethical/SRI fund reflects not only the performance of the companies included on the fund portfolio, but also performance or capability of the fund. Therefore, a more valid approach to find the association would be to focus on the individual firms included in the ethical/SRI funds rather than funds themselves to see the performance of CSR activities.

Secondly, financial performance of a firm is measured usually by two approaches, a financial ratio approach based on publicly available financial statements and market value (firm's stock price movement) approach. This study adopts the market value approach because market price of the stock can reflect reputation/image effects and future prospects of the firm whereas historical financial ratios can't capture such things.

The above arguments lead to the hypothesis of the study in null formats follows.

**H<sub>0</sub>:** *Ceteris paribus*, the inclusion of a firm's stock into SRI fund does not affect the capital market performance of the firm (hereafter, SRI firm).

To test the hypothesis, the following model is established. The variable representing inclusion of a firm's stock into SRI fund is measured by *SRI*, an independent variable, and the value of the firm, *TQ*(Tobin's Q), the independent variable. Other variables are added for the controlling purpose.

$$TQ_{it} = \alpha_0 + \beta_1 SRID_{it} + \beta_2 ROE_{it} + \beta_3 OCFS_{it} + \beta_4 SIZE_{it} + \beta_5 GRS_{it} + \beta_6 LEV_{it}$$

$$+ \beta_7 CR_{it} + \beta_8 MSH_{it} + \beta_9 FSH_{it} + \sum_{i=1}^3 \beta_{10} YD_{it} + \sum_{k=1}^{11} \beta_{13} IND_{ik} + \varepsilon_{it} \quad (1)$$

Where

$TQ_{it}$  : Tobin's Q of firm i in year t (MV of total equities/BV of total assets);

$SRID_{it}$  : 1 if firm i is an SRI fund firm in year t, and 0 otherwise;

$ROE_{it}$  : Return on equity (net income/average equity) of firm i in year t;

$OCFS_{it}$  : Net operating cash flows/beginning total assets of firm i in year t;

$SIZE_{it}$  : Natural log of total assets of firm i at the end of year t;

$GRS_{it}$  : Growth rate of sales of firm i in year t;

$LEV_{it}$  : Leverage ratio (total liabilities/total assets) of firm i at the end of year t;

$CR_{it}$  : Current ratio of firm i at the end of year t;

$MSH_{it}$  : Share of major stockholders and their related party of firm i in year t;

$FSH_{it}$  : Share of foreign stockholders of firm i in year t;

$YD_{it}$  : Dummy variable for year control, 0 or 1;

$IND_{ik}$  : Dummy variable for industry control, 0 or 1

The dependent variable, TQ is Tobin's Q and computed as the market value of the total of stockholders' equity and liabilities divided by the carrying amount (book value) of total assets. Tobin's Q is known as a measure of a firm's capital market or financial performance, most popularly used in the previous studies. It is mainly affected by the present and prospective profitability, and thus profitability measures of  $ROE$  and  $OCFS$  are included in the model as control variables. Firm size,  $SIZE$  (measured in total assets here) and sales growth,  $GRS$  are also very commonly used factors influencing market value of the firm and are added as controls.

Total liabilities/total assets,  $LEV$  and current ratio,  $CR$  measure a firm's long-term and short-term financial risk, and thus are also added as controls, very important variables affecting market value of the firm. Control variables of  $MSH$  and  $FSH$ , meaning share of major stockholders and their related party, and share of foreign stockholders, respectively have been found to affect market value of Korean firms in previous studies.  $YD$  is included as a dummy variable to control for potential year effect, and  $IND$ , as another dummy for industry controlling that differences in CSR activities and R&D investment levels are highly likely to exist among different industries.

### 3.2 Sample Composition

The sample data for the study was acquired from a well-known Korean fund valuation firm that specializes in analyzing SRI fund data. SRI funds were launched very lately, mainly from year 2007 in Korea. Therefore, the sample initially consisted of the firms whose common stocks were listed in Korea Securities Market and included in SRI funds for the four year period from 2007 to 2010. The sample was further screened to satisfy the following criteria.

- 1) The firm does not belong to the financial industry.
- 2) The firm does not have capital stock impaired.
- 3) The firm's fiscal year-end is December.
- 4) The firm's financial statements are available from TS-2000, a data base of Korea Listed Companies Association.

The first criterion is employed because operating characteristics, financial statement forms and accounts of financial companies are very different from non-financial ordinary companies. The second criterion is necessary because management of companies with capital stock impairment is likely to make extraordinary decisions, quite different from those of companies with normal financial condition. The third criterion is applied in order to secure equivalence among sample firms as much as possible. As seen in Tables 1 and 2, final 391 firms in 89 SRI funds were

selected for the 2007~2010 period after they passed through all the selection criteria, producing a sample size of 1,994 year-firms.

**Table1.** Sample Selection Procedure (2007~2010)

Selection Steps for Sample	Year-Firm
All year-firm observations from the Korea Securities Market (KSM) excluding financial companies during 2007~2010	3,373
(Less) Capital-Impaired or Non-December Fiscal Year-End Firms	(329)
(Less) Firms without Available Financial Statements	(1,050)
<b>Total</b>	<b>1,994</b>

The distribution of sample by year is presented in Panel A of Table 2. The number of SRI firms is highest as 107 in 2010 and lowest as 93 in 2008, but appears not very different year to year. The distribution of sample by industry based on Korea Standard Industrial Classification is presented in Panel B of Table 2. "Medical materials and Medicine; Rubber and Plastic Product; Chemical Products" industry firms take the highest proportion, more than one fifth of the total sample.

#### 4. EMPIRICAL RESULTS

##### 4.1 Descriptive Statistics and Correlation Analysis

The descriptive statistics such as mean, standard deviation, minimum, and maximum values for each of the dependent, independent, and control variables, all used in the model are as seen in Table 3. The mean value of the independent variable, SRID is 0.1976. This means that SRI firms are 19.76% of all the sample year-firms.

**Table2.** Distribution of Sample Firms

(Panel A) Sample Distribution by Year

Year	No. of SRI Funds	Sample Size (No. of Year- Firms)	No. of SRI Firms for 2007~2010	No. of SRI Firms for Consecutive Three Years*
2007	31	532	100	-
2008	17	488	93	-
2009	16	491	94	69
2010	25	520	107	75
<b>Total</b>	<b>89</b>	<b>1,994</b>	<b>391</b>	<b>138</b>

\* No. of firms included in this category for 2007 ~ 2010 is 138.

(Panel B) Sample Distribution by Industry

Industries	No. of Year-Firms	Proportion(%)
Manufacturing Beverages and Food Products	127	6.37%
Manufacturing Textiles, Leather, Bags, and Shoes	94	4.71%
Manufacturing Pulp, Paper, and Paper Product, and Furniture	79	3.96%
Medical materials and Medicine; Rubber and Plastic Product; Chemical Products	435	21.82%
Manufacturing Primary Metal Products	156	7.82%
Manufacturing Equipment, Machinery, Electronic Component, Computer, Image & Communication Instruments	283	14.19%
Manufacturing Motor Vehicles (Automobile, Trailer, and Transportation Equipment)	143	7.17%
Manufacturing Briquette, Refined Petroleum Product, Providing Gas, Steam, and Air Conditioning	43	2.16%
General Construction	119	5.97%
Wholesale Trade and Commodities Brokerage, Sale of Motor Vehicles and Parts, Sales of Automobiles and Components	154	7.72%
Land, Water (Maritime) and Air Transportation	55	2.76%
Specialized Services, Computer Programming, System Integration & Management, Educational Services (Information and Communications)	306	15.35%
<b>Total</b>	<b>1,994</b>	<b>100%</b>

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**Table3.** Descriptive Statistics

Variable	Mean	Standard Dev.	Minimum	Median	Maximum
TQ	2.1998	1.9447	0.1902	1.7270	32.2049
SRID	0.1961	0.3971	0	0	1
ROE	0.0754	0.1636	-0.8634	0.0855	0.4205
OCFS	0.0564	0.1067	-0.4687	0.0535	0.5157
SIZE	19.5580	1.4704	16.9514	19.2565	23.9134
GRS	0.1801	0.7669	-0.9985	0.0995	22.8772
LEV	0.4748	0.2132	0.0658	0.4770	0.8391
CR	0.8370	0.6782	0.0705	0.7105	5.2135
MSH	0.3856	0.1431	0	0.4245	0.5250
FSH	0.1006	0.1439	0	0.0352	0.8706

$TQ_{it}$  : Tobin's Q of firm i in year t;

$SRID_{it}$ : 1 if firm i is an SRI firm in year t, and 0 otherwise;

$ROE_{it}$ : Return on equity (net income/average equity) of firm i in year t;

$OCFS_{it}$ : Net operating cash flows/beginning total assets of firm i in year t;

$SIZE_{it}$ : Natural log of total assets of firm i at the end of year t;

$GRS_{it}$ : Growth rate of sales of firm i in year t;

$LEV_{it}$ : Leverage ratio (total liabilities/total assets) of firm i at the end of year t;

$CR_{it}$  : Liquidity Proxy of firm i in year t (= current liabilities/current assets);

$MSH_{it}$  : Share of major stockholders and their related party of firm i in year t;

$FSH_{it}$  : Share of foreign stockholders of firm i in year t;

The Pearson's correlation coefficients of all the variables used in the model are provided in Table 4. Multi collinearity would not pose a problem in the regression analysis since the variance inflation factor (VIF) of the correlation matrix is only 1.6425, a far smaller than 10. As an index that measures how much the variance of an estimated regression coefficient is increased due to collinearity, VIF quantifies the severity of multi collinearity in an ordinary least squares regression analysis. All other things being equal, lower levels of VIF are desired: higher levels of VIF are known to affect adversely the results associated with a multiple regression analysis. Various recommendations for acceptable levels of VIF have been published in the literature, and most commonly, a value of 10 has been recommended as the maximum level of VIF (e.g., Kutner et al., 2004; Hocking et al., 1983).

As seen in Table 4, the correlation coefficient between SRID and TQ is significantly positive, implying that SRI firms tend to have higher TQ. The correlation coefficients between SRID and ROE, OCFS, SIZE, LEV, CR, and FSH are all significantly positive (at 1%), which means that SRI firms tend to have higher ROE, OCFS, LEV, CR, and FSH and to be bigger in asset size. Only the correlation coefficient between SRID and MSH is significantly negative, which means that SRI firms tend to have lower share of major stockholders and their related party.

**Table4.** Pearson's Correlation Coefficients

	TQ	SRID	ROE	OCFS	SIZE	GRS	LEV	CR	MSH	FSH
TQ	1									
SRID	0.229** *	1								
ROE	-0.163***	0.186**	1							
OCFS	0.028	0.154**	0.426**	1						
SIZE	0.194** *	0.581**	0.157**	0.109** *	1					
GRS	0.045**	0.048** *	0.125**	0.081**	0.002	1				

LEV	0.453** *	0.100* **	-0.037* -	-0.122** **	0.203* **	0.108** *	1			
CR	0.197** *	0.089* **	-0.127** -	-0.071** **	0.184* **	0.005	0.329** *	1		
MSH	-0.101*** -	0.119** -	0.048* *	-0.013	-0.055** -	-0.033	0.103** -	0.031	1	
FSH	0.120** *	0.385* **	0.176* **	0.191* **	0.471* **	-0.010	-0.083** -	-0.012	-0.054** -	1

1) \*, \*\*, or \*\*\*: Significant at a 10%, 5%, or 1% level, respectively

2) See <Table 3> for definitions of variables.

### 4.2 Mean Comparison Analysis

In parallel with the Correlation Analysis, we can analyze the characteristics of SRI firms relative to those of Non-SRI by comparing means for each variable between the two groups. As seen in Table 5, means of all the variables except MSH are significantly (at 1%) greater in SRI firms than in Non-SRI. The mean of MSH is significantly smaller in SRI. These results are all consistent with what we see in the correlation matrix (See the column of SRID).

**Table5.** Comparison of Variable Means between SRI vs. Non-SRI Firms

Variable	SRI Firms (1)	Non-SRI Firms (2)	Mean Difference [(1)-(2)]	t Value
TQ	3.1026	1.9795	1.1231	10.52***
ROE	0.1372	0.0604	0.0768	10.12***
OCFS	0.0897	0.0483	0.0414	6.95***
SIZE	21.2877	19.1361	2.1516	31.87***
GRS	0.2547	0.1619	0.0928	2.15***
LEV	0.5177	0.4643	0.0535	4.59***
CR	0.9587	0.8073	0.1514	3.97***
MSH	0.3510	0.3941	-0.0431	-5.47***
FSH	0.2128	0.0732	0.1396	18.63***

1) \*\*\*: Significant at a 1% level.

3) See <Table 3> for definitions of variables.

### 4.3 Multiple Regression Result

The regression coefficient of SRID carried a significantly positive value as seen in Table 6. This means that the null hypothesis is rejected in favor of the existence of positive association CSR firms and their financial/market performance: SRI firms perform better in the capital market (Korea Securities Exchange). This can be interpreted as that SRI firms receive a good respect from the economic community and signal better prospect in the future.

Regarding the control variables, the regression coefficients of OCFS, LEV, and FSH are significantly positive, and only that of ROE is significantly negative, all at a 1% level.

**Table6.** Multiple Regression Result

Variable	Regression Coefficient.	t Value
Intercept	1.2636	1.93
SRID	<b>0.9039</b>	7.84
ROE	-3.2767	-13.01
OCFS	2.5672	6.62
SIZE	-0.0440	-1.29
GRS	0.0203	0.42
LEV	4.4106	22.22
CR	-0.0189	-0.32
MSH	-0.0050	-0.02
FSH	1.5086	5.05
F Value	43.11***	
Adjusted R <sup>2</sup>	0.3271	
N	1,994	



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1) \*, \*\*, or \*\*\* : Significant at a 10%, 5%, or 1% level, respectively.

2) See <Table 3> for definitions of variables.

For an additional analysis purpose, the definition of the independent variable, *SRID* was slightly changed such that its value is equal to 1 if a firm is included into SRI fund for three years consecutively and 0 otherwise. The purpose of the additional analysis is to see how the regression results would change if firms are included into SRI funds for a longer period.

The additional regression exercise did not change the previous regression result very much as seen in Table 7. Table 7 shows the newly produced coefficients and their t values together with the original ones taken from Table 6. The regression coefficient of *SRID* still carries a positive value, significant at 1%. The coefficients of most control variables carry values with the same sign except that *SIZE*'s coefficient changed from in significantly negative to in significantly positive value. Values of F and Adjusted R<sup>2</sup> are also almost the same even though they decreased slightly. Therefore, the test result still remains the same. .

**Table7. Additional Multiple Regression Result: Consecutive Three Years**

Variable	Regression Coefficient.	t Value	Non-Consecutive, From <Table 6>	
<i>Intercept</i>	-0.4142	*	-0.68	1.2636
<b><i>SRID</i></b>	<b>0.6513</b>	***	<b>3.99</b>	<b>0.9039</b>
<i>ROE</i>	-3.1411	***	-12.36	-3.2767
<i>OCFS</i>	2.6686	***	6.81	2.5672
<i>SIZE</i>	0.0442		1.38	-0.0440
<i>GRS</i>	0.0304		0.63	0.0203
<i>LEV</i>	4.4518	***	22.19	4.4106
<i>CR</i>	-0.0196		-0.33	-0.0189
<i>MSH</i>	-0.0980		-0.37	-0.0050
<i>FSH</i>	1.7044	***	5.66	1.5086
F Value	40.23***		43.11***	
Adjusted R <sup>2</sup>	<b>0.3196</b>		<b>0.3271</b>	
N	1,994		1,994	

1) \*, \*\*, or \*\*\* : Significant at a 10%, 5%, or 1% level, respectively.

2) See <Table 3> for the definitions of variables.

## 5. CONCLUSION AND FUTURE RESEARCH

The study found that SRI firms performed better in the capital market (Korea Securities Market). This result is the same whether a SRI firm is defined as a firm whose stock is included into SRI funds only one year or for three years consecutively for the whole test period. This evidence implies that SRI firms receive a good respect from the community and signal better economic prospect for the firms' share holders.

The study did not examine the change in Tobin's Q of a firm after the firm becomes an SRI firm. If a future study does it, it would add valid evidence on the association in issue. Now that the association proves to be positive, there would be a strong motivation for the management of a company to turn their company into an SRI firm. This aspect might promote earnings management behavior if corporate earnings are an important factor to be selected as an SRI firm. In fact, this study already showed that SRI firms tend to have higher ROE. Therefore, it would be interesting if this study is extended to examine such earnings management issue.

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