The Analysis of Liquidity and Its Effect on Profitability, Sales, and Working Capital Policy in Manufacturing Companies Listed on Indonesia Stock Exchange

by Muzakir Achmady, Isni Andriana Kemas M.husni Thamrin

The Analysis of Liquidity and Its Effect on Profitability, Sales, and Working Capital Policy in Manufacturing Companies Listed on Indonesia Stock Exchange

Muzakir Achmady[a], Isni Andriana [b], Kemas M.Husni Thamrin [c]

[a]Universitas Sriwijaya, Fakultas Ekonomi, Jurusan Manajemen. Indonesia email, : muzakirachmady10@gmail.com
[b]Universitas Sriwijaya, Fakultas Ekonomi, Jurusan Manajemen.Indonesia, email : isni.andriana@gmail.com
[c]Universitas Sriwijaya, Fakultas Ekonomi, Jurusan Manajemen. Indonesia, email : kemasmhthamrin@gmail.com

ABSTRACT

Purpose – This study aims to analyze the liquidity through cash conversion cycle management and to examine the effect of liquidity on profitability, sales and working capital policy in manufacturing companies listed on Indonesia Stock Exchange in the period 2014-2018. Profitability is proxied by return on asset, sales (Total Sales) and working capital policy (Short-term debt to assets and current assets to total assets).

Design/methodology/approach – The population of the study is manufacturing companies listed on Indonesia Stock Exchange. Purposive sampling method used as the sampling method. There are 21 manufacturing companies as the samples of the study. The type of data used in this study is quantitative and data sources of this study is secondary data. Descriptive statistic and simple linear regression analysis used as the research methodology.

Findings– The findings in this research are descriptive analysis shows CCC benchmark of manufacturing companies is 95.0590 days with the highest value at 408.98 days and the lowest at -19.62 days. It is found that CCC has negative and significant effect on return on asset and total sales as well it has positive effect and significant on short-term debt to assets nevertheless CCC has positive but insignificant effect on current assets to total assets. This findings imply that the shorter length of CCC will possibly enhance the profitability and sales as well reduce the dependency on external financing and more productive business activities.

Research limitations/implication – This research only analyzes the company's liquidity condition in terms of cash conversion cycle or dynamic aspects. Another liquidity ration can be used for further research such as current ratio, cash ratio, quick ration and so on. This research also only focuses on manufacturing sector companies. Another sector companies can be included into the further research such as merchandising sector companies and services sector companies.

Originality/ Value –The present study contributes to the literature by measuring the liquidity of manufacturing companies through dynamic liquidity perspective (the management of Cash Conversion Cycle) eventhough the most of companies still use classical liquidity perspective through liquidity ratios to evaluate the liquidty. the present research provides the new perspective about liquidity management by considering the time required companies as the assessment of liquidity in manufacturing companies that listed on Indonesia stock exchange.

Keywords : Cash Conversion Cycle (CCC), Return on Assets, Total sales, Short-term Debt to Assets (STDA), Current Asset to Total Assets (CATA).

INTRODUCTION

Manufacturing industry sector is one of biggest constributor for Indonesia's economic growth. It was proven by manufacturing industry still became the biggest contributor to the 2018 National Gross Domestic Product (GDP) which was 19.89% compared to another sectors (www.bps.go.id, 2019) . The high GDP will indicate that the high sales of production goods and high production will require the high fund to meet the operational activities.

According to Panigrahi (2018), working capital plays a role in running and financing operational activities. Therefore companies need to manage working capital effectively and efficiently in order to meet company's operational activities. Effective and efficient working capital management will impact on company's performance. Over working capital will indicate idle money otherwise the shortage working capital will indicate liquidity problems therefore the balance of working capital is something that must be considered.

The purpose of companies in managing their working capital is to achieve high profits. According to Widiyanti & Bakar (2012), high profitability can be achieve by effiectively working capital management. Nevertheless profitability of manufacturing companies experienced the fluctuation in the last 5 years based on the report that processed from Indonesia stock exchange. It showed that the return on asset (ROA) of manufacturing companies in 2019 was 9.98% but in 2015 experienced downward at 7.76% then in 2016 it became 9.59%, in 2017 it decreased at 9.39% and in the following year profitability experienced a fairly high increase at 10.67%. the downward of profitability indicates that inefficient and ineffective working capital management.

In addition profitability, sales is the result of working capital efficiency. The number of sales that gained by company also influenced by working capital efficiency as the research of Motlíček1 & Martinovičová (2014) that state that the size of sales is strongly influenced by working capital. But the phenomenon that occurred in manufacturing companies showed there is slowdon in sales in the third quarter/2019 which is only 1.8%, it is lower than the same period in the previous year that could reach 4.6% (m.bisnis.com,2019). The sales slowdown indicates that there is inefficiency of working capital management.

Based on report published by Indonesia stock exchange about problematic issuers, of which among 40 companies, 4 manufacturing companies are included thode are PT. Tiga Pilar Sejahtera Tbk, PT. Sentex Tbk, PT. Jakarta Kyoei Steel Works and PT. Asia Pacific Fibers Tbk (www.idx.co.id, 2019). Even one of them is PT. Tiga Pilar Sejahtera Tbk experienced bankruptcy problems, a situation where the company was unable to pay its debts. This indicates that the inefficiency of working capital management in managing its debts. Therefore working capital policy needs taking by the company to avoid the liquidity problems. Thus the efficiency of working capital needs to be done in order to overcome business operational problems.

Therefore based on all phenomena explained that the balance of working capital is an important thing to be considered in an effort to improve company performance.one way that companies can do to maintain the stability and effectiveness of working capital management is through liquidity management (Sugathadasa, 2018). Where the good liquidity is a key that determines the success of company(Uyar, 2009). The liquidity position of a company is materially affected by the level of account receivables, inventories and current liabilities, the effective management of these components is the company's effort to create good liquidity conditions   (Majanga, 2015) thus the management of cash conversion cycle (CCC) is the most widely used measures to evaluate the company liquidity management(Sugathadasa, 2018). Cash conversion cycle is time required by companies to convert their cash outflows back to cash inflows, the shorter CCC time interval the better liquidity condition. Nevertheless, some of previous studies have different results there are some studies that state CCC have no relationship on the enhancement of company's performance (Cristian & Raisa, 2017; Khurramshabbir, 2018; Panigrahi, 2018; Zakari & Saidu, 2016). Therefore it is very important for companies to be able to know the policies that must be taken in the continuity of the business of each company. This research is expected to provide an information for company's management in managing working capital through dynamic liquidity perpective and as a refrence to develop and support further research relating similar topic.

LITERATURE REVIEW

Liquidity

 Liquidity is the company's ability to recover current liabilities through utilizing current assets (Atmaja, 2003) It means the more liquid current asset that companies have thus they can minimize liquidity risk. Therefore the company should determine the most effective way to manage liquidity so that the company can meet the needs of working capital and ultimately it will have an impact on the profitability that obtained by the company. According to Wilujeng (2013), the most of companies focus on managing liquidity through liquidity ratios namely current ratio and quick ratios, this ratio represents a static liquidity view. But there are also liquidity management that does not use liquidity ratios in an effort to make liquidity decisions. Moss &

Stine (1983) and Farris & Hutchison (2014) use dynamic liquidity measurement through CCC to measure the company's liquidity conditions in order to determine the liquidity measurement that the company will take later.

Static Liquidity

Static liquidity is a measurement of company liquidity by using various liquidity ratios such as Current ratio, Quick ratio and Cash ratio (Atmaja, 2003). This is the classic liquidity measurement where the managers make decision based on the interpretation of liquidty ratio value.

Dynamic Liquidity

The Management of liquidity through dynamic liquidity measurement is by using cash conversion cycle. According to Atmaja (2003) Cash Conversion Cycle is the time in days needed to obtain cash from the results of the company's operations that come from collection of accounts receivable plus inventory sales minus debt payments. CCC measures how long the conversion time from cash back to cash. The formula of cash conversion cycle is follow:

$$CCC = (DRO + DIO) - DPO$$

$$CCC = \frac{Account\ Receivable}{Sales/365} + \frac{Inventories - Account\ Payable}{Cost\ of\ Goods\ Sold/365}$$

Source : Stephen A.Ross (2013)

Description:
DIO = Days of Inventory Outstanding
DRO = Days of Receivable Outstanding
DPO = Days of Payable Outstanding

Profitability

Profitability is one of the company's performance measurements that can be measured in ratios to illustrate the company's ability to generate profit through all the capabilities and resources owned by the company such as sales, cash, capital, number of employees and so on (Telly, 2015). There are some profitability ratio such as return on Asset (ROA), Return on Investment (ROI), Return on Equity (ROE), Net Profit Margin (NPM), Operational Profit Margin (OPM) and Gross Profit Margin (GPM) but in this research only return on asset will be used as the proxy of profitability.

Sales

Andayani *et al.* (2016) explain that sales are the amount charged to customers for the goods sold both in cash and credit. While based on Suzan & Risyana (2018) state that sales are the total goods sold by the company within a certain period, the higher number of sales produced by the company, the more possibility profit will be generated by the company. Based on the statements, it can be concluded that the sales are an activity carried out by the company in order to sell its products both in cash or credit to customers in a certain period in order to gain profits.

Working Capital Policy

Working capital policy in this research will discuss about working capital policy that relate with short-term investment and financing policy. According to Atmaja (2003), working capital policy regarding management of current assets and current liabilities that consists of two basic decisions are the level of investment in current asset and how the company fund the current assets. In working capital investment policy is proxied by current asset/total asset (CA/TA) this

ratio will explain how much the composition of current asset investment will be conducted by companies if it is associated with certain cash conversion cycle length. There are several possibilities that occur if the working capital investment policy is associated with the cash conversion cycle. Relaxed investment policy tends to increase inventories and account receivables so that it will extend the inventory and receivable conversion period which will eventually extend the cash conversion cycle. Conversely, restricted investment policy will provide a shorter cash conversion cycle. Meanwhile, working capital financing policy is measured by short-term debt to asset ratio (STDAR). This ratio will explain the utilization of external financing in companies. This research will aim to analyze whether companies will utilize more external financing or less dependency on external financing in order to finance working capital if it associated with certain cash conversion cycle length.

Research Framework

Liquidity is ability to recover short-term obligations through utilizing current assets. The larger amount of current asset can not be a guarantee for companies to cover their current liabilities. Eventhough companies have larger amount of current assets but their assets is difficult to be converted into cash, companies still experience liquidity problems. Cash conversion cycle is a description how liquid current asset that companies have. The shorter cash conversion cycle will indicate that the more liquid current asset because company need short time to convert current asset turn into cash. The shorter cash conversion cycle will provide larger amount of cash inflows and if the companies can not manage it well, it will make company experience over working capital or idle money. Company is supposed to turn the cash inflow back into another favorable and profitable business activities in order to generate higher profit instead of keeping larger amount of cash (Nwude, 2018).

The short CCC also impacts on sales. the shorter CCC will provide larger amount of cash inflows and companies can turn cash back for subsequent production activities as the result of the increasing sales. in addition to profitability and sales, the shorter CCC also will make companies utilize less on external financing because the larger amount of cash inflows will make companies prefer to having internal financing to external financing through debts. The shorter CCC also will impact on the lower value of current asset investment because ofthe more liquid current asset.
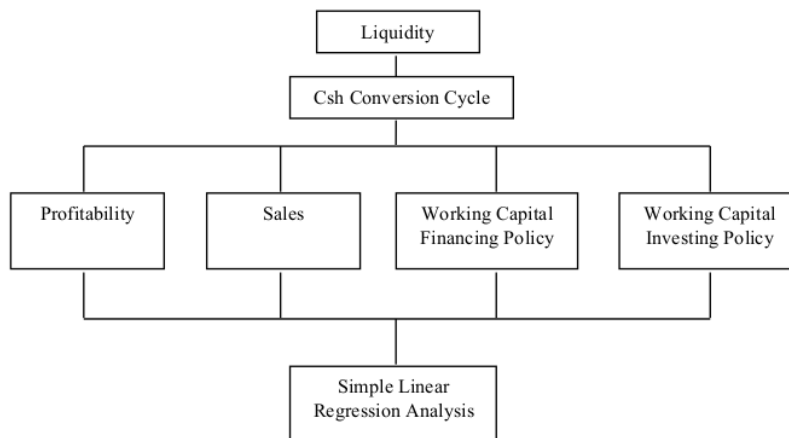

Figure 1. Research Framework

Hypothesis

According to explanation in research framework, the hypothesis of this research are formulated as follows:

H1 : CCC has negative and significant effect on profitability
H2 : CCC has negative and significant effect on sales
H3 : CCC has positive and significant effect on working capital financing policy
H4 : CCC has positive and significant effect on working capital investing policy

RESEARCH METHODOLOGY

Research Design

The design on this research is causal research through a quantitative approach. Sekaran & Bougie (2017) explains causal research as a study that try to analyze whether an independent variable influences dependent variable. Quantitative approach is an approach that explains the result of the research statistically(Sekaran & Bougie, 2017). This research uses variables of liquidity, profitability, sales and working capital policy in manufacturing companies listed in Indonesia Stock Exchange in the period of 2014-2018.

Population and Sampling

Population is the group of objects that become a research sources (Siregar, 2013). Population in this research is entire manufacturing companies listed in Indonesia Stock Exchange during 2014-2018. There are 144 manufactruing companies listed in Indonesia stock exchange as the population of this research. The Sample selection in this study used purposive sampling method. Siregar (2013) defines purposive sampling as a method used to retrieve data based on certain criteria that support research purpose. Based on purposive sampling method, there are 21 manufacturing companies are eligible as sample of this research for observation period during 5 years thus there are 105 samples data that used in this research.

Data Analysis Method

Data analysis conducted in this research is using descriptive statistic analysis, simple linear regression analysis, classic assumption test (normality test, heterokedasticity test, and autocorrelation test) and hypothesis testing using t-test to determine the effect of independent variable partially on dependent variables.

Simple Linear Regression Analysis

The use of this method to analyze the liquidity, which in this case is represented by the cash conversion cycle on profitability, sales and working capital policy with the basic model as follows:

$$Y1 = a + b_1X \dots\dots\dots\dots\dots\dots\dots(1)$$
$$Y2 = a + b_1X \dots\dots\dots\dots\dots\dots\dots(2)$$
$$Y3 = a + b_1X \dots\dots\dots\dots\dots\dots\dots(3)$$
$$Y4 = a + b_1X \dots\dots\dots\dots\dots\dots\dots(4)$$

Description:
Y1= Profitability
Y2= Sales
Y3= Working Capital Financing Policy
Y4= Working Capital Investing Policy
a   = Constant
b1 = Cash Conversion Cycle regression Coefficient
X   = Cash Conversion Cycle

RESULT AND DISCUSSION

Result

This study uses the SPSS program version 25.0 as the data analysis tool. The analysis technique used in this research is descriptive analysis, the classic assumption test, simple linear regression analysis, hypothesis testing with t test and the coefficient of determination described as follows:

Descriptive Statistic

Following is the result of descriptive statistic calculation from SPSS version 25.0. The analysis technique used in this research is descriptive analysis, the classic assumption test, simple linear regression analysis, hypothesis testing with t test and the coefficient of determination described as follows:

Table.1. Descriptive Statistic

	N	Minimum	Maximum	Mean	Std. Deviation
CCC (X1)	105	-19.62	408.98	95.0590	72.18519
ROA (Y1)	105	-22.00	52.67	9.5760	14.45323
Sales (Y2)	105	.58	106.74	21.5304	27.37030
STDAR (Y3)	105	12.48	81.18	47.8714	15.24081
CATAR (Y4)	105	.64	73.52	30.4231	16.43806
Valid N (listwise)	105				

Source : SPSS Output Version 25.0, 2019

Cash conversion cycle (CCC) of manufacturing companies has a minimum value of -19.62 days and a maximum value of 408.98 days while the mean value of CCC in the observation sample is 95.0590 days with a standard deviation of 72.18519. the minimum value of CCC in manufacturing companies show negative result at -19.62 days. The negative CCC indicates that cash inflows that companies gain is faster that cash outflows. Negative result indicates time required to convert account receivable and inventories into cash is getting faster, this condition shows that company's asset is more liquid. The smaller of CCC value even the negative value reflect that company effectively and efficiently in managing their working capital and it shows better liquidity condition.

On the other hand the maximum value of CCC in manufacturing companies at 408.98 days. The longer CCC length will indicate ineffectiveness and inefficiency in managing working capital and it shows bad liquidity conditions. Nevertheless the longer CCC length also can be influenced by the type of business operation for example basic and chemical industries are likely require longer time in their production process instead of consumer goods industry. Every industries have their own process thus each companies have different CCC The mean value of CCC in manufacturing companies is 95.0590 days, this value become the standardization of CCC in manufacturing companies. Manufacturing companies that have CCC value exceeds the CCC standard thus it can be suspected that the company has a liquidity problem.

Discussion

The Effect of Cash Conversion Cycle on Return on Assets

Based on the results of the study indicate that there is a negative and significant effect between the cash conversion cycle on return on assets. In the first hypothesis, the author states that the cash conversion cycle has a negative and significant effect on return on assets. In the processed data using SPSS version 25.0 shows negative and significant result thus the first hypothesis is accepted.

In this study, the results of simple linear regression analysis between the cash conversion cycle and return on assets have a negative effect. While the statistical testing through the T test shows that the T-count in the variable of cash conversion cycle is 3,528 higher than T-table = 1.98326 with a significance value of 0.001 smaller than α = 0.05. thus it can be concluded that there is a significant effect between the cash conversion cycle on return on assets.

Based on the results of this study, the value of R square shows 0.636 or 63.6%. This means that 63.6% of the dependent variable, profitability of manufacturing companies listed on the Indonesia Stock Exchange in 2014-2018 which is proxied by return on assets is influenced by the independent variable of cash conversion cycle. While the rest 36.4% is explained by other independent variables besides cash conversion cycle such as current ratio, quick ratio, cash ratio, inventory turnover ratio, receivable turnover ratio, and working capital turnover ratio.

The result of this study is similar with the research of Harsh & Kumar (2017) regarding the relationship between working capital management and company profitability,the result indicates that there is a negative and significant effect between the cash conversion cycle and profitability. The Research conducted by Nwude,Agbo & Lamberts (2018) regarding the effect of the cash conversion cycle on profitability in Nigerian insurance companies shows a negative and significant effect between the cash conversion cycle and profitability.

Based on the research that conducted by Majanga (2015) that the shorter cash conversion cycle time interval shows the company's effectiveness in managing its liquidity. This research explains that the negative effect between the cash conversion cycle and return on assets indicates that the shorter the cash conversion cycle time, the higher the profitability that company gains. A short cash conversion cycle shows that companies can collect cash inflow from business activities faster than operational cash outflows. The faster the company collects cash inflow so they can utilize the cash inflow turnover for the next business operations thus it can increase the company profits. The length of the cash conversion cycle is determined by the management of account receivables, inventories and account payables. Therefore the shorter length of cash conversion cycle means the more liquid current asset to be converted into cash.

The Effect of Cash Conversion Cycle on Sales

Based on the results of the study indicate that there is a negative and significant effect between the cash conversion cycle on sales. In the second hypothesis, the author states that the cash conversion cycle has a negative and significant effect on sales. In the processed data using SPSS version 25.0 shows negative and significant result thus the second hypothesis is accepted.

In this study shows the result of a simple linear regression analysis between the cash conversion cycle on sales have a negative effect. While the statistical testing through the T-test shows that the T-count in the variable of cash conversion cycle is 20,441 higher than T-table = 1.98326 with a significance value of 0,000 less than α = 0.05. thus it can be concluded that there is a significant effect between cash conversion cycle on sales.

Based on the results of the study, the value of R square is 0.867 or 86.7%. It means that 86.7% of the dependent variable, namely sales of manufacturing companies listed on the Indonesia Stock Exchange in the 2014-2018 is influenced by the independent variable of cash conversion cycle. While the rest 13.3% is explained by other independent variables besides cash conversion cycle such as current ratio, quick ratio, cash ratio, inventory turnover ratio, receivable turnover ratio, and working capital turnover ratio.

Based on the research that conducted Wilujeng (2013) , Uyar (2009) and Bhutto *et al.* (2011)) that there is a negative and significant effect between CCC and sales. This is explained as the concept of the cash conversion cycle itself where the shorter time interval of cash conversion cycle, the better company's liquidity.

This research explains that one of the way that companies can do to shorten the cash conversion cycle is by accelerating the collection of account receivables and inventory sales. Both of these components are important factors in company sales. The companies can accelerate the sale of inventory by selling their product both in cash and credit. This will certainly affect the amount of account receivables therefore shortening the cash conversion cycle means accelerating inventory sales thus it will increase the sales of the company's products.

The Effect of Cash Conversion Cycle on Short-term Debt to Asset

Based on the results of the study indicate that there is a positive and significant effect between the cash conversion cycle on short-term debt to asset. In the third hypothesis, the author states that the cash conversion cycle has a positive and significant effect on short-term debt to asset. In the processed data using SPSS version 25.0 shows a positive and significant result thus the third hypothesis is accepted.

In this study shows the results of a simple linear regression analysis between the cash conversion cycle and short-term debt to asset have a positive effect. While the statistical testing through the T test shows that the T-count on the variable of Cash Conversion Cycle is 5,016 higher than T-table = 1.98326 with a significance value of 0,000 less than $\alpha = 0.05$, thus it can be concluded that there is a significant effect between the cash conversion cycle on short-term debt to asset.

Based on the results of study, the value of R square is 0.590 or 59%. It means that 59% of the dependent variable, namely short-term debt to asset in manufacturing companies listed on the Indonesia Stock Exchange in the 2014-2018 is influenced by the independent variable of cash conversion cycle. While the rest 41% is explained by other independent variables besides cash conversion cycle such as current ratio, quick ratio, cash ratio, inventory turnover ratio, receivable turnover ratio, and working capital turnover ratio. The results of this study is similar with the research of Bhutto *et al*. (2011) and Wilujeng (2013) which stated that the shorter the cash conversion cycle, the lower the ratio of short-term debt to asset. The positive effect between the cash conversion cycle and the ratio of short-term debt to asset indicates that the working capital financing policy that taken by the company is a conservative financing policy. This is as explained by Bhutto *et al*. (2011) that the lower STDA ratio shows the more conservative working capital financing policy that implemented by the company

Based on the result of this research, it is reasonable considering the shorter cash conversion cycle shows a large proportion of cash inflow thus companies can reduce the use of external financing through debt therefore company can use cash inflow as company internal financing to finance the company's operational activities. This is as explained in the pecking order theory regarding the financing source hierarchy where companies prefer to use internal financing instead of external financing considering external financing is more risky than internal financing. The use of current liabilities is external financing which certainly provides a higher risk for the company such as liquidity risk and debt interest.

The Effect of Cash Conversion Cycle on Current Asset to Total Assets

Based on the result of the study indicate that there is a positive and insignificant effect between the cash conversion cycle on current assets to total assets. In the fourth hypothesis, the author states that the cash conversion cycle has a positive and significant effect on current assets to total assets. However, the processed data using SPSS version 25.0 shows a positive and insignificant result thus fourth hypothesis is rejected.

In this study, the results of simple linear regression analysis between the cash conversion cycle and current assets to total assets have a positive effect. While the statistical testing through the T test shows that the T-count on the variable of Cash Conversion Cycle is 1.318 smaller than T-table = 1.98326 with a significance value of 0.192 higher than $\alpha = 0.05$. Thus it can be concluded that there is insignificant effect between the cash conversion cycle on current assets to total assets. The result of this study contradicts with the research result of Bhutto *et al*. (2011) and Wilujeng (2013) which state that there is a positive and significant effect between cash conversion cycle on current assets to total assets. The shorter cash conversion cycle does not always make a company to reduce the proportion of investment value in current assets. This finding is also supported by the research of Khanqah et al. (2012) that state cash conversion cycle has insignificant effect on CATA.

This research explains that a short cash conversion cycle indicates the more liquid of company's current assets thus the value of CATA ratio becomes lower because the current assets are more liquid, nevertheless the shorter of cash conversion cycle, the faster the cash turnover is due to the higher cash inflow that the company gains, therefore to avoid the idle money, the company can turn it back and use cash inflow for more productive business activities such as increasing the investment in other current assets or increasing the production.

Therefore, the shorter the cash conversion cycle does not necessarily cause the company to reduce the value of current assets. On the contrary, the faster the cash conversion cycle, the company will use it for other productive and more effective business activities which indirectly will increase the value of current assets through the increasing of short-term investment. This is actually described by the theory of agency where the manager as the agent will turn the cash back to finance the next operation activites in effort to fulfil the business interest and gain more favorable business activities through short-term investment instead of distributing the high cash inflow to stockholder.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the results and discussions of the research about liquidity and its effect on profitability, sales and working capital policies in manufacturing companies listed on the Indonesia Stock Exchange, The conclusions of this study are as follows:

Based on t-test, the results of simple linear regression analysis partially show that cash conversion cycle has negative and significant effect on return on asset and total sales thus the first and second hypothesis are accepted.

Cash conversion cycle has a positive and significant effect on short-term debt to asset ratio (STDAR) of manufacturing companies listed on the Indonesia Stock Exchange partially thus the third hypothesis is accepted.

Cash conversion cycle has a positive but insignificant effect on the current assets to total assets (CATA) of manufacturing companies listed on the Indonesia Stock Exchange partially thus the fourth hypothesis is rejected.

Suggestions

Based on the results of data analysis, discussion, conclusion and research limitations there are some suggestions as follows:

For manufacturing companies, the results of this study can be considered in terms of decision making regarding the management of company liquidity by concerning to the cash conversion cycle where the company need to shorten the cash conversion cycle period, a short cash conversion cycle indicates the more liquid of company's current assets condition. The way that companies can take to shorten the cash conversion cycle is through accelerating the sale of inventories and collection of account receivables as well current liabilities payments deferral by considering the trade off.

This study only uses the variable of cash conversion cycle as a proxy for liquidity thus in the future, another liquidity variables can be added such as current ratio, quick ratio and cash ratio.

This study only explains the liquidity through the cash conversion cycle thus in the future it can compare the effectiveness of static liquidity through liquidity ratios and dynamic liquidity through cash conversion cycle on company performance.

The selection of other research objects can also be observed, for example, the research on other types of companies such as merchandising and service companies.

RESEARCH LIMITATIONS AND FUTURE RESEARCH

Research Limitations

This research only analyzes the company's liquidity condition in terms of cash conversion cycle or dynamic aspects. There are some liquidity measurement that excluded in this research. The further research can include another liquidity ratio such as current ratio, quick ratio, cash ratio, inventory turnover, receivable turnover and working capital turnover.

This research only focuses on manufacturing sector companies. Another sector companies can be included into the further research such as merchandising sector companies and services sector companies.

REFERENSI

Ali Uyar. (2009). the Relationship of Cash Conversion Cycle and Firm ' S Profitability : an Empirical Investigation in Turkey. *International Research Journal of Finance and Economics*, (24), p.187–193.

Andayani, L., Yudiaatmaja, F., & Cipta, W. (2016). Pengaruh Penjualan Dan Likuiditas Terhadap Profitabilitas Pada Perusahaan Perdagangan , Jasa Dan Investasi Di Bursa Efek Indonesia Tahun 2014 e-Journal Bisma Universitas Pendidikan Ganesha. *E-Journal Bisma Universitas Pendidikan Ganesha*, Vol. *4*(1), p.1–10.

Atmaja, L. S. (2003). *Manajemen Keuangan*. Jakarta: CV. Andi Offset.

Badan Pusat Statistik. "Ekonomi Indonesia 2018 Tumbuh 5,17 Persen" accessed from https://www.bps.go.id , December,10th 2019.

Bakar, M. W. & S. W. (2012). Pengaruh Working Capital Turnover, Cash Turnover, Inventory Turnover dan Current Ratio terhadap Profitabilitas (ROA) Perusahaan Property dan Real Estate yang terdaftar di BEI. *Jurnal Manajemen Da Bisnis Sriwijaya*, *12*(Juni 2014), 112–126.

Beby Rama Telly, M. A. (2015). Pengaruh Ukuran Dan Cash Conversion Cycleterhadap Profitabilitas Perusahaan Vol.3(1), p.155-165

Bhutto, N. A., Abbas, G., Mir, S., & Shah, M. (2011). Relationship of Cash Conversion Cycle with Firm Size , Working Capital Approaches and Firm ' s Profitability : A Case of Pakistani Industries. Pakistan Journal Engineering Technology and Science 1(2), p.45-64

Bisnis, "Permintaan Produksi Sektor Manufaktur Turun" accessed from https://www.google.com/amp/s/m.bisnis.com. December, 11th 2019

Bursa efek Indonesia. "Laporan Keuangan Tahunan Perusahaan Manufaktur" accessed from https://www.idx.co.id. September,8th 2019

Cristian, M. M., & Raisa, M. L. (2017). Working Capital Management and Firm Profitability . Empirical Evidence for the Romanian Industry, *17(*2), p.425–429.

Farris, M. T., & Hutchison, P. D. (2014). Cash-to-Cash : The New Supply Chain Management Metric Cash-to-cash : The new supply chain management metric . *International Journal of Physical Distribution and Logistic Management*. 32(4), p.288-298

Gyekye, O. &. (2016). Cash Conversion Cycle Theory and Corporate Profitability : Evidence from Non-Financial Firms Listed on the Johannesburg Stock Exchange. *Journal of Accounting and Management*, *6*(3), p.37–51.

Harsh Pratap Singh, Satish Kumar, S. C. (2017). Working Capital Management and Firm Profitability : A Meta Analysis. *Qualitative Research in Financial Markets*, *9*(1), p.1-9.

Khanqah, T, M. Akbari Khosroshahi, M. R. Ebrati (2012). An Investigation of the Association between Working Capital Management and Corporate Performance. *International Journal Management and Business Research,* Vol 2 (3), p.203-218

Khurramshabbir, M. (2018). Cash Conversion Cycle And Firms ' Profitability – A Study Of Tobacco Industry Of Pakistan. *International Journal of Research in Social Sciences*, *8*(11), p.448–462.

Majanga, B. B. (2015). Cash Conversion Cycle and Firm Profitability in Malawi Manufacturing

Sector. *Journal of Commerce and Accounting Research*, *4*(3), p.1–6.

Moss, J. D., & Stine, B. (1993). Managerial Finance Emerald Article : Cash Conversion Cycle And Firm Size : A Study Of Retail Firms Cash Conversion Cycle And Firm Size : *Managerial Finance*, Vol.*19*(8), p.25–34.

Motlíček1, Z., & Martinovičová, & D. (2014). Impact Of Working Capital Management On Sales Of Enterprises Focusing On The Manufacture Of Machinery And Equipment In The Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendeliane Brunensis*, *62*(4), p.677–684.

Nwude, A. & L. (2018). Effect of Cash Conversion Cycle on the Profitability of Public Listed Insurance Companies. *International Journal of Economics and Financial Issues*, *8*(1), p.111–117.

Panigrahi, A. (2018). Cash Conversion Cycle and Firms ' Profitability -- A Study of Cement Manufacturing Companies of India Cash Conversion Cycle And Firms ' Profitability – A Study Of Cement. *International Journal of Current Research*, 4(2). p.308-322.

Sofyan Siregar. (2013). *Statistik Parametrik untuk Penelitian Kuantitatif*. (Fandy Hutari, Ed.). Jakarta: PT Bumi Aksara.

Stephen A.Ross, R. W. W. & J. F. J. (2013). *Corporate Finance* (10 th). New York: McGraw-Hill/Irwin.

Sugathadasa, D. D. K. (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), p.38–47.

Suzan & Risyana. (2018). The Influence Of Sales Volume And Operating Cost On Net Income, *e-proceeding of Management.5*(2), p.2449–2459.

Uma Sekaran & Roger Bougie. (2017). *Metode Penelitian untuk Bisnis*. Jakarta Selatan: Salemba Empat.

Wilujeng, M. E. S. & I. P. (2013). Cash Conversion Cycle dan Hubungannya dengan Ukuran Perusahaan , Profitabilitas dan Manajemen Modal Kerja. *Jurnal Ekonomi Bisnis*, *1*(March 2009), p.1–11.

Zakari, M., & Saidu, S. (2016). The Impact of Cash Conversion Cycle on Firm Profitability : Evidence from Nigerian Listed Telecommunication Companies. *Journal of Finance and Accounting*, *4*(6), p.342–350.

The Analysis of Liquidity and Its Effect on Profitability, Sales, and Working Capital Policy in Manufacturing Companies Listed on Indonesia Stock Exchange