CASH CONVERSION CYCLE EFFECTS ON PROFITABILITY OF MALAYSIAN PLANTATION SECTOR

Nazaria Binti Md. Aris*, Brenda Nu Minggu, Tan Yuin Weng, Lim Pei Jia and Ahmad Syubaili Mohamed
Faculty of Economics and Business. Universiti Malaysia Sarawak,
Kota Samarahan, Sarawak
*Corresponding e-mail: masyubaili@unimas.my

ABSTRACT

The cash conversion cycle (CCC) is a crucial indicator in determining how efficiently a firm can turn its inventory into sales and subsequently into cash. Data from 43 firms listed in Bursa Malaysia from 2016 to 2019 were used to study the relationship between the CCC and profitability. The determinants for CCC are the days sales outstanding (DSO), days payables outstanding (DPO), and days inventory outstanding (DIO) while profitability is represented by the return on assets (ROA) of the firms. The data were collected from the published annual reports and audited financial statements of the local plantation firms and analyzed using EViews version 10. The result reported that DSO positively influences profitability significantly. DIO also reported a positive influence on profitability but the relationship is insignificant. On the other hand, DPO has an adverse effect on profitability and the relationship is insignificant. The findings provide useful information for the Malaysian government, investors, and policymakers in developing effective policies, rules, or regulations to promote economic productivity, growth, and the best plantation financing decision.

Keywords: Cash Conversion Cycle, Profitability, Days Sales Outstanding, Days Payables Outstanding, Days Inventory Outstanding, Return on Assets

INTRODUCTION

In Malaysia, agriculture is an important industry. This industry has been the foundation of Malaysia's economy for decades, supplying agricultural products as a foreign exchange earner for domestic consumption. Agriculture also contributes to the Gross Domestic Products National (GDP). It provides people, especially from rural areas, with significant jobs. While its share of the nation's GDP has fallen sharply from around 30 percent in the 1970s to just 7 percent in 2013, the agriculture industry remains a major growth driver in Malaysia. However, such statistics do not represent the true significance of the Malaysian agricultural economy (Othman, 2014). Raising awareness of environmental protection and green consumerism issues has generated a host of unforeseen challenges at the global and national levels, further affecting the agriculture industry in Malaysia. Without adequate management practices, these patterns could hinder the long-term and short-term ability of the industry to continue contributing to the nation's socioeconomic growth, especially the rural economy. Therefore, managing their working capital effectively is essential for businesses in the plantation industry. This is because working capital management decisions are focused on the management of short-term assets and liabilities, to ensure that the firm can continue operations and provides enough cash flows to fund short-term debt maturities and running expenses, as well as improve the firm's profitability. In recent years, fierce competition has drawn focus on the argumentation of short-term investments, giving WCM a major role in the company's profitability. WCM has been extensively studied and used to assist in short-term financing, but there is minimal specific

research has been carried out, particularly in the plantation industry. On the other hand, there is research conducted on the relationship between the cash conversion cycle but not mainly on its effect on the profitability of a firm. For that reason, there is very scarce research that can prove the effectiveness of implementing the cash conversion cycle to boost firm profitability.

This study has identified three major problems for the CCC and profitability. *Firstly*, poor management of working capital can result in broad triggers of business failure and even corruption in the plantation industry. According to Samson et al. (2012), firms with insufficient working capital suffer a significant disadvantage. For instance, inadequate working capital will cause the risks of late payments and defaulting debtors to their investors or suppliers (Atrill, 2009). In this sense, this problem can expose the firm to a lawsuit, and even worse, bankruptcy (Akbar et al., 2019). As a result, this will also directly jeopardize their future business as well as the reputation of the firm. Therefore, to prevent such a situation to happen, this study wishes to analyse the effect of cash conversion on profitability if it is fully utilized and to justify the relationship between the cash conversion cycle and profitability of plantation firms. This study also wants to ensure that firm managers have better insights into how to sustain their firm by managing their working capital effectively. A sufficient cash flow is vital to determine the success and sustainability of a business. This situation is because the amount of cash on hand available at any given period can affect both daily and long-term operations. *Secondly*, another obvious problem that triggers the sustainability of plantation firms is due to the inefficient working capital that it can lead to insufficient cash flows, which may also cause day-to-day business operations to become more challenging. Cash flows from operations depict the cash-generated or cash-depleted in the firm's daily operations and business activities. As mentioned in a study by Nazaria et. al. (2019), a growing firm may experience negative operating cash flows in the initial stages of growth due to the expansion of inventory and payment of short-term maturing obligations and thus, indicates the firm's expenditure is higher than its revenue. According to Safiah et al. (2015), firms are still lacking real-time statistics and metrics to measure the effectiveness of their working capital strategies. Therefore, due to limited access to information on working capital management, businesses tend to run out of cash quickly (Makovsky, 2012). *Thirdly*, the problem faced by the plantation industry in Malaysia is the lack of manpower.

Despite the fact that the Malaysian government has developed development policies with multiple targets to ensure the growth of the plantation industry, the number of workers working in the oil palm plantation is inadequate and gives rise to difficulties linked to both economic and social factors (Alam, Er, & Begum, 2015). According to a 2012 survey, the overall labour pool consists of approximately 491,000 workers, most of whom are foreign workers, mainly from Indonesia, looking after approximately 675 million palm trees covering 5.0 million hectares of land, of which 4.3 million hectares are covered by mature trees and the rest by immature ones. In recent years, a deficit in the land labour ratio has been reported to have a negative impact on palm cultivation, especially in plantations that rely on hand harvesting for the collection of Fresh Fruit Bunches (FFB) from trees. The lack of jobs, often prevalent in workers' fields, has a direct influence on the per-hectare yield. As a result, either FFB is left unharvested or FFBs collected cannot be supplied to the mill promptly, resulting in FFB rot in the trees or after processing, and eventually, a drop in the annual crop production. Thus, the undue failure in the palm supply chain incurred by the unrecoverable fruits left in the tree is noticeable largely because of the deficiency of workers. Thus, firms could avoid business failure if they maintain efficient WCM. For this purpose, firm managers should know how to utilize WCM as a short-financing tool in their business. As CCC also leads to the outcome of the cash flow of a firm, this study needs to justify whether each of the CCC components may have positive effects on the profitability of firms in the plantation industry. Besides, previous researchers provide empirical evidence with mixed results but failed to consider the plantation

industry as one of the most crucial industries that can help to enhance the Malaysian economy. Based on the problem statements discussed above, this study established the general objective of this study i.e. to investigate the effects of the cash conversion cycle on the profitability of Malaysian plantation firms. This has led to the following specific objectives:

1. to analyse the effect of Days Inventory Outstanding on the profitability of plantation firms in Malaysia.
2. to determine the impact of Days Sales Outstanding on the profitability of plantation firms in Malaysia.
3. to investigate the influence of Days Payable Outstanding on profitability of plantation firms in Malaysia.

This study contributes to the body of knowledge through a better grasp of the literature related to the cash conversion cycle on profitability in various manners. The results from the analysis could be utilized as a basis for further research in the fields of business, accounting, and finance in Malaysia by other researchers. It also contributed to the most recent information on the cash conversion cycle, which policymakers could use to examine the current variables affecting firm profitability. Moreover, this research provides the advantage of readily accessible data on the cash conversion cycle. Prior research has focused on the cash conversion cycle as one variable instead of separately using the three main components of the cash conversion cycle as the variables in the study. Hence, the upgraded research can provide a clearer view of the latest changes in the cash conversion cycle, which is in line with the unstoppable development of the Malaysian market. This study also identifies the critical management areas for evaluating management effectiveness and success to improve stakeholder welfare. Besides that, the findings of this study portray the significance of cash conversion cycle activity to appeal to the managers and key stakeholders such as investors, creditors, and financial analysts. Profitability may be affected by a change in the variable's movement, which consequently altered the decision in the cash conversion cycle. Management may benefit from the results of this study by making better decisions about how to manage working capital and the cycle to improve profitability. Managing the working capital and cycle efficiently results in enhancing the firm's profitability is crucial for investors. Hence, market participants must have a thorough understanding of working capital policies and how they affect profitability. This, therefore, adds a novelty to this study that few other researchers have been able to explore.

LITERATURE REVIEW

Cash Conversion Cycle

The cash conversion cycle is a very essential aspect of WCM, since it directly influences the company's liquidity and profitability. Effective management of CCC allows managers more leverage over the short-term investments of a business, which can in turn impact risk, performance, and therefore firm valuation. (Yazdanfar & Ohman, 2014)Effective control of working capital is critical because it directly affects the development and long-term sustainability of the business, as high working capital levels are necessary to meet the growth of demand and revenue growth. In addition, companies' effective WCM means freeing up cash from inventory, receivable balances, and payable accounts. Firms can reduce their reliance on costly sources of external financing by handling these components efficiently. This would improve the productivity of the use of components of working capital and contribute to more profitability and consumer value formation. Other than that, a longer or shorter cash conversion cycle has been a confusing puzzle to the corporate world in their financial management. Holding high inventory levels on the hand of longer CCC will minimize the risk of possible

interruptions or disruptions in the supply chain due to the absence of products for delivery, minimize the cost of ordering, and caution against inflation or a rise in demand. A study by Muturi (2015) also states that prolonging trade loans to consumers, it can boost the profits of the business as trade loans serve as price discounts as well as incentives for customers to purchase items while demand is poor. Moreover, it also encourages clients to monitor and check the consistency of the products before paying for them and allows the organization to improve its long-term partnership with its clients (Muturi, 2015). Similar claims also can be found in a study by Gill et. al. (2010) where he states that the higher the cash conversion cycles, the higher the profitability of the firm. Further support from a study by Hakim Lyngstadaas and Terje Berg (2016), notes explicitly that longer CCCs would lead to higher working capital costs and vice versa. Ergo, Longer CCC would reduce the probability of stockouts and facilitate more transactions, thus increasing efficiency (Lyngstadaas & Berg, 2016).

However, these claims can be contended by Nobanee et. al. (2011) who suggest that it is easier to shorten the CCC as it increases a company's profitability, and the longer the cash conversion cycle, the greater the need for costly external funding. Although scarce, this assertion can be reinforced by similar allegations in the present study of Mohammad (2011) on another industry, specifically the industrial industry, it pointed out that a shorter cash conversion cycle can enhance profitability since longer CCC can cause a greater need for the firm to look for ways to finance their operations. Similarly, a study by Altaf and Shah (2018) also mentioned that profitability increases at lower levels of CCC and decreases at higher levels of CCC. Consequently, a study by Ebben and Johnson (2011) clarifies that minimizing the DSO, combined with lower inventory and longer supplier credit terms, leads to a shorter CCC, and working capital policy will increase profitability, including a shorter CCC and a lower capital level. Furthermore, a study by Isaac (2020) also supported that A longer cash conversion time has a negative impact on a firm's profitability. This statement also aligns with a study by Yazdanfar and Othman (2014) where holding working capital at a higher than ideal pace would contribute to the detainment of financial resources in unprofitable situations. Moreover, he also argues that longer CCC is less profitable since the increase in the average collection period (DIO and DSO) would contribute to a decline in the firm's profitability. In brief, increased inventory levels and receivable accounts significantly raise working capital and thus begin to increase the expense of maintenance of working capital.

Despite the longer or shorter cash conversion cycle, a study by Majeed et. al. (2013) states that as long as a firm can market its goods and raise cash from debtors, it can still be effective and stable. As far as profitability is concerned, the duration of the cash conversion cycle does not make a difference (Majeed, Abdul, Saba, & Tariq, 2013). As any business firm is highly concerned with how profitability can be maintained and enhanced, it must also keep an eye on the variables that affect profitability. In this respect, all firms should not neglect liquidity management and its impact on the risks and returns of their business, and thus the CCC must be explored as an indicator of liquidity management as to how it can influence the profitability of the firms.

Profitability

According to Tauringana and Afrifa (2013), profitability is commonly characterized as the "ability of an organization to acquire or obtain financial profit. Corresponding to Huynh (2010), profit is not identical to profitability. While profit in a given trading period is the excess of income over sales expense, profitability is the potential to profit from all of an enterprise's operations. To be exact, after all, expenses, including interest paid on loans, have been deducted, profit is the balance of sales revenue; it thus reflects a return to stock investors. (Bashar & Islam, 2014). This study is different from the definition of probability whereby according to a study by Sessian et. al. (2018), profitability is seen as an indication of growth,

enhancement, and a metric that represents the firm's sustainability. A study by Onwumere, Ibe and Ugbam (2012), states that the success and progress of any organization depend significantly on its profitability. To place more emphasis, research by Tauringana and Afrifa (2013) also reports, that the firm is likely to fail at some stage without making a profit. Nousheen and Arshad (2013) also affirm this argument, where their study notes that profitability is essential to corporate growth, especially in competitive markets. In the structure and growth of the firm, profitability plays a major part because it evaluates the success and progress of a firm. Similar allegations by Mistry (2012) also stress that profitability is critical for the firm's sustainability and development. Profitability is commonly measured by Return on Assets (ROA). Based on a study by Obalemo et. al. (2020), ROA is a significant ratio of financial success because it calculates the effectiveness with which the business controls asset accumulation and uses it to earn earnings. ROA is used to calculate the performance of a firm in generating income by utilizing its reserves. Moreover, ROA is also used as a tool to calculate the rate of return after interest expenditure and taxes on total assets. Therefore, in this study, ROA will be used as the measurement of profitability. Profitability, dividend growth, and revenue turnover are commonly used to examine the firm's financial performance (Nor Farizal, Sazalina, Mira Susanti, & Afizah, 2020). In general, profitability is defined as the earnings of a firm that are obtained from sales after deducting all expenditures incurred during a given duration. It is one of the critical factors signaling the performance of management, the satisfaction of customers, the appeal of buyers, and the survival of the business (Mustafa Bekmezci, 2015). In the long run, profitability is the primary basis for the growth and survival of every firm in the market. Part of a business's success relies primarily on the way the firm also uses its resources. Interestingly, many firms may neglect the value of WCM which leads to their inability of them to maximize their capacity. Hence, a firm must deal with working resources correctly and properly, as an inability to maintain working capital well can not only lead to a decrease in profits but can also lead to major consequences for the firm, such as a financial crisis (Saidu & Zakari, 2016).

The profitability of the firms in the Malaysian plantation industry is quite impressive, as reported by Bank Negara Malaysia. Being the fourth highest in Malaysia, the plantation industry is one of the major contributors to the national GDP with a record of RM54,299 million in 2011. The major obstacle faced by Malaysian firms is how stability and sustainability can be accomplished (Alarussi & Alhaderi, 2018). In order to do this, the firm must have a good perspective of particular internal and external conditions, especially in how the business functions. Managers 'productivity and efficiency rely on their capacity to understand those elements that can improve a firm success and profitability (Burja, 2011). This circumstance also extends to Malaysian firms whether they plan to participate in the developing market on an ongoing basis. During the Asian Financial Crisis, the Malaysian currency began to depreciate and plunged to about 50% of its value between 1997 and 1998. Businesses cannot slash prices to increase competition so they will rely on devaluation. Besides that, the long-term recession could lead to lower productivity due to a decline in incentives and inflation. (Miloš Todorović, Mario Veličković, 2010). This situation provides an unclear image of the performance of businesses in Malaysia. Therefore, this study seeks to establish if the CCC is one of the determinants contributing to the profitability of the plantation industry.

Theoretical Framework
There are three types of theories have been applied to this study. The theories are:

Transaction Cost Theory
The theory devises businesses, economies, and other entities as collections of contractual agreements for managing economic transactions. Market transaction costs and control costs are

triggered by the theory's main variables that are related to the characteristics of economic transactions, which include frequency, uncertainty, and specificity of assets. The fundamental argument in this theory is agreements will be conducted in a manner that the risk of handling them out will be reduced. Thus, the goods apply to finances dedicated to handling working capital. The major problems in working capital management are currency, debtors, stocks, and creditors. Therefore, the management requires comprehensive preparation and dedication to resources. The stock should be mathematically modeled to form a simple policy outlining the time and quantity of stock that should be purchased and its associated expenses. Firms can choose between the relative advantages of the two net working capital management methods under the most realistic circumstances, which is to reduce the spending in working capital or implement policies in working capital to boost profitability.

Trade-Off Theory

Abuzayed stated that trade-off theory describes a trade-off between profitability and risk involved with the number of existing assets and liabilities (2012). In decision-making, managers apply various criteria, which include liquidity and sustainability. A study by Kaharuddin and Ahmad (2016) shows that this theory supports the adverse relationship between CCC and profitability. According to trade-off theory, firms have to balance sustainability and liquidity as the high cost may be incurred due to heavily relying on liquidity. Thus, the management of a corporate organization is facing challenges in obtaining optimal trade-offs between liquidity and sustainability. Liquidity is a precondition to ensure businesses can satisfy their short-term commitments. As such, firms must manage their business effectively and profitably to prevent losses.

Cash Conversion Cycle Theory

The theory explains a cycle that starts with payment for raw materials continues with transformation and development of new products and ends with collections of receivables from buyers and potential debtors. Richard and Laughlin (2008) articulated that not all working capital investments have the same life expectancy. Additionally, the investments have a different rate to useful cashflows. Since a firm's ongoing liquidity is a result of its CCC, a CCC evaluation is more applicable than liquidity metrics in evaluating it. According to Arnold (2008), the shorter the CCC is, the fewer resources the company will require. As a result, the higher the investment in working capital, the longer the cycle. Consequently, a longer cycle may enhance sales, resulting in increased profitability. However, this cycle may also result in larger investments, which may outpace the benefits of improved profitability.

Figure 1 represents the theoretical framework for the relationship between the CCC and profitability in Malaysia.
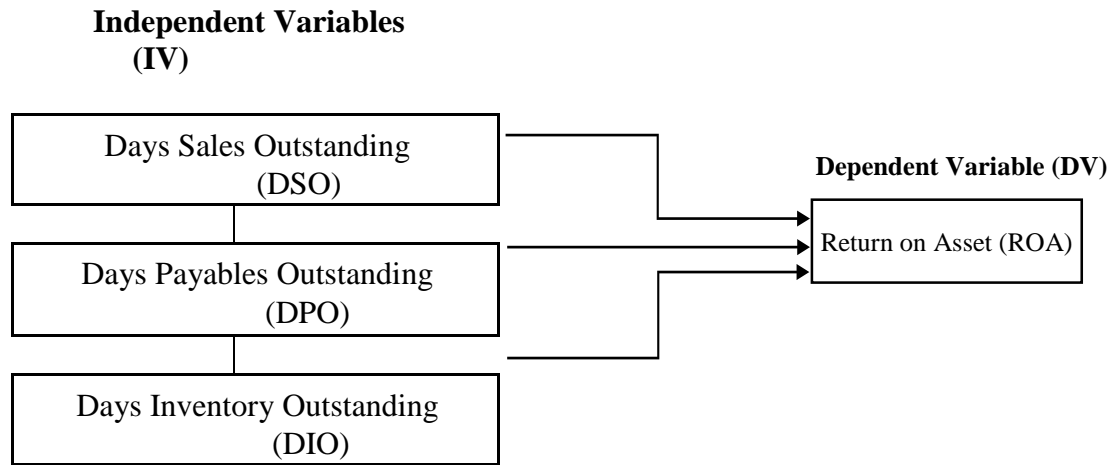
Independent Variables (IV)

Figure 1: Theoretical Framework

DATA AND METHODOLOGY

Based on a quantitative approach, this study emphasized the determinants for CCC on the profitability of 43 plantation firms listed in Bursa Malaysia. The determinants for CCC were the days sales outstanding (DSO), days payables outstanding (DPO), and days inventory outstanding (DIO) while profitability is represented by the return on assets (ROA) of the firms. DSO was measured by dividing the sum of accounts receivable for the period by the total value of credit sales for the same period and calculating the result by the number of days during the period measured by the total value of credit sales over the same period. DPO and DIO were calculated using the average number of days a firm takes to pay its suppliers and the average number of days that a firm holds its inventory before selling it respectively. The secondary data methodology was the data collection method used for this analysis. The secondary sources of data were collected from the published annual reports and audited financial statements of the sampled local plantation firms in order to collect adequate data for this study from 2014 to 2019. These years were picked because when this project commences, they are the most recent years and most of the plantation companies have begun to control their working capital and reform between these years. In addition, some of the necessary information for this study was collected from other search engines, such as the UNIMAS DataStream index, the official website, journals, and textbooks of the sampled plantation firms. In order to evaluate the various variables of this analysis, the E-Views software was used and the outcome generated are discussed in the next section.

RESULTS AND DISCUSSION

Descriptive Statistic

Table 1 presents the summary of descriptive characteristics of the variables used in this research. LEV has the highest mean followed by DSO, SIZE, DPO, and ROA with the least is DIO. DSO has the highest maximum followed by LEV, DPO, ROA, and DIO with the least is SIZE. A slight difference in the median, where SIZE is the highest while the following variables are in the same sequence. The minimum show SIZE and LEV with positive value

while ROA, DSO, DPO, DIO has negative value. The standard deviation for the set of data ranged from 723.9404 to 2.8597.

Table 1. Descriptive Statistics for ROA, DSO, DPO, DIO, SIZE, and LEV

Variables.	Mean	Median	Max.	Min.	Std. Dev
ROA	1.90550	0.02170	269.88320	-36.71170	23.46370
DSO	27.0135	0.84530	4541.0730	-6814.5430	723.9404
DPO	5.99610	-0.0732	1191.1440	-75.271500	91.17180
DIO	-0.6936	-0.0337	65.373800	-108.97200	9.974100
SIZE	19.9050	20.4082	24.938100	0.0000000	2.859700
LEV	81.1860	0.32020	2547.8860	0.0000000	296.9750

Variables.	ROA	DSO	DPO	DIO	SIZE	LEV
Mean	1.905500	27.013500	5.996100	-0.693600	19.9050	81.1860
Median	0.021700	0.8453000	-0.073200	-0.033700	20.4082	0.320200
Max.	269.8830	4541.0730	1191.1440	65.373800	24.9381	2547.8860
Min.	-36.7117	-6814.5430	-75.27150	-108.9720	0.00000	0.000000
Std. Dev	23.4637	723.940400	91.171800	9.9741000	2.85970	296.9750

Correlation Matrix

Table 2 illustrates the correlation between the variables. Referring to the results, DPO, SIZE, and LEV have a negative relationship with ROA, while DSO and DIO have a positive relationship with ROA. However, DSO is the only variable that is positively significant at the 1% significant level. Contrarily, DPO, DIO, SIZE, and LEV are statistically insignificant at a 5% significance level. As a result, changes in DPO, DIO, SIZE, and LEV do not affect ROA. There is an insignificant inverse relationship between DSO and SIZE. Moreover, SIZE and LEV have a negatively significant relationship with DPO. Besides that, SIZE has an insignificant negative relationship with DIO. Lastly, LEV has a significant negative relationship with SIZE.

Table 2. Correlation between ROA, DSO, DPO, DIO, SIZE, and LEV

	ROA	DSO	DPO	DIO	LEV	SIZE
ROA	1.0000					
DSO	0.3614	1.0000				
DPO	-0.0035	0.2722	1.0000			
DIO	0.0107	0.1403	0.5654	1.0000		
SIZE	-0.1351	-0.0178	-0.0014	-0.0778	-0.4468	
LEV	-0.0038	0.0424	-0.0187	0.0015	1.0000	-0.4468

Pooled Ordinary Least Squares (POLS) Regression Model

Table 3 shows the result of the POLS regression model, whereas DPO, SIZE, and LEV have a negative relationship with ROA while DSO and DIO show a positive relationship with ROA. The result indicates that if DPO, SIZE, and LEV fall by 1%, ROA will rise by 0.0303%, 1.4119%, and 0.0079 respectively. Moreover, with the increase of DSO and DIO by 1%, the increase in ROA will be up to 0.0129% and 0.0209% respectively. From the result, all the variables are insignificant since their P-values of 0.3559, 0.6569, 0.4283, and 0.4389 exceeded the critical value. It means that in the POLS model, all the variables do not contribute to Tobin's Q. Meanwhile, the POLS model equation is formed as follows from the results in Table 3:

$$ROA = 30.5165 + 0.0129DSO - 0.0303DPO + 0.0209DIO - 1.4119SIZE - 0.0079LEV + \varepsilon_i$$

Table 3. Pooled Ordinary Least Squares (POLS) Regression Model Result

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	30.5165	13.4053	2.2764	0.0241
DSO	0.0129	0.0024	5.3013	0.0000
DPO	-0.0303	0.0229	-1.3213	0.1883
DIO	0.0209	0.2050	0.1021	0.9188
SIZE	-1.4119	0.6573	-2.1480	0.0332
LEV	-0.0079	0.0063	-1.2474	0.2140

Fixed Effect Model (FEM)

Table 4 shows the result of FEM, whereas ROA has a positive relationship with DSO and DIO and a negative relationship shown with DPO, SIZE, and LEV. The results referring that DPO, SIZE, and LEV rise by 1% will reduce ROA to 0.0280%, 1.4487%, and 0.0071% respectively. On the other hand, ROA rises to 0.0126% and 0.0222% as DSO and DIO increase by 1%. However, SIZE is significant at a 5% significant level while other variables are insignificant as their p-values are more than the critical value. The FEM equation is formed as follows from the results in Table 4:

$$ROA = 31.1738 + 0.0126DSO - 0.0280DPO + 0.0222DIO + 0.14487SIZE - 0.0071LEV + \varepsilon_i$$

Table 4. Fixed Effects Model (FEM) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	31.1738	15.5395	2.0061	0.0471
DSO	0.0126	0.0028	4.5082	0.0000
DPO	-0.0280	0.0264	-1.0586	0.2919
DIO	0.0222	0.2358	0.0943	0.9250
SIZE	-1.4487	0.7603	-1.9055	0.0591
LEV	-0.0071	0.0075	-0.9407	0.3487

Hausman Test

Table 5 presented the result of the Hausman test. Hausman's test result shows a Chi-square of 0.212878 with a p-value of 0.9990, which is more than 5% of the significance level, and therefore, we do not reject the null hypothesis. As a result, REM is preferred as compared to FEM.

Table 5. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.212878	5	0.9990

Random Effect Model (REM)

Table 6 displays the result of REM, whereas ROA has a positive relationship with DSO and DIO while a negative relationship is shown with DPO. The results referring that a DPO rise of 1% will reduce ROA to 0.0280%. On the other hand, ROA rises to 0.0126% and 0.0222% as DSO and DIO increase by 1%. However, SIZE is significant at a 5% significant level while other variables are insignificant as their p-values are more than the critical value. The FEM equation is formed as follows from the results in Table 6:

$$ROA = 30.5518 + 0.0128DSO - 0.0302DPO + 0.0209DIO - 1.4140LEV - 0.0078LEV + \varepsilon_i$$

Table 6. Random Effect Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.5518	13.6088	2.2450	0.0261
DSO	0.0128	0.0024	5.2193	0.0000
DPO	-0.0301	0.0233	-1.2967	0.1966
DIO	0.0209	0.2079	0.1005	0.9200
SIZE	-1.4140	0.6669	-2.1203	0.0355
LEV	-0.0078	0.0064	-1.2207	0.2240

Summary of Regression Model Discussion

Table 7. Summary of REM Regression Model

Variables	Dependent Variable: Tobin's Q		
	Coefficient	T-statistic	Probability
Constant	30.55180	2.245003	0.0261
Independent Variable			
DSO	0.0128	5.2193	0.0000
DPO	-0.0301	-1.2967	0.1966
DIO	0.0209	0.1005	0.9200
Control Variable			
SIZE	-1.4140	-2.1203	0.0355
LEV	-0.0078	-1.2207	0.2240
R-squared	0.166296		
Adjusted R-squared	0.140878		
F-statistic	6.542489		

According to the most preferred model, REM, only DSO contributes to this study, while DPO, DIO, SIZE, and LEV have no contribution. Firstly, by using a 1% significance level, DSO demonstrates a significant DSO relationship with ROA. This indicates that when the firm reduces its receivables period, the profitability of the firm increases. This is because when both parties – seller and buyer agree to a shorter periodical payment schedule, it would help both firms to increase their operational and economic efficiency. Nevertheless, the firm could also manage its cash flow efficiently. The findings certainly agree that firm profitability has an impact on DSO. However, this contradicts previous research, as most of the findings discuss an insignificant relationship between ROA and DSO. Secondly, by using a 5% significance level, DPO shows an insignificant negative relationship with ROA. where it implies if the firms can pay off creditors or suppliers earlier, this will enable suppliers to provide better products or services which will in turn increase the quality of products and services provided to customers. This decision would have increased the firm's profitability. However, since the finding indicates that there is an insignificant relationship between DPO and ROA, DPO does not significantly contribute to the firm's profitability. Thirdly, by using a 1% level of significance, DIO has a positive significant relationship with ROA. This implies that the shorter the time of inventory that cash is locked up, the lower the chance that the stocks and assets of the firm become outdated. Furthermore, the findings also stated that if the inventory turnover increases, this will affect the firm's profitability.

This is consistent with previous research by Yazdanfar and Ohman (2014) that also supported that DIO does have an impact on the profitability of the firm. Fourthly, SIZE has an insignificant negative relationship with ROA. This implies that larger firms are complex and challenging to manage, which may lead to organizational ineffectiveness. Hence, the findings stated that the size of the firm does not contribute to the firm's profitability. This is consistent with previous research from Ukaegbu (2014), Becker-Blease et al. (2010), Syah, Shahida & Fuad (2018), Banchuenvijit (2012) which also agreed that SIZE has a negative influence on

profitability. Lastly, LEV has an insignificant negative relationship with ROA. This implies that the firms might use more equity than debt to finance their business activities. Hence, the findings stated that a firm's leverage does not contribute to the firm's profitability. This is consistent with previous research by Ogebe et. al (2013) which also supported that leverage does not influence the firm's profitability. Thus, the result of the Hausman test, suggests that REM is the most appropriate model to be used to estimate the panel data in this study, and the summary of the hypotheses result is shown below.

Table 8. Summary of Hypotheses

Hypotheses	Results	Supported/Not Supported
H1: There is a significant relationship between DSO and ROA.	Positively significant	Supported
H2: There is a significant relationship between DPO and ROA.	Negative insignificant	Not supported
H3: There is a significant relationship between DIO and ROA.	Positively insignificant	Not supported

CONCLUSION

This study aims to examine the effect of the cash conversion cycle on profitability. The scope of this study covers the plantation firms in Malaysia from 2016 to 2019. This study includes return on assets as a proxy to profitability while the determinants for the cash conversion cycle are the days sales outstanding, days payables outstanding, and days inventory outstanding. This study also includes two control variables such as size and leverage for a better estimation model. The general theoretical literature on this topic is rarely found, primarily in the Malaysian context. Therefore, the main research question in this study is that "How does the cash conversion cycle affect profitability for plantation firms in Malaysia?" The pooled OLS model has been used in this study to detect heteroskedasticity and autocorrelation problems. Meanwhile, there is no multicollinearity and normality problem. In summary, this study reveals that the pooled OLS model is robust enough to answer the research question.

Further, based on the research findings, all the expected relationships between the independent variables and the dependent variable are consistent with the results from the pooled OLS model. Firstly, the independent variable of DSO is statistically not significant and has a positive relationship with profitability. The result of this research is inconsistent with prior research such as López et al. (2020), Suzila et al. (2019), Enow & Brijlal (2014) since DSO is not significant with ROA. Secondly, DPO has a statistically insignificant and adverse relationship with profitability at a 5% significant level. This result is in line with a study by Sharma and Kumar (2011) which means that paying suppliers early would allow them to deliver better products or services, which will improve the quality of products and services given to consumers and hence profitability. Thirdly, the independent variable of DIO has a statistically not significant and positive relationship with ROA. The result of this research is consistent with prior research, such as the studies of Padachi (2006), Deloof (2003), Raheman and Nasr (2007), which shows that the smaller the number of days of inventory, the higher the profit. Thus, transaction cost theory, trade-off theory, and cash conversion cycle theory are accurate and applicable in the plantation industry in Malaysia.

Several limitations could not be avoided in this study. These constraints had no major impact on the study's findings. However, these limitations as mentioned below can also present opportunities for future study improvement. The first limitation of this study is the small sample size. The sample size was limited to 43 firms from the whole Malaysian plantation industry as the study's emphasis was on public listed plantation firms in Bursa Malaysia. Due to a lack of resources, the study did not include private plantation firms as their incorporation did not meet the research objectives outlined in chapter one. Since there are only 43 public-

listed plantation firms in Malaysia, the study should include data from private firms as well. It is to ensure that all plantation firms are included to obtain better and more accurate implications of cash conversion toward profitability. Since there are only 43 public-listed plantation firms in Malaysia, future studies should include data from private firms as well. It is to ensure that all plantation firms are included in order to obtain better and more accurate implications of cash conversion toward profitability. Another limitation on variables has led to independent variables in this study which are DSO, DPO and DIO showing inconsistent correlation result with previous studies. In this study, DSO shows no significant relationship; DPO is negatively insignificant while DIO is positively insignificant toward ROA, respectively. This results in the problem in correlation analysis as this study could not give a clear result to short-term financing which is the shorter the CCC of a firm, the higher the profitability. Thus, it is a recommendation that the next study, should utilize more explanatory variables to investigate on firm's profitability such as sales growth, gross profit margin, and EBIT margin. Besides that, the profitability of a firm can also measure by using Return on Equity (ROE) and Tobin's Q. Therefore, using different variables, can help future researchers to conduct a better investigation, especially in determining a firm's profitability.

ACKNOWLEDGMENT

REFERENCES

Achode, B., & Rotich, G. (2016). Effects of accounts payable as source of financing on performance of listed manufacturing firms at the Nairobi Securities Exchange. *International Journal of Research Studies in Agricultural Sciences*, 24-32.

Afrifa, G., & Padachi, K. (2016). Working capital level influence on SME profitability. *Journal of Small Business and Enterprise Development, 23*(1), 44-63. doi:http://dx.doi.org/10.1108/JSBED-01-2014-0014

Ahsan, A., Minhas, A., Tang, W., & Qureshi, M. (2019). Is bankruptcy risk tied to corporate life-cycle? Evidence from Pakistan. *Sustainability, 11*(3), 678.

Ajayi, V. O. (2017). Primary Sources of Data and Secondary Sources of Data. doi:10.13140/RG.2.2.24292.68481

Akbar, H. Y., & Tracogna, A. (2018). The sharing economy and the future of the hotel industry: Transaction cost theory and platform economics. *International Journal of Hospitality Management 71*, 91-101.

Alarussi, A., & Alhaderi, S. (2018). Factors affecting profitability in Malaysia. *Journal of Economic Studies*. doi:https://doi.org/10.1108/JES-05-2017-0124

Altaf, N., & Farooq, A. (2018). How does working capital management affect the profitability of Indian Companies. *Journal of Advances in Management Research*. doi:doi.org/10.1108/JAMR-06-2017-0076

Boisjoly, R., Conine, T., & McDonald, M. (2020). Working capital management: Financial and valuation impacts. *Journal of Business Research, 108*, 1-8. doi:10.1016/j.jbusres.2019.09.025

Çam, A., & Özbek, A. (2015). The effect of Cash Conversion Cycle on profitability of Small and Medium Sized Enterprises. *International Journal of Management Sciences and Business Research, 4*(2), 2226-8235.

Doan, T.-T. (2019). Working capital management and profitability of fisheries enterprises by applying GMM. *International Transaction Journal of Engineering, Management & Applied Science & Technologies, 11*(5).

E. Chuke Nwude, Elias I. Agbo, & Christian, I.-L. (2018). Effect of Cash Conversion Cycle on the profitability of public listed insurance companies. *International Journal of Economics and Financial Issues, 8*(1), 111-117.

Fernández-López, S, Rodeiro-Pazos, D., & Rey-Ares. (2020). Effects of working capital management on firms' profitability: Evidence from cheese-producing companies. *Agribusiness*. doi:10.1002/agr.21666

Hemalatha, S., & Kamalavalli, A. (2018). Profitability analysis of cement companies in India. *International Journal of Current Research and Modern Educatio, 3*(1), 303-308.

Husain, S., & Alnefaee, S. (2016). The effects of working capital management on profitability of firms: Evidence from agriculture and food industry of kingdom of Saudi Arabia. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB) An Online International Research Journal, 5*(1), 1684-1698.

Jex, C., & Burgees, J. (2016). Cinderella effect. *The Encyclopedia of Evolutionary Psychological Science*, 1-3. doi:10.1007/978-3-319-16999-6_1864-1

Kaharuddin, F., & Mazlan, A. (2018). The relationship between working capital management and profitability of bumiputera-controlled companies in Malaysia. *Indian-Pacific Journal of Accounting and Finance (IPJAF), 2*(3), 24-34.

Lyngstadaas, H., & Berg, T. (2016). Working capital management: Evidence from Norway. *International Journal of, 12*(3).

Muturi, H. M. (2015). Effects of Cash Conversion Cycle on profitability of tea factories in Meru country, Kenya. *International Journal of Economics, Commerce and Management, 3*(8), 552-563.

Nazaria, M. A., Razman, A., Trofimov, I., & Nurhidayah, S. (2019). The effect of cash flows on firm's profitability of construction sector in Malaysia. *UNIMAS Review of Accounting and Finance, 2*(1).

Ng, K. (2019 , May 18). *Dutch Lady story: The Malaysian milk brand with roots half a world away*. Retrieved from South China Morning Post: https://www.scmp.com/lifestyle/food-drink/article/3010479/dutch-lady-story-malaysian-milk-brand-roots-half-world-away

Nguyen, L., & Mohanlingam, S. (2018). The effects of Cash Conversion Cycle on profitability: An insight into the agriculture and food industries in Thailand. *Asian Journal of Business and Accounting. 11. 97-120. 10.22452/ajba.vol11no1.4., 11*(1), 97-120.

Ngwenya, S. (2012). the relationship between working capital management and profitability of listed companies on the Johannesburg Stock Exchange. *Journal of Modern Accounting and Auditing, 8*(8), 1204-1213.

Nor Farizal, M., Sazalina , A., Mira , S., & Afizah, H. (2020). Leverage, liquidity and profitability ratios: Accountability of Malaysian listed oil and gas firms. *Humanities & Social Sciences Reviews, 8*(2), 941-947. doi: https://doi.org/10.18510/hssr.2020.82104

Nwude, E. C., Agbo, E. L., & Ibe-Lamberts, C. (2018). Effect of Cash Conversion Cycle on the profitability of public listed insurance companies. *International Journal of Economics and Financial Issues, 8*(1), 111-117.

Obalemo, A., & Isaac, O. (2020). Effect of Cash Conversion Cycle (CCC) period on the profitability of selected food and beverage companies in Nigeria. *International Journal of Management Studies and Social Science Research, 2*(2).

Oseifuah, E., & Gyekye, A. (2016). Cash Conversion Cycle theory and corporate profitability: Evidence from non-financial firms listed on the Johannesburg Stock Exchange. *The Journal of Accounting and Management, 6*(3).

Prafitri , T., Rachmina, D., & Maulana, T. (2017). The effect of working capital on profitability of palm oil plantation companies. *Indonesian Journal of Business and Entrepreneurship, 3*(2).

Prafitri, T., Rachmina, D., & Maulana, T. N. (2017). The effect of working capital on the probability of palm oil plantation companies. *Jurnal Bisnin dan Keusahawan Indonesia (IJBE), 3*(2), 111. doi:https://doi.org/10.17358/ijbe.3.2.111

Safiah, F., & Nizam, I. (2015). The effects of working capital management on the profitability of plantation and petroleum sector in Malaysia. *International Journal of Accounting & Business Management, 3*(2). doi:10.24924/ijabm/2015.11/v3.iss2/87.108

Saidu, S., & Zakari, M. (2016). The impact of Cash Conversion Cycle on firm profitability: Evidence from Nigerian listed telecommunication companies. *Journal of Finance and Accounting, 4*(6), 342-350. doi:10.11648/j.jfa.20160406.15

Sare, Y., & Aawaar, G. (2018). Determinants of working capital requirement in listed firms: Empirical evidence using a dynamic system GMM. *Cogent Economics & Finance, 6*(1).

Sessian, L., Gharios, R., & Awad, A. (2018). Structural and market-related factors impacting profitability: A cross sectional study of listed. *Arab Economic and Business Journal 13*, 125-133.

Sitienei, W., & Memba, F. (2016). The effect of inventory management on profitability of cement manufacturing companies in Kenya: A case study of listed cement manufacturing companies in Kenya. *International Journal of Management and Commerce Innovations, 3*(2), 111-119.

Sugathadasa, D. (2018). The relationship between Cash Conversion Cycle and firm profitability: Special reference to manufacturing companies in Colombo Stock Exchange. *Journal of Economics and Finance, 9*(6), 38-47.

Suzila, M. Y., Nazaria, M. A., & Hikmal, M. I. (2019). The effect of working capital management on firm's performance of food and beverages sector in Malaysia. *UNIMAS Review of Accounting and Finance, 2*(1). doi:https://doi.org/10.33736/uraf.1999.2019

Syah, H., Shahida, S., & Fuad, S. (2018). Sustainability certifications and financial profitability: An analysis on palm oil companies in Malaysia. *Jurnal Pengurusan, 54*, 143-154.

Szulczyk, K., & Atiqur Rahman Khan, M. (2018). The potential and environmental ramifications of palm biodiesel: Evidence from Malaysia. *Journal of Cleaner Production, 203*, 260-272. doi:https://doi.org/10.1016/j.jclepro.2018.08.241

Tarek, Y., & Rafik, M. (2020). The impact of working capital management on corporate's performance: Evidence from Egypt. *International Journal of Business and Management, 15*(6).

Ugwu, A. (2020, April 19). *The problems of working capital management in the private sector*. Retrieved from Afribary.com: https://afribary.com/works/the-problems-of-working-capital-management-in-the-private-sector-2094

Yilmaz, I., & Acar, G. (2019). The effect of cash conversion cycle on profitability in Omani companies. *International Journal of Economics, Management and Accounting, 27*(2), 269-290.

Zaheer, R., & Qaiser, S. (2016). Factors that affect the participation of female in labor force: A macro level study of Pakistan. *IOSR Journal of Economics and Finance (IOSR-JEF), 7*(2), 20-24. doi:DOI: 10.9790/5933-0702032024