Financial Performance Analysis: Evidence from Ceramics, Porcelain and Glass Companies in Indonesia

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Abstract:
The research objective is to analyze the financial performance of ceramics, porcelain and glass companies whose shares are traded on the Indonesian stock exchange. The study uses financial statements for the period 2014 to 2018, using the ratio analysis method, which consists of ratios; liquidity, solvency, activity and profitability. The results of this study indicate that Keramika Indonesia Association Tbk. has the highest liquidity ratio and the lowest solvency ratio. Arwana Citramulia Tbk. has the highest activity ratio and Surya Toto Indonesia Tbk. has the highest profitability ratio.

Keywords: *Financial performance, liquidity, activity, leverage, profitability*

I. Introduction

The existence of glass and ceramics is something that we cannot deny, we often encounter in our daily lives. Buildings look more beautiful because they are 'decorated' with glass and ceramics. Likewise, vehicles that currently use not only glass for safety needs but also the beauty of the design of the vehicle itself. Of course there are industries that support so that glass and ceramics are not only developing but also able to meet market needs.

The condition of the domestic ceramic industry is under pressure from imported products, as reported by cnbcindonesia.com. According to the Indonesian Ceramic Industry Association (ASAKI), the increase in ceramics imports every year reaches 16.23%. This figure is a picture of conditions that have occurred in the last five years. The current capacity of the domestic ceramic industry is 580 million m2. But in 2018 of the installed capacity, the ceramics industry only produces around 65.51%. While the glass industry in Indonesia, as reported by wartaekonomi.co.id, has a production capacity of 1.3 million per ton in September 2019. According to the Association of Sheet and Safety Glass (AKLP), the Indonesian glass industry has an export capacity of around 30-40% including building glass or automotive glass.

To be able to assess the performance of a company can be seen from the position of the company's financial statements. Through financial statements, interested parties can find out the company's management ability in managing existing assets in order to obtain maximum profits. It also can show the company's ability to maximize existing equity and debt risk management. To obtain maximum analysis, financial statements must be processed in advance so that liquidity, solvency, efficiency and profitability of the company can be known (Endri et al. 2019). The purpose of this study is to analyze the financial performance of the glass and ceramics industry traded on the Indonesian stock market. It is expected to be a picture of financial performance through financial ratios that are commonly used in measuring financial performance.

II. LITERATURE REVIEW

Financial Statements

The financial statements show the short-term and long-term conditions of a company. Financial statements are records of company activities in financial terms (Priya & Ayyappan, 2018). The financial statements describe four important activities of an organization consisting of planning activities, operational activities, funding activities and investment activities (Subramanyam & Wild, 2009).

Financial statements have limitations, for example when a company has large assets and then these assets generate large sales can not be sure able to increase the wealth of the owner of equity because it could be the result of more sales to pay debts. When a company can record sales of 20 million, it can not be known that the performance is only with a sales account. Need another account as a comparison for example costs. If the total cost is 15 million, then the performance is better than if the cost reaches 18 million (Endri et al. 2020).

Financial Ratios

Financial ratios are comparisons between accounts in financial statements. Financial ratios can show us how healthy the company is and to find out how well the company's financial performance (Endri et al, 2019).

- **Liquidity Ratio** − In general, liquidity ratios compare short-term asset accounts and short-term debt accounts. Through the use of this liquidity ratio, the company's ability to handle short-term corporate debt by converting all of the company's short-term assets. A good value for this ratio is if the results are equal to one or more times, which means that short-term debt can be borne by the company's current assets (Sweta, 2017).

- **Solvency Ratio** − One important thing for a company is how to overcome the risk of default on all company debt, especially when it fails to make a profit. Solvency Ratios indicate the ability of a company to solve all debt problems of a company using company assets and owner's capital (Brealey, 2001).

- **Activity Ratio** − In the era of globalization which presents more competitors and increasingly fierce competition, companies are required to be able to carry out activities as efficiently as possible. To measure the efficiency of a company in using the assets available in activities to make a profit, it can use the efficiency ratio, also known as activity ratio (Shahnia & Endri, 2020).

- **Profitability Ratio** − Every company has their own way to make a profit. This ability is said to be profitability (Daeli & Endri 2018). Profitability can be measured through certain ratios by comparing accounts in a company's financial statements (Harahap, 2018).

Prior Research

There was a previous study that used financial statement ratios, one of which, by Riski et al. (2018) in a study that resulted in the conclusion that profitability was influenced by liquidity ratios and activity ratios in the porcelain and glass subsectors in the period 2012 to 2016. In addition there are some notes, the average KIAS Current Ratio shows the highest value in the last five years and is followed by AMFG. Whereas Total Asset Turnover was recorded by ARNA with the highest average. In addition, the average Return on Assets is recorded below one time for all companies.

Another study by Purwanto & Agustin (2017) with the results that company size, profit growth, Current Ratio, DER and ROA have a significant partial effect on Prices on Book Value in the Basic Industry and Chemical sector. This industrial sector is the parent sector of the sub sector in this study. And the same study by Rahadian et al. (2017) analyzes that raw materials in Indonesia are

limited, thereby limiting operational activities which result in a decline in the performance of the Basic Industry and Chemical sectors. Another study by Christiana (2016), ideal portfolios in the Kemarik, Porcelain and Glass sub-sectors consisted of PT Keramika Indonesia Association Tbk (KIAS), PT Intikeramik Alamsari Industri Tbk (IKAI) and PT Asahimas Flat Glass Tbk (AMFG) with a proportion of funds of 50%, 30% and 20%. Arshandy (2018) research that examined the ceramics, porcelain and glass sub-sectors from 2012 to 2016 concluded that profitability was significantly affected by asset management but not significantly affected by capital structure.

III. RESEARCH METHODS

The research method used is a qualitative description, so this study focuses on understanding phenomena that occur without involving predetermined variables (Taguchi, 2018). While descriptive is intended to help the understanding of the reader in seeing the phenomena that exist. Financial statement data is taken from the official website of each company. The boundaries of this study include companies in the ceramic, porcelain and glass sub-sectors listed on the IDX. The financial statements analyzed are the 2014 reporting period until 2018. So from eight companies in this sub-sector only six companies can be used as research subjects. Research analysis using the ratio of financial statements. There are four ratios used in this study, namely liquidity, solvency, activity and profitability (Endri, 2018).

No	Company Code	SUB SECTOR: CERAMIC, PORCELAIN AND GLASS OF IDX *	
		Issuer	Listing Date
1	AMFG	Asahimas Flat Glass Tbk.	08/11/1995
2	ARNA	Arwana Citramulia Tbk.	17/07/2001
3	CAKK**	Cahayaputra Asa Keramik Tbk.	31/10/2018
4	IKAI	Intikeramik Alamasri Industri Tbk	04/07/1997
5	KIAS	Keramika Indonesia Assosiasi Tbk.	08/12/1994
6	MARK**	Mark Dynamics Indonesia Tbk.	12/07/2017
7	MLIA	Mulia Industrindo Tbk	17/01/1994
8	TOTO	Surya Toto Indonesia Tbk.	30/10/1990

* List until 2018, the last period of the research subject

** The period of research was 2014 to 2018, so this company was excluded from the research subjects

Liquidity Ratio

The ratios below can be used to measure liquidity ratios (Atieh 2014) , namely:

- **Current Ratio** − This ratio shows the company's ability to manage short-term finance so that it can meet short-term obligations. Current Ratio is the results of the division between current assets and current debt.

- **Quick Ratio** − Quick Ratio describes the company's ability to manage finances so that it can meet short-term obligations without involving inventory. Quick Ratio is the result of current assets minus inventories, then the results of the reduction are divided by current debt.

Solvency Ratio

The ratio below can be used to measure the solvency ratio according to Alexander (2018) and Prabowo & Korsakul (2019)., namely:

- **Debt to Asets Ratio (DAR)** − This ratio can show the comparations between assets and debt so that the ratio of assets purchased to debt can be known . DAR is the results of the division between the amount of debt and the amount of assets.

- **Debt to Equiy Ratio (DER)** − DER can show a comparison between debt and shareholder equity. DER is the results of the division between the amount of debt and the amount of shareholders' equity.

Activity Ratio

The ratio below can be used to measure efficiency according to Makarim & Noveria (2014), namely:

- **Total Asset Turnover** − This ratio can show the company's ability to manage company assets in generating sales. Total Asset Turnover is the results of the division between sales and the amount of company assets.

- **Inventory Turnover** − This ratio can show the company's ability to control inventory

purchases until the sale occurs. Inventory purchases must be planned properly so that there is no excessive buildup of inventory. Excessive inventory of goods raises maintenance costs while increasing the amount of assets that are not productive. Inventory Turnover can be measured by dividing the cost of goods sold by inventory.

Profitability Ratio

The ratio below can measure profitability according to Sari & Endri (2010), namely:

- **Net Profit Margin** − This ratio shows the net income the company receives from each sale made by the company. Represents the results of the division between the net income of the company and the sales made.

- **Return on Assets (ROA)** − This ratio shows the net income obtained by the company for each asset owned by the company. ROA is the results of the division between the company's net income and company assets.

- **Return On Equity (ROE)** − This ratio shows the net income obtained by the company for each equity owned by shareholders. ROE is the results of the division between the company's net income and shareholders' equity (Endri & Fathony, 2020).

IV. RESULTS AND DISCUSSION

Below is the presentation of the results of research and discussion:

1. Current Ratio

From the Current Ratio table it was found that the highest ratio was owned by AMFG in 2014 with a ratio of 5.688 times. While the lowest is owned by IKAI in 2017 with a value of 0.0337 times. KIAS has a record ratio always above the industry average in the past 5 years. Whereas AMFG and TOTO were only once below the industry average, namely AMFG in 2018 and TOTO in 2014.

No	Company Code	Current Ratio (times)				
		2014	2015	2016	2017	2018
1	AMFG	5,6844	4,6543	2,0198	2,0095	1,2703
2	ARNA	1,6075	1,0207	1,3488	1,6262	1,7363
3	IKAI	0,8364	0,8085	0,2011	0,0337	0,4689
4	KIAS	5,6110	3,2419	3,1334	3,1073	2,9145
5	MLIA	1,1138	0,8707	0,8595	0,8697	0,9546
6	TOTO	2,1085	2,4067	2,1899	2,2955	2,9535
	Average	2,8269	2,1671	1,6254	1,6570	1,7163

Judging from the trend, AMFG which recorded the highest ratio in 2014 actually experienced the highest decrease in Current Ratio of 4.4141 times so that in 2018 it would be 1.2703 times. The second highest decline occurred in KIAS with a decrease of 2.6965 times from 6.6110 times in 2014 to 2.9145 times in 2018. Other companies experienced changes below number 1.

Every company has its own strategy in controlling Current Ratio. Basically, the ratio is too high as 5.6844 figure (AMFG 2014) or 5.6110 (KIAS 2014) show management or asset utilization is less good . In addition, ratios that are too low, such as 0.0337 (IKAI 2017), are very vulnerable to difficulties in paying short-term debt .

2. Quick Ratio

From the Quick Ratio table it was found that the highest ratio was owned by AMFG and KIAS in 2014 with a ratio of 3.8 times. While the lowest is owned by IKAI in 2017 with a value of 0.0193 times. KIAS has a record ratio always above the industry average in the past 5 years. Whereas TOTO was only one time below the industry average, namely in 2014. The upward and decreasing trend of the Quick Ratio ratio is similar to the Current Ratio trend.

No	Company Code	Quick Ratio (times)				
		2014	2015	2016	2017	2018
1	AMFG	3,8135	2,8579	0,9381	0,8616	0,5233
2	ARNA	1,4232	0,8523	0,9958	1,2962	1,4767

No	Company Code	Quick/Current (times)				
		2014	2015	2016	2017	2018
3	IKAI	0,2851	0,2788	0,0723	0,0193	0,4523
4	KIAS	3,8193	2,3035	2,5023	2,4962	2,3397
5	MLIA	0,5455	0,3454	0,3779	0,5148	0,4867
6	TOTO	1,2535	1,3296	1,0920	1,2104	1,3988
	Average	1,8567	1,3279	0,9964	1,0664	1,1129

The difference between Quick Ratio and Current Ratio is in inventory. Quick Ratio is more liquid because inventory takes longer in the process of turning into cash. According to the authors, if a large ratio for example three times and above is considered as not utilizing (unutilized) current assets properly, then it needs to be discussed otherwise. If company is able to pass a few years with a ratio below one times (in this case the ratio of one is considered ideal) , whether it can be said that the management company has made operational by utilization (utilized) urrent assets with well although risk high?

3. Debt to Asset Ratio (DAR)

From the DAR table it can be seen that the largest ratio recorded by ARNA in two consecutive years, 2016 and 2017. The ARNA ratio is seen to increase from 2014 but fell in 2018. The lowest ratio in five years was recorded to be owned by KIAS even in three consecutive years starting in 2014. Interestingly, KIAS even records the lowest ratio every year compared to other companies in this sub-sector. In addition, the recorded DAR ratio is below one time which also results in an industry average ratio below one time rate.

No	Company Code	Debt to Asset Ratio (times)				
		2014	2015	2016	2017	2018
1	AMFG	0,1873	0,2061	0,3462	0,4338	0,5735
2	ARNA	0,2755	0,3747	0,3856	0,3572	0,3366
3	IKAI	0,6555	0,8230	1,2334	1,5291	0,4060
4	KIAS	0,1002	0,1524	0,1826	0,1928	0,2051
5	MLIA	0,8168	0,8435	0,7911	0,6618	0,5716
6	TOTO	0,4541	0,3886	0,4097	0,4007	0,3340
	Average	0,4149	0,4647	0,5581	0,5959	0,4045

The ability of KIAS to record DAR according to the table shows that ownership of KIAS assets does not depend on debt . This also applies to companies with below one DAR. It also shows that some ownership of the company's assets is really owned by the capital owner. Overall DAR in this sub-sector is good although IKAI has recorded the ratio above once but in the last year it even has the lowest ratio for IKAI in the last five years.

The next question is whether with a low DAR, the company should add debt or not? This depends on the needs of the company. Does the company need to add assets? If it is projected to be able to handle sales more besides the availability of other resource capabilities, it can increase debt. Only with a low DAR will make it easier for companies to gain the credibility of the trust when they need funds from debt.

4. Debt to Equity Ratio (DER)

DER according to the table shows that MLIA has the highest value, which is in 2015. After rising from 2014, then back down in the following years. Even so DER MLIA still shows values above the number one. The lowest recorded value was owned by IKAI in 2017 and 2016. The best DER ratio was again recorded on KIAS which also has the most ideal DAR ratio.

No	Company Code	Debt to Equiy Ratio (times)				
		2014	2015	2016	2017	2018
1	AMFG	0,2304	0,2596	0,5294	0,7661	1,3446
2	ARNA	0,3803	0,5991	0,6277	0,5556	0,5073
3	IKAI	1,9025	4,6501	-5,2851	-2,8899	0,6836
4	KIAS	0,1114	0,1798	0,2234	0,2389	0,2580
5	MLIA	4,4595	5,3902	3,7880	1,9566	1,3484
6	TOTO	0,8318	0,6356	0,6940	0,6687	0,5015
	Average	1,3193	1,9524	0,0963	0,2160	0,7739

In addition, the authors do not analyze industry averages because of the assumption that the averages in this ratio are biased. It can be seen that there are two ratios which are not ideal but reduce each other. What we are talking about is a ratio above one and a ratio below zero. A ratio above one indicates that debt is greater than equity. Likewise,

the negative ratio shows that the value of equity is much smaller than debt because equity is negative. Negative equity can occur due to accumulated losses suffered by the company.

So in this ratio, companies that are at risk with debt are not only companies with large ratios, for example above one. Companies with a ratio below zero also have a debt risk. This is because both show that the value of debt is greater than owner's equity.

5. Total Asset Turnover Ratio

The Total Asset Turnover Ratio table shows that ARNA and MLIA have recorded the above ratio once. IKAI has the lowest ratio of 0.0084 times in 2018. This ratio is the lowest ratio in all industries in the last 5 years. In this sub sector ARNA and TOTO which recorded figures above the average of each year in the last five years period. MLIA was once recorded as having a ratio below the industry average in 2014.

No	Company Code	Total Asset Turnover (times)				
		2014	2015	2016	2017	2018
1	AMFG	0,9372	0,8585	0,6765	0,6200	0,5269
2	ARNA	1,2784	0,9030	0,9798	1,0822	1,1927
3	IKAI	0,5059	0,3620	0,3161	0,0607	0,0084
4	KIAS	0,3821	0,3841	0,4644	0,4583	0,5139
5	MLIA	0,7803	0,8019	0,7501	1,2102	1,0547
6	TOTO	0,9958	0,9341	0,8015	0,7697	0,7691
	Average	0,8133	0,7072	0,6647	0,7002	0,6776

In terms of trends, it seems that IKAI, TOTO and AMFG have decreased every year with IKAI experiencing the biggest decline. While MLIA and KIAS although up and down but in the last year has a better record than the first year. ARNA and MLIA which recorded the ratio above once showed good efficiency in managing assets to generate revenue. And IKAI shows the worst efficiency level especially in the last 4 years.

6. Inventory Turnover Ratio

Judging from the Inventory Turnover table, ARNA recorded the best ratio in 2014. The lowest ratio in the industry for the past 5 years was recorded for IKAI in 2015. ARNA is recorded above the industry average every year.

No	Company Code	Inventory Turnover (times)				
		2014	2015	2016	2017	2018
1	AMFG	3,7133	3,3310	3,0703	2,8819	2,9145
2	ARNA	18,6943	11,9522	7,0299	8,8427	12,1198
3	IKAI	2,0659	1,4433	4,1622	11,9318	1,6888
4	KIAS	2,9202	4,3855	8,7514	7,7827	7,9419
5	MLIA	5,2487	5,1568	5,4315	9,9985	7,8193
6	TOTO	3,3677	2,8319	2,5128	2,6353	2,3275
	Average	6,0017	4,8501	5,1597	7,3455	5,8020

The lowest ratio was recorded on IKAI of 1.4433 times. This shows that the planning and inventory management is quite good. At least there is no inventory that settles more than one period. The ARNA company has a high record for this ratio even reaching three times the ratio above ten times. This shows that ARNA manages inventory very well compared to other companies in this sub sector. Good inventory management avoids inventory maintenance costs or inventory damage if not properly stored.

7. Net Profit Margin (NPM)

The NPM table shows that the highest ratio was recorded on ARNA in 2014. It's just that from year to year it experiences ups and downs until 2018, the ratio becomes around 50%. TOTO also experienced fluctuations but could be maintained, in 2014 the ratio was 14.4067 times and in 2018 it was 15.5589 times. AMFG has decreased productivity from 2014 by 12.44894 times until 2018 only by 0.1484 times. KIAS even recorded a ratio of -9.0422 times in 2018 whereas in 2014 it had a ratio of 10, 2605 times.

No	Company Code	Net Profit Margin (times)				
		2014	2015	2016	2017	2018
1	AMFG	12,4894	9,3112	6,9935	0,9926	0,1484
2	ARNA	16,2541	5,5119	6,0435	7,0505	8,0248

3	IKAI	-10,1063	-77,1165	-173,5164	-406,1038	632,1399
4	KIAS	10,2605	-18,0705	-29,2341	-10,5302	-9,0422
5	MLIA	2,2206	-2,7286	0,1560	0,7573	3,3904
6	TOTO	14,4067	12,5177	8,1471	12,8209	15,5589
	Average	7,5875	-11,7625	-30,2351	-65,8355	108,3701

What's interesting is that IKAI started the lowest ratio of 2014, which was -10,1063 times and continued to decline to -406,1038 times in 2017. But in 2018, he recorded a ratio of 632,139. This happens because the benefits come from outside the main activity, namely from the return on acquisition. Without this income, the IKAI ratio in 2018 will be worse than before. This low IKAI NPM ratio greatly affects the industry average ratio so that the industry average from 2015 to 2017 is negative.

TOTO's success in maintaining the NPM ratio indicates the company's ability to sell or manage costs. NPM shows that the company has the ability to sell at high prices, for example utilizing big name brands. NPM can also mark the ability of company management to reduce company costs. But it could also be like the IKAI anomaly case which shows that an increase in the NPM ratio can also be from profits outside the company's main activities.

8. Return On Assets (ROA)

The ROA table shows a low ratio . The ratio of all sub-sector companies is below one to negative. The low ROA of this sub-sector is marked by the average value of 2015 to 2017 which is also negative.

No	Company Code	Return on Asset (times)				
		2014	2015	2016	2017	2018
1	AMFG	0,1170	0,0799	0,0473	0,0062	0,0008
2	ARNA	0,2078	0,0498	0,0592	0,0763	0,0957
3	IKAI	-0,0511	-0,2792	-0,5485	-0,2463	0,0533
4	KIAS	0,0392	-0,0694	-0,1358	-0,0483	-0,0465
5	MLIA	0,0173	-0,0219	0,0012	0,0092	0,0358
6	TOTO	0,1435	0,1169	0,0653	0,0987	0,1197
	Average	0,0790	-0,0206	-0,0852	-0,0174	0,0431

The highest ratio is owned by ARNA in 2014 with a value of only 0, 2078 times. This means that every asset in the ARNA company has been optimized for utilization so that each asset unit generates 0, 2078 net income. But in the following four years TOTO recorded the highest ratio each year among companies in this sub sector.

The magnitude of ROA for each industry may have different tendencies. It could be that the sub-sector ROA level that is small indicates fair value for this sub-sector. The easiest description is that a negative value indicates that the company suffered a loss.

9. Return on Equity

The ROE table shows values that have almost the same pattern as ROA but are generally higher ROE than ROA. Anomaly occurs in the IKAI ratio in 2016 and 2017 which results in very high ratio values. Basically the value is obtained from negative net income divided by the amount of equity which is also negative so that it produces a positive value and this does not reflect the actual value.

No	Company Code	Return on Equity (times)				
		2014	2015	2016	2017	2018
1	AMFG	0,1440	0,1007	0,0724	0,0109	0,0018
2	ARNA	0,2868	0,0796	0,0964	0,1187	0,1443
3	IKAI	-0,1484	-1,5773	2,3502	0,4655	0,0898
4	KIAS	0,0436	-0,0819	-0,1661	-0,0598	-0,0585
5	MLIA	0,0946	-0,1398	0,0056	0,0271	0,0844
6	TOTO	0,2628	0,1912	0,1106	0,1647	0,1797
	Average	0,1139	-0,2379	0,4115	0,1212	0,0736

The TOTO, MLIA and ARNA ratios have a tendency to increase from 2016 to 2018 while the AMFG has decreased from year to year. The highest ratio value was recorded in the name of ARNA in 2014. But in the following four years the highest ratio was recorded in the name of TOTO for each year. TOTO ratio value in 2018 of 0.1797 times shows that each unit of equity owned by shareholders generates 0.1797 times net income.

V. CONCLUSION

Viewed from the risk failure to pay short-term debt, IKAI and MLIA have a fairly high risk. In contrast KIAS and TOTO have very little risk. In terms of the long-term debt risk IKAI and MLIA also have a high enough risk. Whereas KIAS has a small risk followed by AMFG the first three years and ARNA the last two years. The use of sub-sector assets is best done by ARNA while IKAI recorded the lowest utilization of assets. The best inventory management is done by ARNA while the lowest is recorded on behalf of TOTO (on average). The best profitability ratio is recorded on behalf of TOTO and ARNA while the lowest is IKAI. This is reflected in the three productivity ratios previously reviewed.

This research needs to be continued to determine the effect of the ratio to other ratios. An interesting example that the condition KIAS which has a value of liquidity ratios are high but have a low ratio seen from the three profitability ratios. In addition, TOTO, which has a quite low Inventory Turnover ratio compared to other companies, but has the highest profitability ratio in this sub sector. Starting in 2019 IKAI issuers are no longer on the sub sector is due to move to the sector Trade, Services and Investment, sub sector Tourism, Restaurant And Hotel . Therefore, for further research, this issuer can be ruled out.

When this journal was created, the Covid-19 pandemic was happening, which hit not only one country but also globally. This pandemic affects the industry and the world economy. Most international events were forced to be postponed such as the Euro 2020, Tokyo Olympics and soccer leagues. This condition according to the authors greatly influences the financial performance of organizations. Therefore, for the next writing, a similar journal can be made which analyzes the financial performance of the glass and ceramics industry sub-sector during and after the Covid-19 pandemic.

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