Equity Carve-Outs and Corporate Social Responsibility

by

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A research project submitted in partial fulfillment of
the requirement for the degree of Master of Finance

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Abstract

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This study examines the extent to which corporate social responsibility (CSR) alters the stock response to the announcement of equity carve-out (ECO). Using a sample of the US ECOs over the 1991-2001 periods and employing the event study methodology, our results do not lend credence to the positive effect of CSR. Indeed, our empirical evidence does not show any significant effect of CSR on the abnormal return and cumulative abnormal return associated with ECO announcement. Possibly because the two views of CSR have merit or due to market efficiency.

Keywords: Corporate Social Responsibility; Equity Carve Out; Abnormal Return
# Table of Contents

Chapter 1: Introduction .................................................................................................................. 1
  1.1 Purpose of the Study .............................................................................................................. 1
  1.2 Background: The Popularity of ECO and CSR ................................................................. 2
  1.3 Outline of the Paper ........................................................................................................... 3

Chapter 2: Literature Review .......................................................................................................... 5
  2.1 The Empirical Study of Equity Carve Out .......................................................................... 5
  2.2 The History and Development of Corporate Social Responsibility ......................... 8
  2.3 Theoretical Basis of the Study ......................................................................................... 10
  2.4 Objectives ....................................................................................................................... 11

Chapter 3: Methodology and Data ................................................................................................. 12
  3.1 Research Design ............................................................................................................... 12
  3.2 Data Source ..................................................................................................................... 15
  3.3 Measurement of Corporate Social Responsibility ......................................................... 15
  3.4 Hypothesis ...................................................................................................................... 16

Chapter 4: Results Analysis ........................................................................................................... 18
  4.1 Data Overview ................................................................................................................ 18
  4.2 Descriptive Statistics ....................................................................................................... 18
  4.3 Regression Results .......................................................................................................... 22

Chapter 5: Conclusion ................................................................................................................... 25

Reference ........................................................................................................................................ 27
Chapter 1: Introduction

1.1 Purpose of the Study

Given the growing concern on the correlation between corporate activities and the social benefits, corporate social responsibility (CSR) becomes a popular score to measure the performance of a corporation. For instance, during the recent decades, the pressure on managers to engage in CSR is greater than ever before. Many companies have built a CSR strategy these years (Rangan, Chase and Karim, 2012). Furthermore, CSR is important enough to merit the core business strategy. On this regard, according to the research of Attig, Ghoul, Guedhami and Suh (2013), credit rating agencies tend to award relatively high ratings to companies with higher CSR score. Researchers achieved different results on the correlation between the CSR and financial performance.

The CSR score could affect various corporate operations, even the stock price. There is some existing empirical work related to the analysis of the effect of the CSR score. Attig, Ghoul, Guedhami and Suh (2013) present evidence on the relationship between CSR and firms’ credit ratings. Mahoney and Thorne (2006) examined the relationship between the structure of the executive compensation and the CSR index. We contribute to this growing line of inquiry by providing novel evidence on the role of CSR in altering the stock response to ECOs.
We consider the event of equity carve out (ECO), because ECO is an appreciated strategy in the financial markets, especially for large firms having uncertainty over strategic synergies and lacking information (Perotti and Rossetto, 2007). Generally, the stock price response to ECO could be affected by several factors, such as the size of the firm, the financial leverage and the strategic options.

Since the CSR score could affect the credit rating of a company and the credit rating is one of the factors that may affect the abnormal return of the ECO, the CSR score may have some impacts on the ECO. Thus, the purpose of the study is to analyses the impact of the CSR on ECO by testing the abnormal return generated from the ECO of firms with different CSR score.

1.2 Background: The Popularity of ECO and CSR

Equity carve out can be defined as the activity that a parent company creates and sells the stock in a subsidiary to the public while keeping control (Sachdeva and Shall, 2009). While, the parent firm often retains a controlling interest in the partitioned subsidiary, each ECO, however will have its own board, operating CEO, and will issue its own financial statement. The recent years, the ECO becomes a quite popular mechanism in the financial market. Many companies, especially some large companies choose the ECO to reach a better performance. Usually, ECO is the first stage of either to dispose of parent
interest in a subsidiary or eventually re-acquire the subsidiary’s publicly traded shares.

The early study and literature on CSR began as early as 1950s (Carroll, 1999). The definition and concept of CSR expands and develops with the growth of modern business. Many countries and regions adhere to the principles and practice of CSR. Differences exist in the detail of the CSR index and framework in each economic area. As is defined by Business for Social Responsibility, CSR refers to achieve commercial success in ways that honor ethical values, and respect people, communities, and the natural environment (GAO, 2005). Canada promotes CSR principles and practices to Canadian businesses and measure the CSR index of the Canadian companies with the hope to build a more innovative, productive, and competitive business environment (Industry Canada, 2013).

1.3 Outline of the Paper

The first chapter of this paper is a brief introduction of the purpose of study, which summarizes the importance of CSR scores and the potential relationship between the ECO and CSR. A brief literature review is presented in the second chapter. In the second chapter we elaborate also on the underpinnings of ECO. The methodology and data employed in this paper are presented in chapter 3, in which we also discuss our main hypotheses and
underlying assumptions. The fourth chapter would present the analysis of results. Conclusions will be provided in the last chapter of the paper.
Chapter 2: Literature Review

2.1 The Empirical Study of Equity Carve Out

During the recent decades, with the development of the financial market, equity carve out (ECO) becomes a popular way when corporations disclosure the initial public offer. However, views against ECO rose at the same period. One thing should be sure about ECO is the inherent assumption that the asset that is being carved-out could not derive its full asset value under the existing corporate structure and a carved-out will accurately value the subsidiary if, part of equity is carved out and sold in IPO.

Among the research papers on ECO, a large part focuses on the compare of the ECO to spin-off. Michaely and Shaw (1995) analyzed the relative performance of a spin-off and an equity carve-out when a corporate divests assets based on a sample of 91 master limited partnerships that were issued to the public. The study of Geersing (2008) compares the value creation for the parent company by equity carve-outs and that by spin-offs. This paper illustrates which method creates more value for the parent company and the shareholders using both short term and long term performance after restructuring.
Another major part of the literatures referred to the various impacts of the ECO and the performance valuation. Hand and Skantz (1999) study the importance of book and tax factors in initial public offerings using ECO. Their study specially inspect the reasons any of the shares offered in the subsidiary IPO would be sold by the parent instead of being newly issued by the subsidiary. Thompson (2011) provides a comprehensive initial evaluation of the changing issuer objective and partial price adjustment hypotheses as applied to carve-out parent initial and three-year returns for the period 1988-2006.

Fu (2004) examines whether an increase in corporate disclosure after ECO would lead to a reduction in information asymmetry among investors of the parent firm and whether the reduction is value-enhancing. He also tests the market overreaction in ECO with evidence on insider trading. Kayanga (2008) focuses on the effect of shareholder-rights protection on the financial performance using a sample of firms that initiated a carve-out during the period 1983-2004.

The event study methodology and regression are widely used in the research of equity carve out. Different database and hypothesis are employed in these writings. Lopez (2005) studies the short-term effect of the ECO using the event study methodology with a sample of 92 ECOs from 1995 to 2000.
Hand (2006) examines the source of the widely recognized positive mean excess stock return earned by parent firms when they have announcements that they are carving out stock in a subsidiary. Hand hypothesis that the excess return is due to noise traders who optimistically misinterpret a carve-out’s true value-irrelevance, rather than to the impounding of new value-enhancing information by sophisticated investors.

In the research on the ECO and the changes of corporate control (Heather, 2011), the researcher explores another possible explanation for equity carve-out gains. This study offers a corporate control hypothesis in which equity carve-outs help changes in corporate control. Heather hypothesizes that parent firm share price responses to announcements of ECO are affected by investors' expectations of future takeover activity in carved-out subsidiaries positively. He points that equity carve-outs allow bidders who are able to create more value to avoid the cost of taking over whole entities by splitting companies into separate businesses.

Sun and Chen (2012) test whether ECO announcements generate any stock price reaction and then inspects the sources of the probable wealth gains based on the study of a sample of 129 ECO in Taiwan during the period of 1994 to 2007. Their paper provides empirical evidence that there are significantly positive stock price reactions during initial announcements of ECO, which is
consistent with the evidence from the empirical study covered in U.S., Europe, and Singapore.

2.2 The History and Development of Corporate Social Responsibility

The concept of CSR has a long history and develops with the growth of modern business. With the emergence of the labor movement and the industry revolution, more concerns raised on the business effect on the society and environment. At the same period, the business philanthropy became a trend through the core industry (Carroll, 2008). Although the business philanthropy was not a regular procedure and standard index that time, Carroll (2008) points that the business philanthropy as the early construct of the corporate social responsibility.

The early academic literatures could date back to the 1950s. The initial definition of CSR was set forth by Bowen (1953). He defined the CSR as an obligation of businessman, which required businessman put more attention on the social effect when doing business decisions. The concept of the CSR highlights the correlation between the business activities and social development. What was more, the emergence of CSR widen the sphere of finance performance valuation.
The concept of CSR developed rapidly through the period between the 1960s and the 1970s. During this period, movements and researches issued on the topic of labor rights, consumer protection and environmental preservation rose, which provides both theatrical and practical foundation. According to Johnson (1971), a responsible corporation should consider the interests of employees, suppliers, dealers, local communities and the nation as a whole instead of chasing a greater return of shareholders only. Carroll (1979) built the earliest comprehensive construct of the CSR index, a three-dimensional CSR theoretical model involved of corporate responsibilities, social issues of business and corporate actions. However, critical views against the CSR also rose during the same period.

Carroll’s three-dimensional CSR model was refined and extended during the period of 1980s and 1990s. Wartick and Cochran (1985) integrated the principles of corporate responsibility, the policies of social issue management and the process of action into a progressing system. Wood (1991) further reformulated the two three-dimensional CSR models by stressing the performance of CSR initiatives.

Since the beginning of the twenty-first century, researchers focus more on the empirical study of CSR index and the application of CSR initiatives. Idowu and Papasolomou (2007) analyses the motivations of modern corporations in issuing CSR reports to their stakeholders. Their study further establishes the
reasons these entities suddenly become more moral using the empirical results of the UK companies. Cézanne and Rubinstein (2012) examine the contribution of the CSR in the area of corporate governance based on the empirical analysis of official reports and semi-structured interviews of the four major French telecommunications operators.

Various empirical models and methodology have been introduced in the CSR index studies with the development of the econometrics. Different writings focus on different factors of the CSR index according to their specific study purpose. With the methodology of Multi-Dimensional Scales, Isaand and Reast (2012) document the relationship between measurement items and the construct of CSR. This research conceptualizes CSR as a formative construct including eight measurements: process, policy, values, environment, personal, profit, people and political.

2.3 Theoretical Basis of the Study

With the growing popularity of the CSR score, more researches focus on the impact of CSR on the corporate financial performance. Attig, Ghoul, Guedhami and Suh(2013) studies the relationship between CSR and firms’ credit ratings. According to their research, credit rating agencies tend to award relatively high ratings to firms with good social performance. The results of their study suggest that CSR score conveys important non-financial
information, which rating agencies are likely to use when they measure the
creditworthiness of a firm. Meanwhile, they documented that CSR investments
can lead to lower financing costs due to higher credit ratings.

This study is motivated by the research mentioned above. The CSR score
can affect the credit ratings of a firm. Thus, the financing cost would be
impacted due to the different credit ratings. According to the formal reading,
financing cost is one of the factors that could affect the abnormal return of ECO.
Further, the CSR score may impact the stock response to ECO.

2.4 Objectives

According to the previous researches, the importance of CSR is widely
supported in many countries across the globe. Most of the studies on CSR focus
on the concept of CSR index and the impact of CSR on corporate governance.
The researches on the ECO mainly focus on the financial performance valuation
of the strategy itself.

Although there are numbers of research papers separately on the CSR
and ECO, little research exists on the impact of CSR on ECO. Therefore, the
main objectives of this paper are to examine the impact of CSR on ECO with the
methodology of event study and regression.
Chapter 3: Methodology and Data

3.1 Research Design

The methodology employed in this paper is event study and regression analysis. Event study methodology was developed by Fama, Fisher, Jensen and Roll (1969), which became a very convenient and widespread tool to measure the impacts of various economic events or announcements on the market value of the firm since then. The core idea of the event study is to generate the abnormal return associated with a specific event or index by comparing the performance of the firm with the event and without the event.

As showed in the study of Krivin, Patton, Rose and Tabak (2003), the event window length can be standardized across observations because the errors from having too long or short an event window should have a small impact on the average by the Law of Large Numbers. Therefore, based on the sample size chosen by the study, different event windows would be chosen. In this research, to get a more significant result, we use two days, four days, six days, eight days and ten days event window to calculate the abnormal return and cumulative abnormal return associated with ECO announcement.

The Market Model employed in the Event Study to calculate the abnormal return and cumulative abnormal return is as following:
\[ R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \]  \hspace{1cm} (1)

Where,

\[ E[\varepsilon_{it}] = 0 \text{ and } Var[\varepsilon_{it}] = \sigma_{\varepsilon_{it}}^2 \]

\( \alpha_i \): the abnormal return;

\( \beta_i \): the estimated beta, which measures the market risk;

\( R_{it} \): return on the individual portfolio;

\( R_{mt} \): the return on the market portfolio. In this paper, the S&P 500 are used as the market portfolio;

\( \varepsilon_{it} \): error term unique to security \( i \).

\[ CAR_i(T_1, T_2) = \sum_{t=T_1}^{T_2} AR_{it} \]  \hspace{1cm} (2)

Where:

\( CAR_i(T_1, T_2) \): Cumulative abnormal return from the time period \( T_1 \) to \( T_2 \). In this paper, we will use different event windows.

\( AR_{it} \): Abnormal return (\( \alpha_i \)) generated from the last stage.

In this study, the data will be divided into two groups, one of which contains firms with high CSR score and the other of which contains firms with
low CSR score. The two groups would be distinguished using the sample median of the CSR score. To test the relationship between CSR and ECO, we will compare the mean of the abnormal return generated from the ECO of the two groups in the univariate analysis. Based on the result of the event study, this paper will conclude the impact of the CSR on ECO of the sample.

In a second stage of the empirical framework, regression analysis will be employed. Namely, the cumulative abnormal return over the event window will be used as the dependent variable. Our first key control variable is the firm’s CSR score (csr1_net). We include a set of control variables, such as ROA, log Market_CAP and leverage.

The regression models are as following:

\[ \text{Ab}_t = \alpha + \beta_1 \text{ROA} + \beta_2 \log \text{Market\_CAP} + \beta_3 \text{LEV} + \beta_4 d_1 + \varepsilon_i \] \hspace{1cm} (3)

\[ \text{CAb}_t = \alpha + \beta_1 \text{ROA} + \beta_2 \log \text{Market\_CAP} + \beta_3 \text{LEV} + \beta_4 d_1 + \varepsilon_i \] \hspace{1cm} (4)

Where:

\text{Ab}_t: Abnormal return generated from the ECO;

\text{CAb}_t: Cumulative abnormal return generated from the ECO;

\text{ROA}: Return on asset, which measures the firm’s profitability;
Log Market_CAP: log of firm’s market capitalization, which measures the size of the company;

LEV: leverage, which measures the firm’s capital structure;

d1: If the firm’s CSR score is higher or equal to the median of CSR score, d1=1.

   If the firm’s CSR score is lower than the median of CSR score, d1=0.

3.2 Data Source

To examine the relationship between CSR and ECO, the data selected for this study are social responsibility data on U.S. firms from MSCI ESG STATS and financial data from COMPUSTAT for the period 1991–2001. In this paper, we exclude financial firms (two-digit SIC codes between 60 and 69). The purpose of the empirical study is to test the impact of CSR on ECO, therefore, observations with missing values Corporate Social Responsibility (CSR) score are dropped in the selected data.

3.3 Measurement of Corporate Social Responsibility

To measure CSR, we use MSCI ESG STATS, which contains ratings on a wide range of CSR-related items compiled from various sources (e.g., government agencies, non-governmental organizations, global media publications, annual
reports, regulatory filings, proxy statements, and company disclosures). These ratings are the successor to KLD used in a number of prior papers.

MSCI ESG STATS tracks CSR along the following seven qualitative issue areas: Community, Corporate Governance, Diversity, Employee Relations, Environment, Human Rights, and Product Characteristics. For each qualitative issue area, MSCI ESG STATS assigns a binary (0/1) rating to a set of concerns and strengths. We calculate a score for each qualitative issue area equal to the number of strengths minus the number of concerns. We then sum the qualitative issue areas’ scores to obtain an overall CSR score.

3.4 Hypothesis

According to the research of Attig, Ghoul, Guedhami and Suh (2013), credit rating agencies tend to award relatively high ratings to firms with good social performance. The results of their study suggest that CSR score conveys important non-financial information, which rating agencies are likely to use when they measure the creditworthiness of a firm. Thus, the financing cost would be relatively low for the company with higher CSR score. Meanwhile, companies with high CSR score have relative good reputation. The abnormal return generated from the ECO would be higher due to the lower financing cost and good reputation. Then we assume that the relationship between the stock response to ECO announcement and CSR is positive.
**H1:** There is a positive relationship between the stock response to ECO announcement and CSR.

Stated differently, firms with a higher CSR score are expected to generate higher abnormal return. However, there are different views on CSR. Waddock and Graves (1997) documented that CSR investments are associated with agency costs that may weaken a firm’s competitive position. Goss and Roberts (2011) also reported that the CSR activities can be seen as a costly diversion of scarce resources. Thus, we hypothesize that the CSR score may have a negative impact on the ECO due to the agency cost.

**H2:** There is a negative or no relationship between the stock response to ECO announcement and CSR.
Chapter 4: Results Analysis

4.1 Data Overview

To construct our sample, we start by merging the ECO data with the data from Compustat. Then we drop observations with missing CSR scores and other control variables (e.g. total assets, ROA and leverage). Then we use Bloomberg to collect matching stock prices and data on S&P 500, these procedures result in a final sample of 22 observations (ECO) announcement.

4.2 Descriptive Statistics

Using the 22 data points in the final dataset, we present the descriptive statistics in table 1. Abnormal return (AR) and cumulative abnormal return (CAR) will be the key variables in the regressions. Other variables showed in table 1 such as total assets, ROA and the leverage would be the control variables in the regression. According to the table 1, the median CSR score is 0, by which two main groups are distinguished. One group contains the firms with CSR scores higher than 0 and the other concludes the firms with CSR scores lower than 0.
Table 1

Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR[-1,1]</td>
<td>22</td>
<td>0.114482</td>
<td>0.558651</td>
<td>2.681019</td>
<td>-4.7328</td>
<td>6.79992</td>
</tr>
<tr>
<td>CAR[-1,1]</td>
<td>22</td>
<td>-0.1245838</td>
<td>-0.0605179</td>
<td>3.103647</td>
<td>-6.117046</td>
<td>5.310173</td>
</tr>
<tr>
<td>AR[-2,2]</td>
<td>22</td>
<td>0.1981094</td>
<td>0.58488</td>
<td>2.653672</td>
<td>-4.702888</td>
<td>6.830758</td>
</tr>
<tr>
<td>CAR[-2,2]</td>
<td>22</td>
<td>-0.772351</td>
<td>-0.0645601</td>
<td>3.495254</td>
<td>-8.57662</td>
<td>5.372973</td>
</tr>
<tr>
<td>AR[-3,3]</td>
<td>22</td>
<td>0.2031194</td>
<td>0.546924</td>
<td>2.838375</td>
<td>-4.83476</td>
<td>7.502544</td>
</tr>
<tr>
<td>CAR[-3,3]</td>
<td>22</td>
<td>-0.4502626</td>
<td>0.0929489</td>
<td>4.476304</td>
<td>-12.21769</td>
<td>7.43864</td>
</tr>
<tr>
<td>AR[-4,4]</td>
<td>22</td>
<td>0.2306717</td>
<td>-0.843181</td>
<td>2.832136</td>
<td>-4.954554</td>
<td>7.890721</td>
</tr>
<tr>
<td>CAR[-4,4]</td>
<td>22</td>
<td>-0.4386242</td>
<td>-0.0036836</td>
<td>4.683958</td>
<td>-11.47715</td>
<td>10.1356</td>
</tr>
<tr>
<td>AR[-5,5]</td>
<td>22</td>
<td>0.2651335</td>
<td>0.0713896</td>
<td>2.862583</td>
<td>-5.241508</td>
<td>7.983021</td>
</tr>
<tr>
<td>CAR[-5,5]</td>
<td>22</td>
<td>-0.5790699</td>
<td>-0.415323</td>
<td>4.694441</td>
<td>-14.17742</td>
<td>9.225121</td>
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<tr>
<td>csr1_net</td>
<td>22</td>
<td>0.7272727</td>
<td>0</td>
<td>3.383177</td>
<td>-5</td>
<td>9</td>
</tr>
<tr>
<td>roa</td>
<td>22</td>
<td>0.0491</td>
<td>0.0346</td>
<td>0.0593455</td>
<td>-0.0307</td>
<td>0.2095</td>
</tr>
<tr>
<td>logmarket_CAP</td>
<td>22</td>
<td>8.998259</td>
<td>8.9433</td>
<td>1.784998</td>
<td>5.2137</td>
<td>13.0406</td>
</tr>
<tr>
<td>lev</td>
<td>22</td>
<td>0.4128227</td>
<td>0.4098</td>
<td>0.2041388</td>
<td>0</td>
<td>0.856</td>
</tr>
</tbody>
</table>

Notes: AR[-1,1] means the abnormal return calculated from the event study with the 2 days event window. csr1_net is the CSR score of each observation. roa is return on asset. logMarket_CAP is log Market_Capital. lev is financial leverage. These four variables are used as control variables when run the regression.

Then, as shown in table 2, we split our final sample in two sub-samples based on the median of CSR score. According to the results reported in table 2, the differences of abnormal return and the differences of cumulative abnormal return between firms with high CSR score and firms with low CSR score are
positive. Firms with high CSR score seem generate higher abnormal return and cumulative abnormal return associated with ECO. However, t-statistics for the differences are too small to prove the differences are significant. Thus, our empirical evidence does not show any significant differences of the abnormal return and cumulative abnormal return associated with ECO announcement between firms with different CSR scores.
Table 2

The Comparison between Firms with different CSR scores

<table>
<thead>
<tr>
<th>Panel A. The Comparison of Abnormal Return (AR)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>event window</td>
<td>whole sample firms with high CSR score</td>
<td>firms with low CSR score</td>
<td>differences between the two groups</td>
<td></td>
</tr>
<tr>
<td>[-1,1]</td>
<td>0.1144482</td>
<td>0.5402613</td>
<td>-0.3965275</td>
<td>0.9367888</td>
</tr>
<tr>
<td></td>
<td>(-0.57)</td>
<td>(0.89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-2,2]</td>
<td>0.1981094</td>
<td>0.6388869</td>
<td>-0.3308235</td>
<td>0.9697104</td>
</tr>
<tr>
<td></td>
<td>(-0.57)</td>
<td>(0.89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-3,3]</td>
<td>0.2031194</td>
<td>0.7732948</td>
<td>-0.4810912</td>
<td>1.254386</td>
</tr>
<tr>
<td></td>
<td>(-0.54)</td>
<td>(1.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-4,4]</td>
<td>0.2306717</td>
<td>0.7526759</td>
<td>-0.3957331</td>
<td>1.148409</td>
</tr>
<tr>
<td></td>
<td>(-0.44)</td>
<td>(0.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-5,5]</td>
<td>0.2651335</td>
<td>0.856431</td>
<td>-0.444423</td>
<td>1.300854</td>
</tr>
<tr>
<td></td>
<td>(-0.49)</td>
<td>(1.06)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel A. The Comparison of Cumulative Abnormal Return (CAR)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>event window</td>
<td>whole sample firms with high CSR score</td>
<td>firms with low CSR score</td>
<td>differences between the two groups</td>
<td></td>
</tr>
<tr>
<td>[-1,1]</td>
<td>-0.1245838</td>
<td>0.5196828</td>
<td>-0.8977042</td>
<td>1.417387</td>
</tr>
<tr>
<td></td>
<td>(-1.46)</td>
<td>(1.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-2,2]</td>
<td>-0.772351</td>
<td>-0.069204</td>
<td>-1.616128</td>
<td>1.546924</td>
</tr>
<tr>
<td></td>
<td>(-1.35)</td>
<td>(1.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-3,3]</td>
<td>-0.4502626</td>
<td>0.371293</td>
<td>-1.436129</td>
<td>1.807422</td>
</tr>
<tr>
<td></td>
<td>(-1.01)</td>
<td>(0.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-4,4]</td>
<td>-0.4386242</td>
<td>-0.0798921</td>
<td>-0.8691027</td>
<td>0.7892106</td>
</tr>
<tr>
<td></td>
<td>(-0.57)</td>
<td>(0.39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-5,5]</td>
<td>-0.5790699</td>
<td>0.152599</td>
<td>-1.457072</td>
<td>1.609671</td>
</tr>
<tr>
<td></td>
<td>(-0.97)</td>
<td>(0.79)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: This table reports the comparison of abnormal return (AR) (Panel A) and the comparison of cumulative abnormal return (CAR) (Panel B) between the firms with high CSR score and low CSR score. The sample comprises 22 observations over the period 1991-2001. *t*-statistics, which tell whether the differences between the two groups are significant, are reported beneath each coefficient estimate.
4.3 Regression Results

In the final regressions after the event study, this paper use the abnormal return and the cumulative abnormal return as the key variable and the ROA, log total-asset and the log market-capital as the control variables. We use a dummy variable (d1) to examine the CSR score’s impact. The results of the two regressions are presented in table 3 and table 4.

Table 3

The Relationship between Stock Response to ECO Announcement (AR) and CSR score

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(-2.25)</td>
<td>(-2.26)</td>
<td>(-2.14)</td>
<td>(-2.24)</td>
<td>(2.21)</td>
</tr>
<tr>
<td>logmarket_cap</td>
<td>0.5037641</td>
<td>0.4347022</td>
<td>0.422367</td>
<td>0.4090606</td>
<td>0.4185145</td>
</tr>
<tr>
<td></td>
<td>(1.52)</td>
<td>(1.31)</td>
<td>(1.21)</td>
<td>(1.16)</td>
<td>(1.18)</td>
</tr>
<tr>
<td>lev</td>
<td>2.229027</td>
<td>1.848042</td>
<td>2.498645</td>
<td>1.902851</td>
<td>2.069986</td>
</tr>
<tr>
<td></td>
<td>(0.73)</td>
<td>(0.60)</td>
<td>(0.77)</td>
<td>(0.58)</td>
<td>(0.63)</td>
</tr>
<tr>
<td>d1</td>
<td>1.278921</td>
<td>1.38348</td>
<td>1.702211</td>
<td>1.643565</td>
<td>1.781756</td>
</tr>
<tr>
<td></td>
<td>(1.22)</td>
<td>(1.32)</td>
<td>(1.54)</td>
<td>(1.47)</td>
<td>(1.59)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-4.712979</td>
<td>-3.903774</td>
<td>-4.225751</td>
<td>-3.727205</td>
<td>-3.934179</td>
</tr>
<tr>
<td></td>
<td>(-1.54)</td>
<td>(-1.28)</td>
<td>(-1.31)</td>
<td>(-1.14)</td>
<td>(-1.20)</td>
</tr>
<tr>
<td>Number of obs</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Adj R-squared</td>
<td>0.2816</td>
<td>0.2657</td>
<td>0.2817</td>
<td>0.2667</td>
<td>0.2762</td>
</tr>
</tbody>
</table>

Notes: This table reports results from running our main regression (Equation (3)). The sample comprises 22 observations over the period 1991-2001. The dependent variable is cumulative abnormal return (AR). t-statistics are reported beneath each coefficient estimate.
According to the result showed in table 3, the coefficients of the d1 for the entire choosing event windows are positive, which seems that the CSR score has a positive effect on the abnormal return generated from ECO announcement. But the t-statistics of the coefficients are not strong enough to prove that CSR score has significant impact on the stock response to ECO announcement. The results show that the impact of ROA on abnormal return is negative and significant. Firms with higher ROA seem to generate lower abnormal return from ECO announcement.

### Table 4

The Relationship between Stock Response to ECO Announcement (CAR) and CSR score

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>roa</td>
<td>2.312675</td>
<td>10.21761</td>
<td>25.11917</td>
<td>27.7468</td>
<td>27.71235</td>
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<tr>
<td></td>
<td>(0.13)</td>
<td>(0.40)</td>
<td>(1.07)</td>
<td>(1.08)</td>
<td>(1.08)</td>
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<tr>
<td>logmarket_cap</td>
<td>0.064562</td>
<td>-0.234513</td>
<td>-0.4461841</td>
<td>-0.8741013</td>
<td>-0.5419131</td>
</tr>
<tr>
<td></td>
<td>(0.13)</td>
<td>(-0.37)</td>
<td>(-0.69)</td>
<td>(-1.24)</td>
<td>(0.76)</td>
</tr>
<tr>
<td>lev</td>
<td>2.936008</td>
<td>6.264535</td>
<td>10.07643</td>
<td>6.400197</td>
<td>7.402431</td>
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<tr>
<td></td>
<td>(0.66)</td>
<td>(1.24)</td>
<td>(1.67)</td>
<td>(0.97)</td>
<td>(1.12)</td>
</tr>
<tr>
<td>d1</td>
<td>1.346433</td>
<td>1.653176</td>
<td>1.779981</td>
<td>1.071736</td>
<td>1.539062</td>
</tr>
<tr>
<td></td>
<td>(0.89)</td>
<td>(1.12)</td>
<td>(0.86)</td>
<td>(0.48)</td>
<td>(0.68)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-2.765551</td>
<td>-2.651717</td>
<td>-2.799411</td>
<td>2.837668</td>
<td>-0.9588515</td>
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<td>(-0.62)</td>
<td>(-0.63)</td>
<td>(-0.47)</td>
<td>(0.43)</td>
<td>(-0.15)</td>
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<tr>
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<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Adj R-squared</td>
<td>-0.1333</td>
<td>-0.0466</td>
<td>0.0016</td>
<td>-0.0774</td>
<td>-0.0833</td>
</tr>
</tbody>
</table>

Notes: This table reports results from running our main regression (Equation (4)). The sample comprises 22 observations over the period 1991-2001. The dependent variable is cumulative abnormal return (CAR). t-statistics are reported beneath each coefficient estimate.
As showed in table 4, we obtain positive coefficients of the d1 for all the choosing event windows, which seems that the CSR score has a positive effect on the cumulative abnormal return generated from ECO announcement. However, t-statistics of the coefficients are too small to prove that the impact is significant. Our results do not lend credence to the positive effect of CSR. Indeed, our empirical evidence does not show any significant effect of CSR on the cumulative abnormal return associated with ECO announcement. Possibly because the two views of CSR have merit or due to market efficiency.
Chapter 5: Conclusion

CSR rating has become an important index to evaluate the performance of a corporation. Meanwhile, the CSR index could affect a company’s potential return and other financial activities. There are different views on the impact of CSR on the financial performance, as showed in the literature review. For the moment, factors that affect the abnormal return and cumulative abnormal return generated from ECO announcement are given a lot of concerns. According to the formal research, this paper focused on the impact of the CSR on stock response to ECO announcement, which is a relative new topic among the research related to CSR or ECO. Based on the formal research on the relative theory, this paper set two hypothesizes, one of which assumed that the CSR score may have a positive impact on the stock response to ECO announcement and the other assumed the opposite situation.

To examine the impact of CSR on the stock response to ECO, this paper used a sample of 22 companies through the period 1991-2001 and employed event study and regression analysis. Using the final sample, our results do not lend credence to the positive effect of CSR. Indeed, our empirical evidence does not show any significant effect of CSR on the abnormal return and cumulative abnormal return associated with ECO announcement. Possibly because the two views of CSR have merit or due to market efficiency. On the one hand, corporations with higher CSR score have relatively good reputations and lower
financing cost, which may cause a higher abnormal return and cumulative abnormal return. On the other hand, higher CSR scores are associated with higher agency costs, which may decrease the abnormal return and cumulative abnormal return. Thus, the positive impact and negative one may offset each other.
Reference


(305159876).


Idowu, S. O., & Papasolomou, I. (2007). Are the corporate social responsibility matters based on good intentions or false pretences? an empirical study of the motivations behind the issuing of CSR reports by UK companies. Corporate Governance, 7(2),


