Oil Palm Industry Economic Journal Vol. 19 (2) September 2019 p. 57 – 66

Financial Performance of Certified Palm Oil Companies in Malaysia

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Article history:
Received date: 31 May 2019
Accepted: 15 July 2019
Available online: 13 Sept. 2019

ABSTRACT

Little is known about how standards and certification enhance the profitability of adopters. This study is intended to explore the financial performance of Malaysian palm oil companies with respect to their Roundtable on Sustainable Palm Oil (RSPO) certification, as the Malaysian Sustainable Palm Oil (MSPO) standard is relatively new. Based on 2000-2016 panel data, the return on invested capital (ROIC) metric was employed to compare the profitability of RSPO-certified and non-certified palm oil companies listed in the Kuala Lumpur Stock Exchange. We found that RSPO-certified companies consistently outperform a conventional sample. This superiority was consistent even in the face of gradual decline in the mean. Reasons for the superior performance may include improved operating and capital efficiency associated with the various advantageous effects of the certification on productivity, operation, management, and business turnover. Our findings are a critical adjunct towards improving the advocacy of sustainability standards. The findings will be pivotal as a strategy to generate wider acceptance among plantation companies (nucleus), which are the window to prevalent adoption among smallholders (plasma). A better understanding of enhanced financial performance and its longevity (if any) is necessary for agribusinesses to succeed with agricultural transformation.

Keywords: Standard certification, financial performance, return on invested capital, Roundtable on Sustainable Palm Oil.

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INTRODUCTION

Enhancing competitiveness in value chain through standards and certification is in the mandate of Malaysia – the world's second largest palm oil producer. Malaysian Palm Oil Association and its major plantation companies alongside other international stakeholders founded Roundtable on Sustainable Palm Oil (RSPO) in 2004. Since then, major plantation companies have adopted the RSPO standard and have gradually led smallholders (being their supply base) to join the force. Sabah has embraced jurisdictional

certification and with the goal of producing only certified sustainable palm oil (CSPO) by 2025. The Sabah Forestry Department (2017) asserts that "…it will provide new long-term opportunities for the State's producers to access premium markets worldwide, grow local manufacturing and attain a competitive edge".

Upscaling that regional commitment, the Malaysian Sustainable Palm Oil (MSPO) is designed to elevate the palm oil industry of this country as a whole to global standards. The local standard was officially implemented in January 2015 and became a mandate. Both plantation companies and smallholders are required to comply with MSPO certification by the end of 2019. In anticipation of greater demand (*e.g.* as a non-tariff barrier) for CSPO, given that palm oil products are traded globally, the need for adopting international standards has become and will become increasingly important.

However, little is known about how standards and certification enhance the profitability of adopters. A key question confronting plantation companies is whether to invest in a sustainability certification. Motivated by this knowledge gap, the objective of this paper is to review the financial performance of plantation companies by distinguishing those that have invested in the RSPO standard since MSPO is relatively new.

In the literature, there is considerable interest in understanding the financial performance of agribusiness firms, although none is specific to plantation companies. Katchova and Enlow (2013) examined the return on equity (ROE) of agribusiness relative to other public listed companies in the United States. They found that agribusiness outperformed the other industries through higher asset turnover and operating efficiency. Other studies have compared the financial returns of investor owned agribusinesses against those of agricultural cooperatives (*e.g.* Notta and Vlachvei, 2007; Lerman and Parliament, 1990; Hardesty and Salgia, 2003; Oustapassidis *et al.*, 1998). Based on ROE, public listed agribusinesses were generally found to perform better than cooperatives.

While previous studies have made contributions, there appears to have been scant interest in addressing a core test of success: whether a dollar invested in agribusiness generates more than a dollar invested (Mauboussin and Callahan, 2014). Return on invested capital (ROIC) is neutral to a firm's chosen capital structure and share buybacks. In contrast, ROE is affected by financial leverage and outstanding shares. ROIC is, therefore, superior to ROE (Damodaran, 2007).

Both operating and capital efficiencies are primary drivers of value creation. Addressing ROIC helps to ensure a better understanding of the financial performance of agribusiness firms. Such knowledge can be used by both investors and the agricultural sector when considering investing and developing business programs. This is essential to maintaining and improving the economic profitability of agribusinesses. Policy formulation also benefits, especially through an understanding of the value preposition that motivate the private sector.

In this study, we examine the financial performance of Malaysian public listed plantation companies using ROIC metrics. The outstanding managers studied by Thorndike (2012) ran their operations efficiently and deployed capital in consideration of the opportunity costs. In reality, financial practitioners have extensively used ROIC as a key indicator of company quality (*e.g.* Greenblatt, 2006; Cunningham and Buffett, 2013; Dorsey, 2003; Pabrai, 2011). Recently, Brilliant and Collins (2014), Koller *et al.* (2010a) and Koller *et al.* (2010b) investigated the financial performance of various industries listed on the American stock exchanges and identified ROIC as a cornerstone of value creation. We are, therefore, motivated to facilitate a better understanding of financial performance of certified and non-certified plantation companies through ROIC.

As ROIC captures both operating efficiency and capital efficiency, it implies that financial performance is influenced by the particular business strategies undertaken by management. Sustainability standards present strategic investment opportunities. In the case of RSPO certification, it requires compliance to best management practices and investment in providing various necessities to accord with international best practices. From the perspective of value addition, focusing on plantation companies which are able to capitalise on capital expenditure (capex) to continually improve both productivity and efficiency, is particularly interesting. This is because managers remain confused, even after taking more than a decade debating whether RSPO is a growth capex, maintenance capex and/or operating expense. Our study is motivated to explore the economics of this investment option.

COSTS AND BENEFITS OF RSPO CERTIFICATION

According to Levin *et al.* (2012), the implementation of the RSPO standards incurs primary operating

costs associated with (1) the land assessment and management, (2) the certification process, and (3) segregation (optional). Firstly, according to the principles and criteria (P&C) of RSPO, land use and related practices, particularly those related to High Conservation Value (HCV) areas within plantations, require identification, preparation, conservation and active management. The identification stage involves HCV Assessment, and Environmental Impact Assessment, and if HCV areas are not found, continues to a Social Impact Assessment. The presence of HCV areas triggers conservation and displacement costs. In the case of HCV damage/removal, compensation and/or restoration is required. Secondly, staffing, training, documentation, (re-)auditing, and corrective actions are key certification costs. It is a common practice to setup a sustainability team, whose members work as implementers and trainers for their colleagues and any adjacent smallholders. They also conduct an internal audit before any third-party audit so as to minimise the costs associated with corrective actions for non-compliance and re-auditing. An annual audit is conducted to maintain certification. Thirdly yet optionally, a segregation cost is incurred to keep CSPO physically separated from non-CSPO throughout the supply chain, from the primary production through to milling and to all downstream levels. Segregated CSPO is of higher value than "Mass Balance" or "Book and Claim" product.

Plantation companies may require capital outlays to comply with RSPO P&C. These may include new or upgraded fire observation stations, spray sheds, storage and workshop facilities for the health and safety of workers as well as accommodation, electricity, water, road and healthcare systems for well-being of workers. The need for these investments varies widely depending on the existing availability and quality of facilities of plantation companies. Some of these properties and plants may incur maintenance costs.

A price premium attached to CSPO products is widely regarded as the most straightforward reward to RSPO certified plantation companies. According to GreenPalm (2014), CSPO made its debut earning approximately USD45/t premium [or 4.7% above non-certified crude palm oil (CPO)] in 2008. However, only USD0.2 million worth of CSPO were traded in the same year. When the trade grew to approximately USD8.2 million in 2013, the premium traded in the Book and Claim market had fallen dramatically to less than 10% of its initial value. While that is a predictable result of any price-demand equilibrium, many growers and local authorities in the palm oil industry are sceptical about the profitability of RSPO certification and perceive RSPO as an expensive burden (The Sun Daily, 2016; Basiron and Yew, 2016).

In contrast, proponents of RSPO argue that the best management practices that shape their P&C lead to various operational benefits. These include higher (own and suppliers') productivity and access to premium markets (especially in the European Union). They contribute to top-line, improve operation through documentation and analysis (*e.g.* in efficiency of chemical inputs and accident rate minimisation), improve labour retention and productivity, provide better access to affordable capital (*e.g.* lower interest rates), and greater investment opportunities.

Inclusive certification is also likely to enhance more consistent, farming community relationships, whose members in turn producing more fresh fruit bunches for higher utilisation of installed mill capacity. Levin *et al.* (2012) suggest that the RSPO standard could transform plantation businesses for their betterment since the associated operational benefits are beyond the simple premiums. From that perspective, we anticipate that by focusing on ROIC, which considers all operating and capital expenditures, is of particularly interest. Importantly, it is a plausible measure to depict financial performance in order to explore whether the adoption of RSPO creates real value.

CONCEPTUAL FRAMEWORK

ROIC provides a measure of financial performance, indicating the company's return on every dollar invested. The most popular financial manuals (*e.g.* Koller *et al.*, 2010a; Koller *et al.*, 2010b; Damodaran, 2016) devote attention to the ROIC frameworks that should be applied in order to understand the drivers of value. In this sense, it is used to assess the management efficiency in allocating the capital in order to generate returns.

A central component in capital allocation is the identification of the best (re)investment opportunity, based on the identification of opportunity costs, (*i.e.* what is the next best option for driving growth) and the potential financial consequence of that choice. Value is created when its ROIC is greater than its cost of capital. In this sense, ROIC provides an important context for quality of management and business necessary for valuation.

ROIC can facilitate a better understanding of the financial performance of Malaysian plantation companies, *i.e.* their trendlines and variations attribute to RSPO certification. As mentioned earlier, ROIC is the fairer measure

of financial performance than ROE and return on assets (ROA). Used in the context of company decision making with respect to RSPO certification, ROIC is therefore a relevant indicator for exploring the financial performance of Malaysian plantation companies.

At the generic level, operating effiency (margins) and (invested) capital efficiency are the variables used to compute ROIC. *Figure 1* exhibits the ROIC drivers at a level of detail consistent with the changes associated with the implementation, certification and maintenance of RSPO. Operating efficiency is directly influenced by revenues, the cost of goods sold and operating expenses. Compared with their peers, the topline of RSPO-certified plantation companies may get a boost through productivity growth, price premiums, greater market access, and better use of processing capacity. They are also exposed to additional costs related to land assessment management, (re-)audit, capacity building and management *vis-à-vis* additional savings through productive use of labor and inputs, and more economic interest rates (from banks emphasising sustainability). Capital efficiency refers to the invested capital, which is the combination of working capital and property, plant and equipment. In the case of RSPO certification, plantation companies may improve their inventory turnover (marketability), accounts receivable, and accounts payable through greater market access (to a larger pool of and premium customers). If all these are met, a company will be able to acquire capital in the short term, thereby increasing its cash position. However, compliance with RSPO generally neccesitates capital expenditure.

It should be noted that the decision of plantation companies on RSPO certification is not an isolated event. It is just one of the many capital allocation decisions that management has to make in order to maximise value. However, the existing subjective evaluation is based on any perceptions that the adopters may have. Indeed, these can sometimes be misunderstood since the RSPO P&C (especially its recommended best management practices) is somewhat complex. Nevertheless, RSPO adoption is hypothesised as beneficial. As the laws of economics prevail over time, this allows us to examine if RSPO-certified plantation companies have enjoyed higher returns than their non-adopting peers.

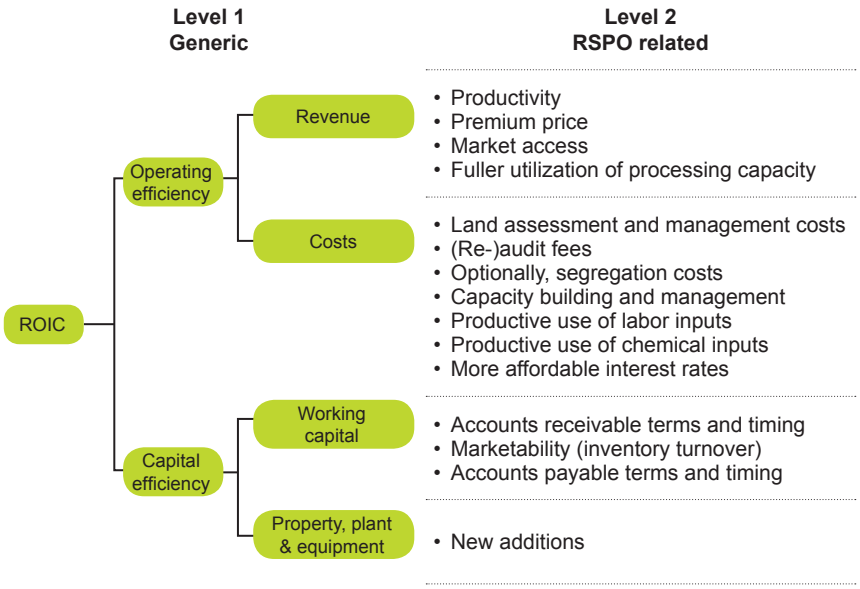

Figure 1. RSPO-related drivers of return on invested capital (ROIC).

EMPIRICAL METHOD AND DATA

ROIC can be computed by dividing operating income (the numerator) with invested capital (the denominator). The value in the numerator can be obtained by either subtracting dividends from the net income or calculating the net operating profits after taxes (NOPAT). While the former presents a simple formula, NOPAT is the preferred method. This is because a company may experience non-operating, non-recurring income or expense, such as (un)realised foreign exchange gains or losses. As these items do not arise from normal operations, capturing only financial information from ongoing operations through NOPAT provides better understanding on operating income (loss). NOPAT is computed by adjusting operating profit (also known as earnings before interest and tax) for taxes. It is expressed:

$$\text{NOPAT} = \text{Operating Profit} \times (1 - \text{Effective Tax Rate}) \quad (1)$$

There are a number of ways to assess the value of the denominator. One method of measuring invested capital is to sum a company's interest or fee-bearing debt and equity. Another method is to subtract non-operating assets from the sum of book value of a company's equity and the book value of its debt. However, the most common way to estimate invested capital is to add working

capital (which is the difference between current assets and current liabilities) to property, plant and equipment. It is expressed as:

Invested Capital = Working Capital + Property, Plant and Equipment

(2)

Given the above, ROIC can be expressed as:

ROIC = NOPAT / Invested Capital

(3)

Panel data (2000-2016) was retrieved through Thomson Datastream to estimate the ROIC of plantation companies in Malaysia. We began with 43 plantation companies – components of the FTSE Bursa Malaysia Palm Oil Plantation Index. Four plantation companies were excluded because they fell into one or more of the following categories:

- Not in operation in the observation period;
- In operation, but financial information was missing for any 3-year period (except for new listings, (de)mergers, spin-offs and delistings); or
- Palm oil segment contributed less than 50% of total consolidated sales.

Consequently, our sample consisted 39 plantation companies. One-third of the samples have a diversified business portfolio (*i.e.* property development and manufacturing), and limited segmental information in their annual reports so as to enable a distinction of the oil palm sector. Consequently, we followed the methodology of Ramasamy *et al.* (2005) and relied on group data in our study. Supplementary information was obtained from the annual reports of the 39 listed companies.

The descriptive statistics of the sample are presented in *Table 1* for the year of 2016. On average, RSPO-certified companies had planted oil palm on 78.6% of their total landholdings. This considerably lower percentage of oil palm plantings when compared to the holdings of non-RSPO certified companies is necessitated for conservation purposes. For example, big firms – Genting Plantations, IOI Corporation, KLK, Sime Darby Plantations and United Plantations reported conservation areas of 13, 79, 72, 104, and 79 hectares, respectively. Nonetheless, the adopters attained both higher average yields of fresh fruit bunch (FFB) and oil extraction rates (16.3 t/ha and 20.9% compared to 14.5 t/ha and 19.7% for non-adopters). The CPO of certified producers was traded at an average price of RM2784/t, which was slightly higher than the price of RM2766 received by non-certified producers. This basic information points to the likelihood that RSPO-certified companies are materialising operating efficiency.

FINDINGS

To gain an overview, we estimated the annual median ROIC for the study period and plotted the aggregate median ROICs and those of quartiles two and four (*Figure 2*). The average of the aggregate median ROIC was estimated to be 5.45%. Annual aggregate medians oscillated in a relatively wide range between 1.33% and 10.55%. This oscillation might be tied directly to the CPO prices (including premiums) received by these companies, but their estimate of correlation (+0.065) indicates a weak uphill linear relationship. Consequently, the oscillation is likely to be random.

TABLE 1. DESCRIPTIVE (MEDIAN) STATISTICS OF SAMPLE PLANTATION COMPANIES IN MALAYSIA FOR 2016

	RSPO certified	Non-RSPO certified
Number of plantation companies	13	26
Planted area/ total land (%)	78.6	83.0
Yield of fresh fruit bunches (t ha^{-1})	16.3	14.5
Oil extraction rate (%)	20.9	19.7
Price of crude palm oil (RM t^{-1})	2 784	2 766

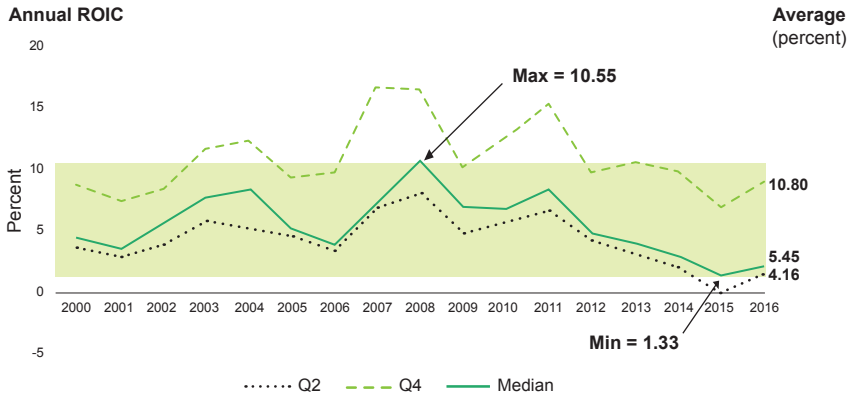

Figure 2. Quartile-based return on invested capital of plantation companies in Malaysia.

It is clear that median ROICs of quartiles two and four shared similar patterns of oscillation, but their cross-sectional spread expanded. Over the study period, 13 out of the 39 Malaysian plantation companies recorded ROICs between 4.16% and 10.80%. Ten of these plantation companies received RSPO certification. Since 2004 – coinciding with the launch of RSPO, the average spread of ROICs has gradually widened from 5.0% to 7.14%. This change was driven by plantation companies at the top end as they seem to ride growth and downturn better than the others. In other business cases, the same observations can be made for companies with strong, high calibre management.

To further understand the dominance of RSPO-certified plantation companies at the top end, we dissected the aggregate data to explore whether the certification characteristic is associated with different levels of performance. This was carried out by grouping RSPO-certified and non-RSPO certified plantation companies into separate portfolios, and tracked the median ROIC for each portfolio during the study period. The output is presented in *Figure 3*.

Despite annual returns are sometimes fickle, an important finding demonstrates the consistently superior performance of RSPO-certified plantation companies. This is likely to be indicative of the company's continuing commitment to excellence regardless of the prevailing economic conditions. During the observation period, the ROICs of RSPO-certified companies ranging between 1.85% and 15.46%, outperforming those of non-certified companies (the results ranged from 0.63% to 8.73%). In the worst year, the ROIC of RSPO-certified portfolio still outperformed the non-certified portfolio by 1.22%. Nevertheless,

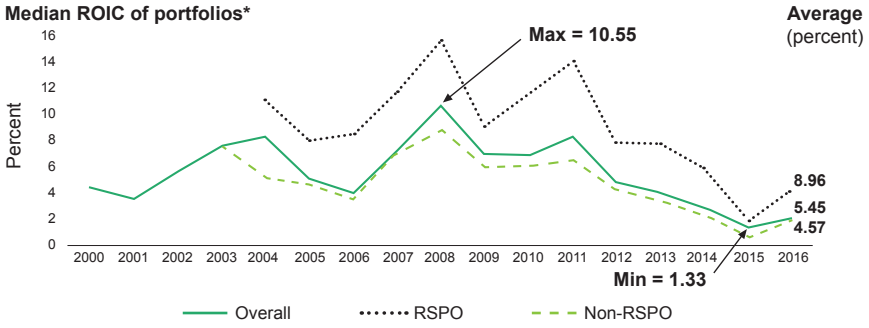

Figure 3. Return on invested capital of RSPO and non-RSPO certified plantation companies in Malaysia.

Note: * Plantation companies joined the RSPO portfolio after receiving the certification.

the degree of difference shrank over time. They began to regress towards the aggregate median post-2011.

Another aspect of superiority for RSPO-certified plantation companies is observed when it was noted that they consistently rebound from downturns at a faster pace than seen in the non-certified cluster. This finding suggests that RSPO-certified plantation companies are relatively more resilient.

Drilling deeper into the segmental information, we generated a "transition probability matrix" using the year 2000 as our base in order to understand what RSPO- and non-RSPO certified plantation companies' financial performance projections might become in 2016. *Figure 4* presents that "ROIC transition probability matrix." The column refers to the ROIC bracket for plantation companies in 2000 and the row refers to their projected performance in 2016. Any value found at their intersection shows the probability that a plantation company will move from one performance bracket to another. For example, a plantation company certified by RSPO and earned an ROIC of 5%-10% in 2000, has an equal probability of either moving down to 0%-5% bracket or up to highest (>10%) bracket in 2016.

The lowest performers will persistently produce poor ROICs. In the non-RSPO portfolio, loss-making plantation companies (ROICs of <0%) demonstrated 100% probability of remaining in the same bracket at the end of the projection period. The same pattern was observed among RSPO-certified plantation companies with ROICs fell under the 0%-5% bracket.

Average performers show a balanced probability of achieving either lower or higher financial performance over time. Our calculations indicate that non-RSPO certified companies with a ROIC of 0%-5% could find themselves in either the preceding or succeeding bracket 17 years later. The probabilty of both outcomes was consistent at 40%. With an additional 10% likelihood in each direction, a similar trend is noted for the ROIC in 5%-10% bracket in the RSPO portfolio.

Maintaining high performance is uncommon among Malaysian plantation companies. In the non-RSPO portfolio, companies generating a ROIC of 5%-10% in 2000 had only a 17% chance of maintaining their financial performance, with a much greater (83%) likelihood of downgrading to a 0%-5% bracket. On the other hand, RSPO-certified companies starting with more than 10% ROIC

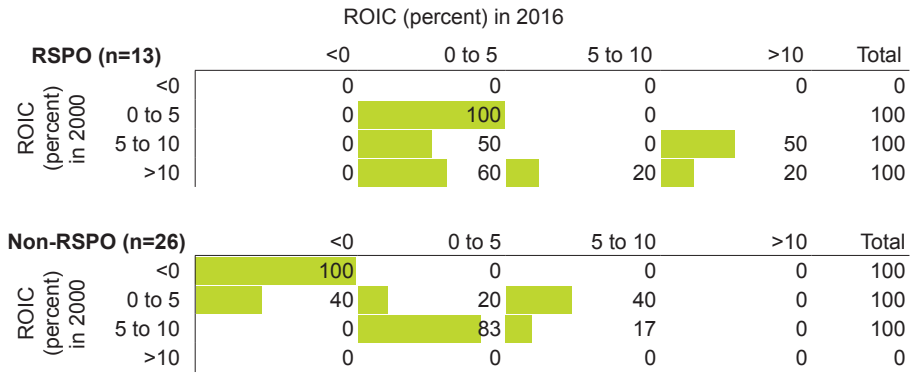

Figure 4. Transition probability of return on invested capital of RSPO and non-RSPO certified plantation companies in Malaysia.

had an equal chance of 20% to maintain in the same bracket and relegate to a lower bracket. They faced a greater chance of demotion to the 0%-5% bracket.

While RSPO certification does not guarantee future success, the probability of a RSPO-certified plantation company maintaining its ROIC of moving into a higher bracket is greater than its non-certified counterparts. Given the expectation that in a free market economy, there is acceptance that company performance will converge towards a mean over time (see below), nevertheless companies with an advantage are in a superior position over those who are struggling to reach or to maintain the mean.

DISCUSSION

In this study, we have explored the ROICs of Malaysian listed plantation companies with respect to their RSPO certification. Our exploratory findings help to better understand their financial performance. Past studies have reviewed agribusiness firms when compared against other listed companies and explored their differences (Katchova and Enlow, 2013); how ownership type relates to the performance of agribusiness firms (*e.g.* Notta and Vlachvei, 2007; Lerman and Parliament, 1990; Hardesty and Salgia, 2003; Oustapassidis *et al.*, 1998). The novel measure we used in this study is the application of ROIC – an important metric of financial performance for the inference of business and management expertise (especially capital allocation). It is a metric favored by professional investors. Compared to ROA and ROE, ROICs allow us to have a fairer, more objective view of financial performance without distortions (*e.g.* a firm's chosen capital structure and share buybacks).

Our findings reveal that the ROICs of RSPO-certified companies was getting closer to the aggregate median over time. Although this is not a smooth pattern of mean reversion, it is consistent with financial literature that the performance of companies generating high returns tend to fall gradually over time (De Bondt and Thaler, 1987). Based on microeconomic theory, highly profitable businesses attract competition and competition in a slow growth market erodes the financial performance of the high performers (Ghemawat, 1986). While competition exists in the Malaysian palm oil industry, storable CPO reduces the degree of rivalry among plantation companies. Instead, palm oil industry competition is determined by the geography of their domicilation, especially as that impinges access to supplies and buyers.

Importantly, our analysis of the panel data suggested that RSPO-certified plantation companies consistently outperformed their non-certified counterparts throughout the 2000-2016 period. This was not only a direct consequence of the price premiums. Based on the ROIC framework, the superior performance of RSPO-certified plantation companies was an intertwining consequence of both operating efficiency and capital efficiency.

In the report of Levin *et al.* (2012), Chandran (who is an Advisor to RSPO and a former Chief Executive of the Malaysian Palm Oil Association) noted that RSPO certification has had transformative effects encompassing more resilient crop, and higher labour and input productivity – all of which elevate operating efficiency. More stable, improved business and stakeholder relations were also cited. This social aspect is particularly interesting since corporate social activities are increasingly viewed as a means to secure FFB supply from neighbouring communities, to enable trade agreement with buyers for quicker turnover, and to secure low-interest capital from financiers. The improved business

and stakeholder relations therefore offer potential to enhance capital efficiency. Although such links may not be immediately clear to the management, they become a self-reinforcing symbiosis in which at least part of the positive returns are automatically "reinvested" to further improve the relationship.

Apart from the direct financial aspects, Levin *et al*. (2012) also highlighted the accrual benefits associated with RSPO certification. These include lowering labour turnover, lowering accident rates, improving motivation, and enhancing operation. As these values are difficult to quantify, they cannot be used for part of the accounts and, thus, are often not immediately clear to the plantation companies. Our study, in some measure, empirically captures these hypotheses, since the RSPO-certified portfolio clearly outperformed its non-certified counterparts. Importantly, their superiority over the non-RSPO portfolio was persistent – even in the face of gradual decline to the mean.

CONCLUSION

This study suggests that for plantation companies, investment in compliance with RSPO requirements should not be regarded as an additional financial burden. Instead, there are demonstrately advantageous effects related to best management practices, which should lead to operating and capital efficiencies. Additionally it results in the beneficial factors discussed, which go beyond the tangible returns accepted by accounting standards.

From a policy point of view, evidence suggests that policy measures directed towards encouraging plantation companies to adopt a sustainability standard should take the objective benefits associated with certification into consideration. For example, business motivation can be improved by emphasising the salient, direct and indirect positive financial accruals consequent upon adoption. This should become a sufficiently effective motivation, thereby increasing the acceptance of certification. Transforming plantation companies to produce sustainable products through certification is particularly relevant since smallholders (plasma) rely on plantation companies (nucleus). The adoption of RSPO certification must begin with the plantation companies.

Many authoritive writings (*e.g.* Timmer, 1988; Matsuyama, 1992) concur that the primary motivation in any agricultural sector is a sustainable, improved productivity and output growth. While palm oil companies are concerned for the sustainability of their enterprise, they have lacked convincing proof that the effort that must be made to reach and then maintain sustainability standards represent more than an additional cost, let alone produce additional profits commensurate with effort.

Therefore, skeptism towards the financial implications of standard certification is a source of cognitive dissonance with the potential to produce biased management decisions. Given its prevalence, the standard authority, adopters and stakeholders should base their communication on value creation opportunities that may be derived from embracing the standard. Communication of real understandings as to why and how the standard will strengthen a palm oil business in terms of operating efficiency and capital efficiency is one way of reducing the risk of cognitive dissonance.

Palm oil is a critical component of Malaysia's prosperity. Malaysia has become the world leader in the sector because of its ability to pick trends and create policies favourable to exploiting those trends. Notwithstanding, the concerns of growers that sustainability standards should be a quantifable, value adding activity, the macro industry needs to be mindful that it relies on a sophisticated but fickle international market. There has been a growing resistence to the use of palm oil and palm oil products because an ill informed belief that all oil palm is produced on destroyed forest land. Vocal pressure groups often exercise disproportionate influence in western democracies. Were current trends to continue such that the EU, for instance, bans the importation of product containing unsustainable certified palm oil, the effect on the industry could prove catastrophic.

The Malaysian government policy that all palm oil must be certified sustainable by 31 December 2019 is a matter of common sense and ensuring survival. The problem has been to translate this macro concern to farm gates concentrating on achieving profitabilty to ensure their own survival. We hope that this paper helps to bridge that gap.

We acknowledge the limitation of this study in term of its generalisability. Further, deeper investigation is needed to identify the key drivers of financial performance and whether outperformance and persistence also prevailed in the larger, small and medium enterprises population with respect to palm oil certification. Regression analysis could help address these concerns. Beyond the scope of sustainability standard, academic research has some readily explanations to companies' financial returns. The challenge remains in offering explanations for their persistence of outperformance. Importantly, since our study is specific to plantation companies,

agribusiness firms should not over interpret our findings. Future studies should investigate how a sustainability standard contributes to financial performance by types of agribusiness.

ACKNOWLEDGEMENT

This work received financial support from the Malaysian Ministry of Education through the Putra Grant (Vot No. 9555800) of Universiti Putra Malaysia. The authors wish to thank the Director-General of MPOB for allowing this article to be published.

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