



Analysis of Working Capital Management in Automotive Industry Sector Listed in Indonesia Stock Exchange

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ABSTRACT

This study aims to determine the analysis of working capital management in automotive industry sector listed on the Indonesia Stock Exchange. The object of the study consisted of 12 companies included in the automotive industry sector which were listed on the Indonesia Stock Exchange from 2014 to 2018. The results showed that the average collection period, inventory collection period, average payment period, and cash conversion cycle showed fluctuating results during the study period. The less time it takes for a company to collect receivables, the more liquid a company is. While the less time needed to convert raw materials into finished goods shows good results because the inventory will not be too long in the warehouse so that it will reduce costs. The average payment period is relative for each company. That's because every company has a debt agreement with a certain period. The less time needed by the company since the raw materials purchased are paid until the trade receivables from the sale are billed, the better for the company because the faster the time needed to turn money into goods and into cash back which will increase company profits.

Keywords: Working Capital Management, Average Collection Period, Inventory Collection Period, Average Payment Period, Cash Conversion Cycle

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INTRODUCTION

Indonesia is an industrial country because the industrial sector contributes greatly to the economy. In addition, Indonesia is included in the top 10 manufacturing value added in the world and is in the ranks of the top 5 countries in the world whose industrial contributions are quite high by contributing more than 20 percent (Kemenperin.go.id, 2017).

At present, the world views that manufacturing is a pivotal sector for the economy. The automotive industry is one of the industries that will experience high growth in 2019 according to the Minister of Industry, Airlangga Hartanto. The automotive industry is

one of the important pillars in the manufacturing sector because many world-famous car companies open factories in Indonesia which will increase production capacity (Indonesia-investments.com, 2017).

Indonesia is experiencing a transition from being a place to produce cars for export to a domestic sales market. In addition, the existence of infrastructure development that facilitates access will increase consumer needs. The existence of equitable infrastructure development will facilitate the economic activities of the community so that it will increase purchasing power.

Furthermore, according to Hartanto (2018), the automotive industry's future trend globally is to produce vehicles that are energy efficient and environment friendly. This is intended to reduce carbon dioxide emissions. Improvements continue to be made to support the automotive industry's growth prospects not only to meet domestic needs, but also exports to other countries. On the other hand, the automotive industry is actually influenced by economic growth (Kurniawan, 2019). When Gross Domestic Product (GDP) grows, it will be accompanied by people's purchasing power. Slowing economic growth will affect sales levels.

For every company, working capital management is an important thing that must be considered. That is because companies must manage their assets and liabilities well, especially for current assets and liabilities. Good and optimal working capital management can have a positive influence on the value of the company.

Efficient working capital management is an important component not only for companies, but also for shareholders. Therefore, working capital management must be maintained at an appropriate level, neither too high nor too low. Working capital management can be a reference in reducing risk related to the company's inability to fulfill its obligations.

Researchers conducting research on working capital management, namely Khanqah *et al.* (2012), Amponsah and Nyarko (2013), Ding *et al.* (2013), Enqvist *et al.* (2014), Jamalinesari and Soheili (2015), Bhatia and Srivastava (2016). In addition, research was also conducted by Kasiran *et al.* (2016), Wieczorek *et al.* (2016), He *et al.* (2017), Sin *et al.* (2017), Dalci and Ozyapici (2018), Peng and Zhou (2019).

The automotive industry is included in the industry revolution 4.0 roadmap launched by the government which will be the backbone in increasing competitiveness. In addition, infrastructure development which is still being carried out simultaneously will open opportunities and increase the growth of the automotive industry going forward. Therefore, it is important to show working capital management in automotive industry sector companies listed on the Indonesia Stock Exchange.

Based on this background, the aim of the research is to measure and find out working capital management in the automotive industry sector companies listed on the Indonesia Stock Exchange in the 2014-2018 period.

The benefits of this research are for the science of financial management, this research is expected to provide benefits for increasing insight and development of knowledge about working capital management. For investors, this research can be used as information in determining investment plans in companies in the automotive industry sector.

For companies, this research can be used as information and input material to be able to carry out optimal and efficient working capital management. For other researchers, this research is expected to provide information for further research on working capital management.

THEORETICAL REVIEW

According to Weston and Brigham (1992), working capital is a company's investment in short-term assets such as cash, securities (securities), trade receivables, and inventories. This working capital is called gross working capital. While net working capital is current assets less current liabilities.

Working capital management (Horne and Wachowicz, 1997) is the administration of the company's current assets and the funding needed to support the current assets. Working capital management is intended to manage current assets to carry out company operations and manage the funds needed.

Working capital management has the aim of managing the company's current account so that there is a balance between profitability and risk (Mathuva, 2010). Working capital management must be considered at an appropriate level, not too high or too low. Management of the working capital turnover period is important so that working capital does not rotate too long in a period so that it will be more efficient.

According to Weston and Brigham (1992), working capital management is important because it involves several aspects, namely: (1). Some studies give an indication that most of the financial manager's time is spent in the company's internal activities and this is part of working capital management. (2). The amount of current assets is often more than half of the company's total assets and tends to be volatile. (3). Relationship between the level of sales growth and the current and direct capital requirements of current assets. (4). For small companies, working capital management is more important because: (a). Investments in fixed assets can be reduced by renting but current assets or receivables or inventories cannot be avoided. (b). Small companies are relatively more limited to enter the long-term capital market so they must rely on trade debt and short-term debt as capital.

According to Horne and Wachowicz (1997), working capital management underlies two important company decisions. Working capital management is a determinant of: (1). Optimal level of investment in current assets. (2). Appropriate alignment between long-term financing used to support investment in current assets.

Analysis of Working Capital Management

Based on previous studies, the components of working capital management consist of: (1.) Average Collection Period (ACP). This ratio is used to measure the company's ability to collect amounts of receivables in any given time period. (2.) Inventory Conversion Period (ICP). Inventory conversion period is the average time needed to convert raw materials into finished goods. To expedite the production process it is necessary to calculate how fast the inventory turnover in the company. (3.) Average Payment Period (APP). Average payment period is a ratio used to measure how long it takes to pay off a company's debt. (4.) Cash Conversion Cycle (CCC). This ratio is used to determine the time period required by the company since the raw materials purchased are paid until the trade receivables from the sale are billed.

METHODOLOGY

This type of research used in this research is quantitative descriptive research. The object of this research is the automotive industry sector companies listed on the Indonesia Stock Exchange in the 2014-2018 period. Data is obtained from financial statements issued by companies through the Indonesia Stock Exchange. The object of research consists of 12 companies.

The sampling technique used is the purposive sampling method, namely the selection of sample members based on certain criteria. The criteria used are: (1). Publicly listed companies listed on the Indonesia Stock Exchange in the 2014-2018 period. (2). Publish financial statements in a row during the study period. In accordance with these criteria, the objects in this study are: PT Astra Internasional Tbk (ASII); PT Astra Otoparts Tbk (AUTO); PT Indo Kordsa Tbk (BRAM); PT Goodyear Indonesia Tbk (GDYR); PT Gajah Tunggal Tbk (GJTL); PT Indomobil Sukses Internasional Tbk (IMAS); PT Indospring Tbk (INDS); PT Multi Prima Sejahtera Tbk (LPIN); PT Multistrada Arah Sarana Tbk (MASA); PT Nipress Tbk (NPIS); PT Prima Alloy Steel Universal Tbk (PRAS); PT Selamat Sempurna Tbk (SMSM).

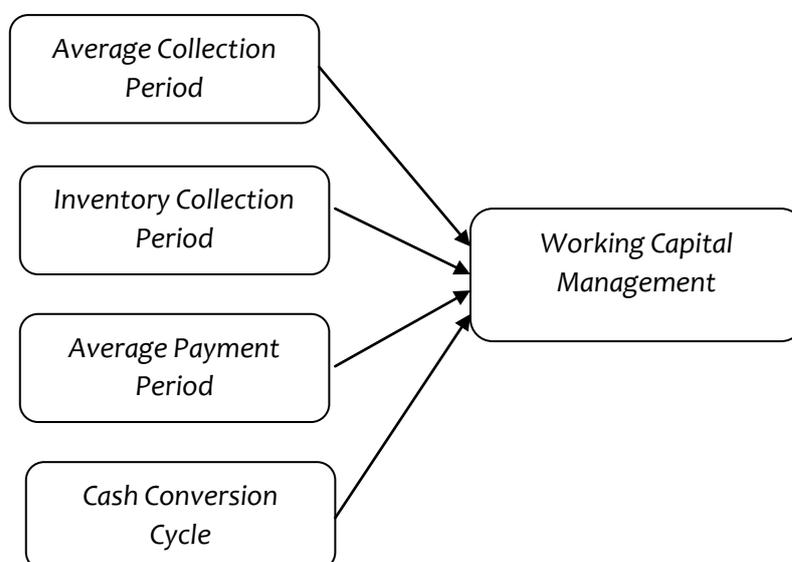


Figure 1. Research Model

The operational definition of working capital management are:

- a. Average Collection Period (ACP)

$$\text{ACP} = \frac{\text{Account Receivable} \times 365}{\text{Sales}}$$

- b. Inventory Collection Period (ICP)

$$\text{ICP} = \frac{\text{Inventory} \times 365}{\text{Cost of Sales}}$$

- c. Average Payment Period (APP)

$$\text{APP} = \frac{\text{Account Payable} \times 365}{\text{Purchase}}$$

- d. Cash Conversion Cycle (CCC)

$$\text{CCC} = \text{ACP} + \text{ICP} - \text{APP}$$

RESEARCH RESULTS

Average Collection Period (ACP) Graph

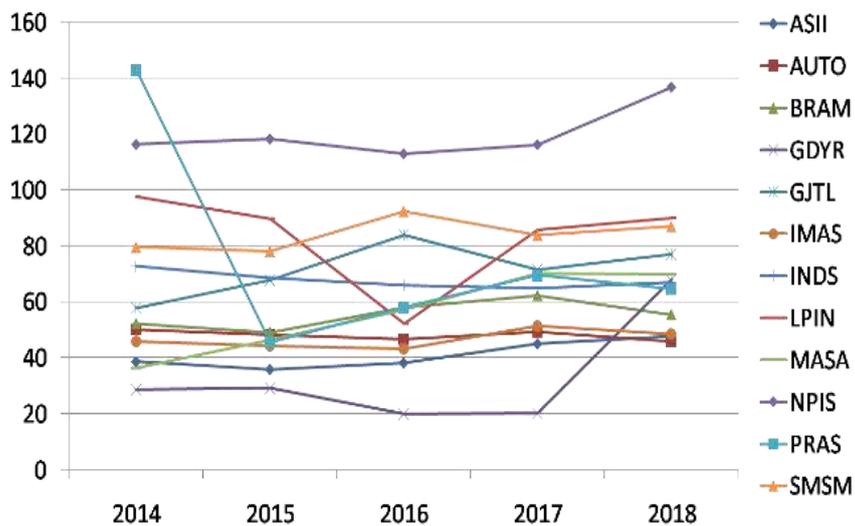


Figure 2. Average Collection Period (ACP) Graph

Table 1. Calculation Results Average Collection Period (ACP)

No	Company	Calculation of ACP				
		2014	2015	2016	2017	2018
1	ASII	38,60	35,84	38,19	44,91	47,64
2	AUTO	49,99	48,31	46,69	49,16	45,88
3	BRAM	52,19	49,12	58,06	62,32	55,48
4	GDYR	28,67	29,12	19,84	20,00	67,94
5	GJTL	57,76	67,86	83,96	71,47	77,03
6	IMAS	45,85	44,21	43,15	51,36	48,37
7	INDS	72,69	68,47	66,00	64,92	67,02
8	LPIN	97,62	89,61	52,05	85,70	89,91
9	MASA	36,21	46,35	57,25	70,26	69,94
10	NIPS	116,36	118,33	112,99	116,29	136,79
11	PRAS	142,94	45,49	57,81	69,42	64,56
12	SMSM	79,58	78,11	92,30	83,84	86,91

Based on the calculation results Table 1 and Figure 2 show that the length of time required by each company to collect its receivables fluctuated, PT Prima Alloy Steel Universal Tbk (PRAS) showed a significant change from 2014 to 2015. Decreasing the length of time required showed an improvement made by the company in collecting the receivables.

Conversely, companies that experience an increase in the time needed to collect receivables show poor results. In accordance with the results of these calculations, overall PT Goodyear Indonesia Tbk (GDYR) requires less time compared to other companies and PT Nipress Tbk (NPIS) takes longer in terms of collection of receivables compared to other automotive industry companies.

The faster time is needed, the more liquid a company is and the better the working capital management the company does and vice versa. The faster the average acceptance period shows that the working capital invested in receivables is lower where it shows good conditions for the company. This can be used as a consideration for companies to improve their performance, especially in companies that require more time so the company can work more efficiently.

Inventory Collection Period (ICP)

Table 2. Calculation Results of Inventory Collection Period (ICP)

No	Company	Calculation of ICP				
		2014	2015	2016	2017	2018
1	ASII	38,06	45,38	44,84	43,49	51,34
2	AUTO	79,92	63,89	60,77	67,12	66,92
3	BRAM	112,07	110,46	125,45	114,72	87,42
4	GDYR	79,92	49,54	45,39	47,29	205,93
5	GJTL	77,19	74,53	79,76	78,93	92,67
6	IMAS	73,03	67,02	56,95	75,61	96,17
7	INDS	112,76	133,34	111,90	82,44	64,32
8	LPIN	382,53	276,74	166,07	188,38	245,74
9	MASA	133,36	118,18	120,05	124,30	115,96
10	NIPS	98,36	111,71	104,59	109,02	183,01
11	PRAS	298,85	271,07	259,86	303,63	172,12
12	SMSM	85,34	105,86	70,83	102,83	101,01

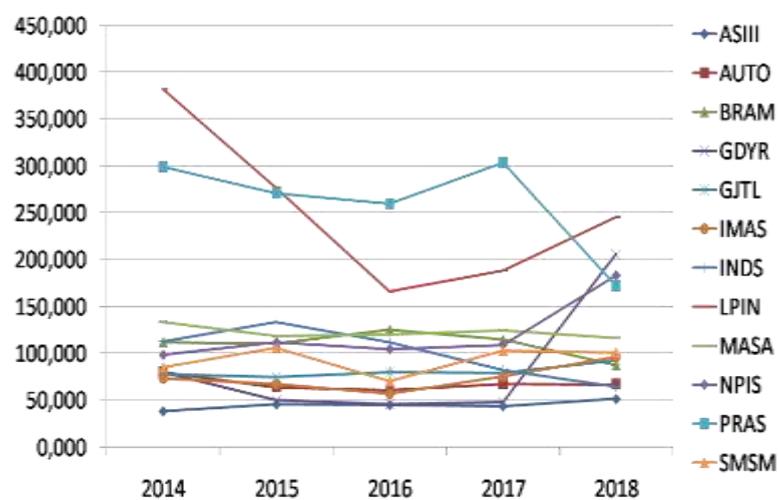


Figure 3. Inventory Collection Period (ICP) Graphic

Calculation results on Table 2 and Figure 3 show that the average time needed to convert raw materials into finished goods needed by Tbk (GJTL) and PT Multi Prima Sejahtera Tbk (LPIN) experienced significant decreases in which PT Gajah Tunggal experienced a significant decrease from 2014 to 2016 and PT Multi Prima Sejahtera which experienced a significant decline in 2017 to 2018.

While PT Goodyear Indonesia Tbk (GDYR) showed a significant increase in results from 2017 to 2018. Based on the calculation results, overall, PT Astra International Tbk (ASII) requires less time in the turnover of its supplies and PT Prima Alloy Steel Universal Tbk (PRAS) takes more time.

Analysis of Working Capital Management

The longer it takes to show poor results, because not only does it take longer to convert raw materials into finished goods, but also the longer the inventory builds up in warehouses and the more costs that must be required. This will affect the smooth production process. Therefore, it is important for companies to maintain inventory inventory stability.

Average Payment Period (APP)

Table 3. Calculation Results of Average Payment Period (APP)

No	Company	Calculation of APP				
		2014	2015	2016	2017	2018
1	ASII	60,30	72,68	81,07	93,87	116,95
2	AUTO	73,33	75,71	74,37	75,05	76,72
3	BRAM	112,07	110,46	125,45	114,72	87,42
4	GDYR	80,73	115,89	96,33	104,58	329,00
5	GJTL	59,13	72,02	85,66	78,85	88,89
6	IMAS	59,96	57,31	44,92	88,08	122,90
7	INDS	17,91	54,64	28,09	39,42	33,28
8	LPIN	39,49	84,10	135,28	99,19	95,61
9	MASA	49,84	101,83	119,93	165,22	177,81
10	NIPS	131,47	150,99	128,30	160,27	330,69
11	PRAS	299,36	204,89	260,30	86,92	55,52
12	SMSM	42,99	47,67	44,51	43,41	47,89

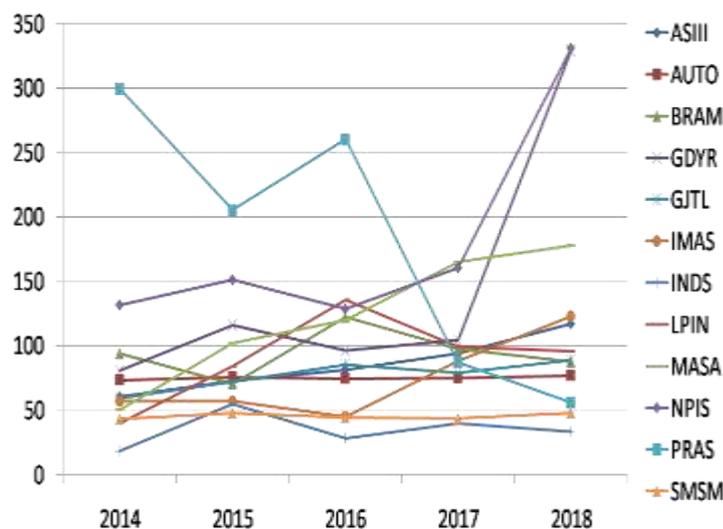


Figure 4. Average Payment Period (APP) Graphic

Calculation results on Table 3 and Figure 4 show that PT Astra Otoparts Tbk (AUTO) and PT Selamat Sempurna Tbk (SMSM) show results that tend to be stable, while other companies show fluctuating results. This was especially true of PT Goodyear Indonesia Tbk (GDYR), PT Indomobil Sukses Internasional Tbk (IMAS), and PT Nipress Tbk (NIPS)

which experienced a significant increase in yields from 2017 to 2018 where it showed that the company showed an increase performance and improvement.

Whereas PT Prima Alloy Steel Universal Tbk (PRAS) showed a decline in results from 2014 to 2018. The overall calculation results showed that PT Selamat Sempurna Tbk (SMSM) needed faster time to pay off corporate debt, while PT Multistrada Arah Sarana Tbk (MASA) takes a long time to pay off debt.

If the company takes a long time to pay off debt, then this will have an impact on decreasing profitability and will affect creditor confidence. On the other hand, if the payment period is too fast it can indicate that the company does not take full advantage of the credit terms given by the creditor, but this can mean that the company has a short credit agreement

If the time period for paying off debt is getting longer, then the money owned by the company can be used to make short-term investments. However, this can indicate that the company is experiencing difficulties in paying down debt. Therefore, companies should make good use of it in accordance with the agreements that have been made because this is relative and depends on each company.

Cash Conversion Cycle (CCC)

Table 4. Calculation Results of Cash Conversion Cycle (CCC)

No	Company	Calculation of CCC				
		2014	2015	2016	2017	2018
1	ASII	16,36	8,55	1,96	-5,47	-17,97
2	AUTO	56,58	36,49	33,10	41,23	36,08
3	BRAM	70,31	89,33	61,15	79,52	55,33
4	GDYR	27,86	-37,22	-31,10	-37,29	-55,13
5	GJTL	75,82	70,38	78,06	71,55	80,80
6	IMAS	61,93	53,92	55,18	38,89	21,64
7	INDS	167,53	147,17	149,81	107,93	98,07
8	LPIN	440,66	282,25	82,83	174,89	240,04
9	MASA	119,73	62,70	57,37	29,34	8,09
10	NIPS	83,25	79,05	89,28	65,04	-10,89
11	PRAS	142,43	111,66	57,37	286,12	181,17
12	SMSM	121,92	136,31	118,17	143,25	140,03

The results of Table 4 and Figure 5 show that PT Astra Internasional Tbk (ASII) and PT Multistrada Arah Sarana Tbk (MASA) experienced successive decreases in results from 2014 to 2017. While other companies experienced yield fluctuations, where PT Multi Prima Sejahtera Tbk (LPIN) and PT Prima Alloy Steel Universal Tbk (PRAS) showed significant yield fluctuations.

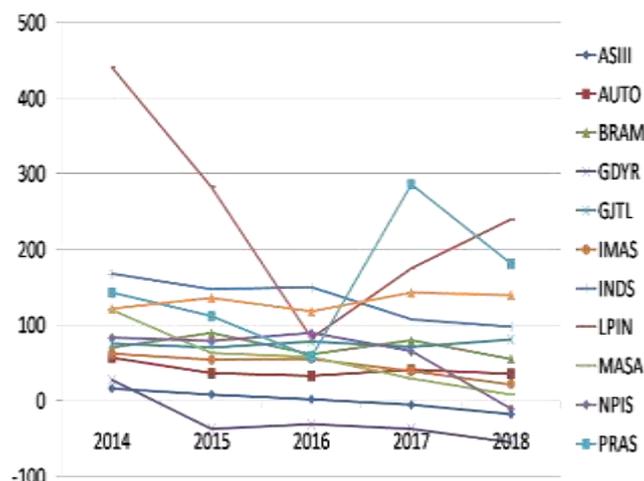


Figure 5. Cash Conversion Cycle (CCC) Graphic

PT Multi Prima Sejahtera Tbk has decreased from 2014 to 2016 and has increased thereafter. Meanwhile, PT Prima Alloy Steel Universal Tbk experienced a significant increase in 2016 to 2017 and after that decreased. PT Astra International Tbk, PT Goodyear Indonesia Tbk, and PT Nippress Tbk showed negative results.

The less time needed the better because the faster the time needed to turn money into goods and into cash back, the negative calculation results due to an increase in debt to be paid by the company and a decrease in cost of goods sold.

CONCLUSION

The Average Collection Period calculation results in the automotive industry sector companies listed on the Indonesia stock exchange indicate that the time length required by each company to collect receivables fluctuates, there are several companies in the automotive industry sector that have decreased and there are also some companies that have increased. This shows that there are a number of companies in the automotive industry sector that are still not good at working capital management, as well as showing unfavorable conditions for companies.

The results of Inventory Collection Period calculations in the automotive industry sector companies listed on the Indonesian stock exchange indicate that the average time needed to convert raw materials into finished goods needed by fluctuating companies, there are several companies in the automotive industry sector that have decreased and there are also some companies have increased. This shows that there are still some companies that need a long time to convert raw materials into finished goods, which will affect the smooth production process of the company.

Calculation of Average Payment Period in the automotive industry sector companies listed on the Indonesian stock exchange shows that PT Astra Otoparts Tbk (AUTO) and PT Selamat Sempurna Tbk (SMSM) showed results that tend to be stable, while other companies showed fluctuating results. This shows two companies from the automotive

industry sector, PT Astra Otoparts Tbk (AUTO) and PT Selamat Sempurna Tbk (SMSM), have a stable time in debt repayment, so the company can maximize the funds used from the debt proceeds.

Cash Conversion Period results show that PT Astra Internasional Tbk (ASII) and PT Multistrada Arah Sarana Tbk (MASA) experienced a decline in yields successively from 2014 to 2017. While other companies experienced fluctuations. This shows that PT Astra Internasional Tbk (ASII) and PT Multistrada Arah Sarana Tbk (MASA) have a fast time to turn money into goods and turn money back.

Based on these conclusions, investors are expected to consider the results of working capital management analysis in making investment decisions. For companies, this analysis can be used as information material in conducting good and efficient working capital management. The next researcher is expected to be able to expand the object and period of research and add another analysis model.

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