Eco-efficiency and firm value of Malaysian firms

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Abstract: The objective of the study is to investigate eco-efficiency as a proxy for environmental policy and its effect on the overall value of the firm. The study adopts Ohlson’s value relevance model in explaining how value relevant the concept of eco-efficiency is to the firm. The sample comprises 667 non-financial firms quoted on the Bursa Malaysia as at 2013. The result of the analysis reveals a positive association existing between eco-efficiency and the value of the firm, indicating that Malaysian firms engaging in eco-efficiency are performing better in terms of firm value than firms not engaging in eco-efficiency. This study is a pioneering study examining eco-efficiency from a developing country perspective, specifically from the Malaysian environment. The findings of the study will prove to shareholders and investors that eco-efficient firms can increase its earnings in the future, and therefore such a policy will not affect the financial aim of the company.

Keywords: accounting; eco-efficiency; ISO 14001; firm value; value relevance; environment; policy; Malaysia.


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1 Introduction

The issues brought about by the resulting effect of climate change have dominated discussions, causing many companies and organisations to now look towards green practices (Al-Najjar and Anfimiadou, 2012). Businesses now adopt various environmentally friendly strategies, in the course of carrying out their routine business procedures. Derwall et al. (2005) assert that a number of advantages would accrue to the organisation as a result of the environmental criteria being considered in the investment process. This study will centre on Eco-Efficiency (EE) as a proxy for environmental policy and its effect on the overall value of the firm.

The connection between environmental concerns and performance of firms is an issue that has been widely studied with evidence of mixed findings. While some studies have established the link between environmental activity and good financial performance (see e.g. Al-Najjar and Anfimiadou, 2012; Connelly and Limaphayom, 2004; Dowell et al., 2000; Konar and Cohen, 2001; Sinkin et al., 2008), others have in contrast purported that such positive relation does not exist (Ingram and Frazier, 1980; Walley and Whitehead, 1994). They assert that remedial actions on the environment require huge costs as the investment in the requisite technology necessary to engineer green technologies and products to alleviate the dreadful effects on the immediate environment as well as comply with eco-efficient requirements require a huge outlay. Firms are indeed beginning to take the initiative to improve their profit by adopting processes that are eco-friendly. An eco-efficient strategy thus acts as a strategy employed by management to bring down the environmental impact and ensure a higher firm’s value for the benefit of shareholders (Al-Najjar and Anfimiadou, 2012; Sinkin et al., 2008).

The World Business Council for Sustainable Development (WBCSD) highlighted the idea of being eco-efficient where it attributed that a means of achieving it could be by providing the market goods and services at a moderate price, catering for the needs of humans and improving quality existence while at the same time reducing ecological effects to a manageable level (WBCSD, 2002). Furthermore, the WBCSD (2002) assert that eco-efficiency is a business policy aimed at the following: reducing the consumption of natural resources, including minimising the use of energy, raw materials, water and soil; reducing the hazardous impact of business on the environment, by reducing to the barest minimum air and water pollution; reducing waste and the spread of substances toxic in nature; increasing the value of services and products by ensuring more benefits are provided to consumers in relation to the flexibility, functionality and shaping of the products; providing the desired goods and services demanded by customers.

It can be deduced from the report that eco-efficiency encompasses attributes propagating such firms to becoming effective. Firms must utilise these strategies in order to enjoy the numerous advantages external and internal to the firm. From the internal perspective, businesses benefit from the reduction in material cost and enhanced products, while on the other hand from the external perspective, such firms could benefit from the environmental policy, regulations as well as better access to finance (Cote et al., 2006).

A number of studies have provided various definitions of eco-efficiency. Sinkin et al. (2008) view EE as a set of procedures where the value of the firm is increased by ensuring an increase in the business process effectiveness and at the same time reducing harmful environmental impacts. Erkko et al. (2005) in a study conducted in Finland
expresses EE as the proportion of the firm’s economic value to their environmental impacts. Helminen (2000) also presented a similar definition. Bran et al. (2011) suggested in their study that eco-efficiency can be viewed as the improved efficiency and environmental performance of the company. This efficiency arises as a result of the increased stability of the production process and is followed by cost reduction, which results from reduced water and energy consumption and reduced wastes generated by the companies. Further, Derwall et al. (2005) defines eco-efficiency as the value created by a company in relation to the generated wastes. A common feature in defining the concept is the goal in ensuring environmental sustainability, whereby firms that have chosen this environmental path can enhance the manner in which they manage the environment to attain eco-efficiency.

This study is significant for the very reason that the empirical analysis presented in this paper appears to be the first in Malaysia that addresses the issue of eco-efficiency and value of the firm. It extends the study of Al-Najjar and Anfimiadou (2012) and Sinkin et al. (2008) and investigates whether eco-efficiency leads to increased firm value among Malaysian quoted firms. We define eco-efficiency as exhibited by evaluating the value of the firm in terms of eco-efficiency. We provide evidence on the tendency of creating value through investment in the environment. We conclude that eco-efficiency leads to higher market value.

The rest of the paper is organised as follows: the next section presents the literature review; following this is the theoretical framework and hypothesis development. The methodology follows and then the results and discussions are presented. Lastly, we put forward the conclusion of the study.

2 Literature review

2.1 Regulation of environmental management in Malaysia

The issue of environmental management in Malaysia can be traced to the 1970s. Precisely the Environmental Quality Act of 1974, which gave birth to the Department of Environment (DOE), was promulgated to cater for these environmental issues (ACCA, 2010). The push for a more effective environmental management was formally taken care of in the Third Malaysia Plan (1976–1980) (Economic Planning Unit, Prime Minister’s Department Malaysia, 1976). The Environmental Quality Act had in it provisions relating to air, noise and water pollution management, as well as provisions related to degradation of land and oil pollution. The main objective of the act was to ensure a sanitised unpolluted environment, thereby creating the necessary balance between economic development and a sustainable environment. This led the government to come up with policies and regulations geared towards the industry, which included the promotion of cleaner production methods, product stewardship initiatives, extended producer responsibility programmes as well as green procurement and eco-labelling programmes. These policies thus provide a logical explanation for Malaysian firms complying with environmental best practices and are able to meet with the requirements of attaining the 1S014001 certification for environmental management.

An amendment to the act in 1996 saw stiffer sanctions for defaulters and environmental offenders, as the DOE was given the authority to other such firms to
engage the services of an environmental auditor to carry out an audit of their activities, similar to screening for ISO 14001 certification. Further, the act gave the DOE power to relinquish companies whose activities were posing risk to public health.

2.2 Review of prior studies

A number of studies have examined theoretically and empirically environmental issues and firm value, especially from developed countries (Al-Najjar and Anfimiadou, 2012; Connelly and Limpaphayom, 2004; Dowell et al., 2000; Konar and Cohen, 2001; Sinkin et al., 2008). The results generally point to the fact that there is no conclusive result, which could be attributed to a number of factors ranging from different sample sizes and different definitions of the concept of green procedure and lack of sound theoretical foundation to different environmental performance criteria (Konar and Cohen, 2001). Prior literature on the connections that exists between a firm’s performance, financial and environmental, has been grouped into two separate categories. The first draws evidence on the environmental and financial performance over time and then analyses the impact of the environmental strategy on the market value of the listed companies in the occurrence of an incident (such as oil spillage).

Prior researches that investigated the impact of environmental mishaps on the prices of stocks, e.g. Klassen and McLaughlin (1996), provide evidence of an inverse return when such firms receive information of a damage done to the environment such as oil spillage and high returns when firms get good news such as environmental awards and recognition of good performance. Konar and Cohen (2001) also reveal that poor performance on the environment is inversely associated with the firm’s intangible asset value.

On the other hand, examining the connection between environmental policy and the firm’s market value, Sinkin et al. (2008) investigate the hypothesis that the practice of eco-efficiency as a business strategy is positively related to the value of the firm. The study posits that firms that have engaged in the practice of eco-efficiency, and as such have been able to control costs and jerk up their profits, will likely experience a higher value than firms that fail to imbibe such practices. The study utilises a sample of 401 firms, and defines eco-efficiency as the presence of ISO 14001 certification and the issuance of corporate environmental reports. In addition, Ohlson’s model of firm value is adopted. Empirical testing provides support for the proposition.

In a later study, on the UK environment, Al-Najjar and Anfimiadou (2012) examined the relationship between an eco-efficient environmental policy and the value of the firm in the UK for a five-year period using 201 firms. The study employed different measures of eco-efficiency: ISO 14001 certification, presence of CSR as well as firms that have engaged in the BIE and FTSE 4 good indices. The result shows a strong positive association exists between the market price and the eco-efficiency variable, agreeing with the earlier study, indicating that eco-efficiency can increase future earnings. Also stressing the importance of an environmental policy, Dowell et al. (2000) analysed the environmental standards adopted by a sample of US MNEs in association with their stock prices, measuring the value of the firm using Tobin’s q. It was revealed that the adoption of a stringent environmental standard leads to an increased market value compared with firms working with less rigid or poorly monitored country standards.

Contrarily, Connelly and Limpaphayom (2004) tested the hypothesis developed by Porter that an environmental standard properly developed could improve the firm’s
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production capacity and competitive ability. They use data retrieved from the Thailand Institute of Directors’ corporate governance benchmarking survey. The result does not favour the hypothesis. The result shows no significant relationship between the reporting of environmental information and the accounting performance, which posits that short-term profitability is not affected by environmental policies. However, a long-term non-linear relationship between environmental reporting and market value was found.

In addition to the literature on eco-efficiency and its impact on the value of the firm, previous related studies have also examined its effect on cost of equity capital. For example, Botosan (1997) examined the effect of disclosure on the cost of equity capital. The study found that the higher the voluntary disclosure, the lower will be the cost of equity capital as a result of the reduced information asymmetry associated with more disclosure. Also, El Ghoul et al. (2011) assert that a company with higher Corporate Social Responsibility (CSR) value will have a lower cost of equity capital, i.e. investment made to improve employee relations, environmental policies and better strategising of the organisations product will reduce the cost of equity. The study was carried out in the USA and the cost of equity was measured using a modified Ohlson’s (1995) model modified by Botosan (1997).

From the above discussion of the literature, it is clear that eco-efficiency and firm value have been discussed and examined mainly in developed countries like the USA and the UK. Literature regarding the issue in a developing country like Malaysia is not in existence to the best of our knowledge. This study aims to bridge this gap in the eco-efficiency literature. We therefore extend the prior research by looking at the scenario in Malaysia using a large sample.

2.3 Theoretical framework: legitimacy theory

Legitimacy theory rests upon the idea that organisations operate in the society through a societal contract, where it decides to carry out a number of socially acceptable actions in exchange for acceptance of its actions, other rewards and its eventual survival (Guthrie and Parker, 1989). Suchman (1995) adds that the legitimacy tactics an organisation adopts will depend on its decision to either gain, maintain or repair legitimacy. It has also been acknowledged that although legitimacy is conferred by outsiders to the corporation, the corporation can also take charge and determine to what direction the pendulum swings. In the event of the activities or behaviour of an organisation deviating from what the society accepts as right, its legitimacy will be threatened, leading to a legitimacy gap (Sethi, 1975).

In an organisation where a legitimacy gap does exist, the performance of the company can be affected. Therefore, it is imperative the gap is identified and filled. Organisations will strive to change things such as norms, values and beliefs of the external constituents as well as their own performance. To extend and restore an organisation’s legitimacy, managers engage in a process of legitimation (Ashforth and Gibbs, 1990; Suchman, 1995). They can engage in this by adhering and sticking to an environmental policy driving such organisations to be eco-efficient. In line with the legitimacy theory, it can be argued that there is an association between eco-efficiency and the value of the firm such that companies with better eco-efficiency encounter less legal risks (Waddock and Graves, 1997). A number of researches on eco-efficiency and its effects on firms have been carried out. Most of the studies provide support for a positive
relationship between eco-efficiency and firm value (Al-Najjar and Anfimiadou, 2012; Derwall et al., 2005; Sinkin et al., 2008). In line with the above studies, and going by the theory we hypothesise the following:

**Hypothesis 1:** Eco-efficiency has a positive effect on the firm’s value.

### 3 Methodology

The study’s population comprise all non-financial companies listed in the Bursa Malaysia as in 2013 financial year. Sinkin et al. (2008) assert that large firms that are largely found in this tier of the market are likely to adopt leading edge environmental processes and practices. Also, such companies’ activities have been perceived to have a significant impact on the environment (Haniffa and Cooke, 2005). The annual report was used to collect the data on eco-efficiency, while the financial data were retrieved from data stream. The annual report is used taking into consideration the fact that it has been found to be reliable and credible (Haji, 2013). Also, the annual reports are generally accepted by a number of users (Deegan and Rankin, 1997). The sample of 667 firms was arrived at after excluding the financial companies as well as companies with incomplete data, i.e. financial data not available on data stream.

#### 3.1 Research model

The study adopts the value relevance model (Ohlson, 1995) in investigating how value relevant the concept of eco-efficiency is to the firm. The model is expressed as follows:

\[
P = a_0 + a_1 X + a_2 Y + \beta V + \mu
\]

where

- \( P \) = the market value or price of the firm’s equity;
- \( X \) = lag of the earnings per share \((t - 1)\);
- \( Y \) = (net) book value measured as the proportioned common equity divided by outstanding shares at the company’s fiscal year end;
- \( V \) = a vector variable representing other value-relevant information that could be obtained;
- \( a_0 \) = the estimates of the parameter that relate book value and earnings to the market value of the firm;
- \( \beta \) = the estimates of the parameter that relate other information to the market value of the firm;
- \( \mu \) = the error term.

Ohlson (1995) suggests that there could be other value-relevant information that could lead to an improvement of the firm’s future earnings. In a situation where the information is positively related with the future earnings, it will also be positively related with the firm’s market value. This study therefore includes eco-efficiency in the model since it assists in providing information that could help explain the reduced costs, increased
efficiency and potential increased profits that will result from the adoption of eco-efficient strategy in running the business. We also include leverage and return on assets as control variables. The model for the study is thus

$$P = a_0 + a_1BV + a_2EPS + \beta_1ECO + \beta_2LEV + \beta_3ROA + \mu$$

where

- $P$ = the market value or price of the firm’s equity;
- $BV$ = (net) book value measured as the proportioned common equity divided by outstanding shares at the company’s fiscal year end;
- $EPS$ = lag of the earnings per share ($t - 1$);
- $ECO$ = an indicator variable for eco-efficiency;
- $LEV$ = leverage measured by long-term debt/equity;
- $ROA$ = return on assets measured as net operating income divided by total assets;
- $ECO$: variable that has two outcomes, measured using dummy of 1 for eco-efficient firms and zero otherwise and interpreted as other value-relevant information in the model above.

We log the dependent variable PRICE (market price per share) in order to control for heteroskedasticity in the model.

### 4 Results and discussions

#### 4.1 Descriptive analysis

We present the descriptive statistics of the variable used in the study in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>2.08</td>
<td>4.97</td>
<td>0.02</td>
<td>68.70</td>
</tr>
<tr>
<td>BV</td>
<td>1.54</td>
<td>1.57</td>
<td>−1.92</td>
<td>13.20</td>
</tr>
<tr>
<td>EPS</td>
<td>0.14</td>
<td>0.29</td>
<td>0</td>
<td>4.58</td>
</tr>
<tr>
<td>ECO</td>
<td>0.16</td>
<td>0.37</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>LEV</td>
<td>24.31</td>
<td>41.79</td>
<td>−162.28</td>
<td>906.45</td>
</tr>
<tr>
<td>ROA</td>
<td>3.86</td>
<td>13.44</td>
<td>−180.29</td>
<td>60.24</td>
</tr>
</tbody>
</table>

The table highlights the description of the variables examined in the course of this study. The average Earnings per Share (EPS) of the firm is 0.14, showing low earnings. The variable of focus, eco-efficiency, has a mean of 0.16%, indicating that about 16% of the firms in the sample are eco-efficient firms. This provides evidence that in Malaysia most of the firms do not follow the practice of eco-efficiency. The average leverage for the firm is about 24%, indicating a low debt level. This also reveals that Malaysian firms rely less frequently on debt. Further, low profitability exists with a mean ROA value of 3.08. Lastly, from the results of the standard deviation, we can see that most of the variables are stable and can be relied upon.
4.2 Correlation analysis

The correlation analysis for the variables is presented in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>PRICE</th>
<th>BV</th>
<th>EPS</th>
<th>ECO</th>
<th>LEV</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BV</td>
<td>0.46</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPS</td>
<td>0.67</td>
<td>0.44</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO</td>
<td>0.12</td>
<td>0.03</td>
<td>0.09</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.03</td>
<td>-0.07</td>
<td>-0.04</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.27</td>
<td>0.19</td>
<td>0.22</td>
<td>0.04</td>
<td>-0.19</td>
<td>1.00</td>
</tr>
</tbody>
</table>

From the result of the correlation analysis, we can see there is absence of multi-collinearity among the variables. This is also confirmed when we run the Variance Inflation Factor (VIF) as it shows there is absence of multi-collinearity among the variables with a mean VIF of 1.14.

The results of the ordinary least-squares regression is presented in Table 3. The explained variable is market price per share. The result with adjusted $R^2 = 0.61$ shows that 61% of the changes in the dependent variable can be explained by the explanatory variable. The adjusted $R^2$ is similar to studies from previous studies like Al-Najjar and Anfimiadou (2012) with adjusted $R^2$ values of (0.63, 0.62) and Sinkin et al. (2008) with values of (0.50, 0.56, 0.58). The $F$-statistic value of 214.06 indicates that the overall model is statistical significance. Furthermore, the result of the Breusch–Pagan test showed absence of heteroskedasticity in the model.

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>Std. err.</th>
<th>T</th>
<th>P &gt; t</th>
<th>95% conf. interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV</td>
<td>0.40</td>
<td>0.02</td>
<td>19.72</td>
<td>0.00***</td>
<td>0.36 – 0.44</td>
</tr>
<tr>
<td>EPS</td>
<td>0.92</td>
<td>0.11</td>
<td>8.30</td>
<td>0.00***</td>
<td>0.70 – 1.13</td>
</tr>
<tr>
<td>ECO</td>
<td>0.27</td>
<td>0.08</td>
<td>3.52</td>
<td>0.00***</td>
<td>0.12 – 0.42</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.00</td>
<td>0.00</td>
<td>-0.48</td>
<td>0.32</td>
<td>-0.00 – 0.00</td>
</tr>
<tr>
<td>ROA</td>
<td>0.02</td>
<td>0.00</td>
<td>10.92</td>
<td>0.00***</td>
<td>0.02 – 0.02</td>
</tr>
<tr>
<td>CONS</td>
<td>-0.96</td>
<td>0.05</td>
<td>-20.78</td>
<td>0.00***</td>
<td>-1.09 – -0.84</td>
</tr>
</tbody>
</table>

Notes: Adjusted $R^2 = 0.62$; $F$-statistic = 214.06; $p = 0.00$.

*Significant at 10%; **significant at 5%; ***significant at 1% (1-tail).

The results of the ordinary least-squares regression is presented in Table 3. The explained variable is market price per share. The result with adjusted $R^2 = 0.61$ shows that 61% of the changes in the dependent variable can be explained by the explanatory variable. The adjusted $R^2$ is similar to studies from previous studies like Al-Najjar and Anfimiadou (2012) with adjusted $R^2$ values of (0.63, 0.62) and Sinkin et al. (2008) with values of (0.50, 0.56, 0.58). The $F$-statistic value of 214.06 indicates that the overall model is statistical significance. Furthermore, the result of the Breusch–Pagan test showed absence of heteroskedasticity in the model.

Table 4 Robust multiple regression results

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>Std. err.</th>
<th>T</th>
<th>P &gt; t</th>
<th>95% conf. interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV</td>
<td>0.40</td>
<td>0.04</td>
<td>10.03</td>
<td>0.00***</td>
<td>0.32 – 0.48</td>
</tr>
<tr>
<td>EPS</td>
<td>0.92</td>
<td>0.37</td>
<td>2.49</td>
<td>0.01**</td>
<td>0.19 – 1.64</td>
</tr>
<tr>
<td>ECO</td>
<td>0.27</td>
<td>0.08</td>
<td>3.27</td>
<td>0.00***</td>
<td>0.11 – 0.44</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.00</td>
<td>0.00</td>
<td>-0.47</td>
<td>0.32</td>
<td>-0.00 – 0.00</td>
</tr>
<tr>
<td>ROA</td>
<td>0.02</td>
<td>0.00</td>
<td>3.76</td>
<td>0.00***</td>
<td>0.01 – 0.04</td>
</tr>
<tr>
<td>CONS</td>
<td>-0.96</td>
<td>0.06</td>
<td>-15.05</td>
<td>0.00***</td>
<td>-1.09 – -0.84</td>
</tr>
</tbody>
</table>

Notes: Adjusted $R^2 = 0.62$; $F$-statistic = 86.21; $p = 0.00$.

*Significant at 10%; **significant at 5%; ***significant at 1% (1-tail).
5 Discussion of findings

The result of our analysis, firstly, supports the proposition of the Ohlson (1995) model on the market value of the firm as our study shows a strong positive relationship between the book value of the firm as well as the lag of earnings on the market value of the firm (Al-Najjar and Anfimiadou, 2012; Sinkin et al., 2008). This contradicts the study of Rossi et al. (2015) that argue that despite a firm having good governance practices which leads to high operating performance as measured by the Return On Equity (ROE), the market value (Tobin’s $q$) could still be low in the short term as such good governance practices lead to an efficient and non-speculative behaviour of the management.

The result also shows that a positive association exists between eco-efficiency and the value of the firm, indicating that Malaysian firms engaging in eco-efficiency are performing better, in terms of firm value than firms not practicing eco-efficiency. These findings are consistent with Sinkin et al. (2008) and Al-Najjar and Anfimiadou (2012) who show a positive association between eco-efficiency and the value of the firm for a sample of US and UK firms, respectively. Also, the result is in tandem with Botosan (1997) and El Ghoul et al. (2011) who found an inverse relationship between voluntary disclosures and cost of equity capital which suggests that such voluntary information like eco-efficiency can reduce the cost of equity and increase the firm’s market value. Similarly, the result also agrees with Diamond and Verrecchia (1991) that contend that as disclosure reduces the amount of information revealed by a trade, it reduces the adverse price impact of large trades, which prompts investors to amass larger stock holdings than they otherwise would, which increases demand and stock price and reduces cost of equity capital. It further agrees with Klassen and McLaughlin (1996) that provide evidence of high returns on stocks when firms get good news such as environmental awards and recognition of good performance.

Firms are therefore encouraged to employ new processes to adapt to an eco-efficient environment. In doing this, firms will be able to carry out their business within environmental acceptable norms which results in an enhanced firm value. Further, no significant relationship was found between leverage and the market value of the firm’s share, which agrees with Miller (1991) that argues that the capital structure in place is essentially irrelevant such that a firm with good projects will thrive irrespective of the nature of the balance sheet. In addition, the model in Table 3 is re-estimated (see Table 4 using the robust regression). The results are not significantly different from those reported in the earlier model. All the variables with the exception of leverage are significant at the 5% level.

6 Conclusion

This study sets out to investigate the proposition that eco-efficiency as a business policy leads to a higher firm value. Earlier studies found evidence of a positive association between environmental and financial performances (Connelly and Limpaphayom, 2004; Derwall et al., 2005; Dowell et al., 2000). However, only a pocket of studies dwell on the eco-efficiency concept and its role in the creation of added value for the firm (Al-Najjar and Anfimiadou, 2012; Sinkin et al., 2008). This paper applies Ohlson’s (1995) model. The main finding highlights a strong positive association between eco-efficiency variable and market price.
The study’s findings are highly relevant to managers, shareholders and potential investors. The significant association that exists between eco-efficiency and the market value of the firms share shows shareholders and investors that eco-efficient firms can increase its earnings in the future. Also, management may note that such an investment will not be at variance with the primary financial aim of the company but should provide the needed comparative advantage (Porter and Van Der Linde, 1995). Further, the results are also in tandem with Meijkamp (1998) that eco-efficiency influences the firm, leading to a reduction in the harmful effects on the environment. Further, eco-efficiency can influence consumers’ behaviour in a positive manner and enhance sales. Lastly, it has been observed in recent times that process management is gaining grounds among firms. Therefore, the adoption of ISO 14001 will aid firms to becoming effective by saving their work time and costs of running the business and by reducing risk, thus increasing the firm’s value.

References


