ANALYSIS OF FINANCIAL PERFORMANCE OF MINING COMPANIES LISTED IN INDONESIA STOCK EXCHANGE

Satriya Candra Bondan Prabowo  
Faculty of Economics and Business, Universitas Brawijaya

Nattawadee Korsakul  
Yuanze University, Taiwan

Abstract: This study aims to determine and analyze the financial performance of mining companies listed on the Indonesia Stock Exchange. The objects taken in this research were 37 mining companies listed on the Indonesia Stock Exchange during 2013–2017. The results of financial ratio analysis using liquidity ratios, activity ratios, solvency ratios, profitability ratios and DuPont analysis were fluctuating, shown by the increase and decrease in most mining companies during the research period. The higher the liquidity ratio, the higher the safety level of the company and vice versa. The higher the activity ratio, the higher the efficiency of the company and vice versa. A high solvency ratio is not good for the company because the loan will be greater, so the risk will be greater as well and vice versa. The higher the profitability ratio, the better the operating conditions of the company in generating profits and vice versa. Based on DuPont analysis, great ROI and ROE is good for the company because its management in assets that generate operating profit will be better too.

Keywords: Liquidity Ratio, Activity Ratio, Solvency Ratio, Profitability Ratio, DuPont Analysis

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Nowadays, we are entering a disruption era, which is marked by the shifting from the real space into cyberspace. This phenomenon is developing in the change of the business world. This can be both an obstacle and an advantage for the business world in Indonesia. Businesses should be able to find excellent solutions on how to turn these obstacles into an advantage. Those included the emergence of new markets so that businesses that had been closed could be open, saving business costs physically, making things smarter, and so on (Kompasiana, 2018). Those phenomena affect almost all business sectors, starting from transportation, logistics, tourism, retail, banking, telecommunications, and also finance. Disruption occurs very quickly and screws the existing system so that businessmen have to rack their brains to avoid disruption, whether they like it or not. People involved in the mining industry still feel that their position is secure (Kasali, 2018). In fact, in this era, where tech-
nology is getting sophisticated, there have been many changes such as in the method of mining facilitating the companies; one of which is mining maps. Mining companies assume that the losses they have experienced so far are due to unfavorable government policies, and the decline in sales is due to falling demand. In fact, it is caused by the old mindset and system they still applied. The disruption era caused many mining companies to go bankrupt; some companies even continued to operate even though they were bankrupt and had to depend on debt. There were 125 coal companies in East Kalimantan that have gone bankrupt. In the coal industry, shale gas and shale oil have been discovered. The United States used the discovery to explore energy reserves hidden in the sidelines or trapped in shale rock. The reserve will meet the needs of coal in the United States for the next hundred years. The discovery decreases the demand for coal so that many coal companies were disrupted because of their inability to adjust technological progress. Companies must be able to disrupt themselves, one of them by implementing disruptive leaders, who dare to break the establishment that occurs in natural resource management, management, and business governance. The company is required to manage and run the company effectively and efficiently in order to generate high profits. Company management must also be able to understand the financial statements that are used as benchmarks to determine the condition of the company and as a reference in carrying out operations in the future. Therefore, financial statement analysis is highly required. Financial ratio analysis is required to assess the effectiveness of corporate financial decisions. This analysis aims to look at the company’s prospects and risks in the future. In addition to using financial ratio analysis, the financial statement also can be analyzed using DuPont analysis using the ratio of ROI and ROE.

Researchers who conducted research on financial statements and Du Pont analysis are Herciu and Ogrean (2010), Arif (2012), Botika (2012), Kathryn, Doina, and Hassab (2013), Bernhardt (2013), Marginean, Mihaltan, and Tepes (2014), Burja and Marginean (2014), Subham and Sowmya (2015), A-Geethalakshmi & Jothi (2016). In addition, those works were also studied by Haider (2016), Jiri, Jana, and Petr (2016), Doorasamy (2016), Rooplata (2016), Shivam and Srijan (2016), Roslah, Siti, and Zaidi (2017), Deepak and Kaviitha (2018), Junda, Yun, Xiamoei, Liu, and Zhongtao (2018), Kabir, Alam, and Monzur (2018), Rahman and Mia (2018). For investors, this research can be used as information in determining investment plans in mining companies, while for companies, this research is expected to be used as information and input in order to improve the financial performance in connection with financial decision making in the company.

LITERATURE REVIEW

Financial Statement

Financial statements are reports indicating the responsibility of managers or leaders of the company to the interested parties. The information contained in financial statements can be used to predict earnings and dividends in the future (Brigham and Houston, 2010). Investors are usually interested in financial statements because they help predict the returns that will be obtained by investors in the future. According to Brigham and Houston (2010), financial reports consist of:

DuPont System

DuPont analysis is a financial ratio system designed to investigate the determinants of return on shareholder’s equity ratio and return on assets (Keown et al., 2004). DuPont system measures the level of effectiveness of a company in generating profits. This system illustrates the factors that are interrelated and influence the return on investment (ROI) of a company and the rate of return on equity (ROE).

Financial Statement Analysis

Financial statement analysis is useful to help anticipate future company conditions (Brigham and Houston, 2010). Financial statements are analyzed using financial ratios. Financial ratios are used to analyze the financial condition and the performance of the company (James Van Horne, 2005). Finan-
cial ratio analysis is divided into several parts (Brigham and Houston, 2010), that are:

**Liquidity Ratio**

A ratio that indicates the relationship between cash and current assets of the company with current liabilities. This type of ratio shows the company’s ability to pay off debt on the due date.

**Activity Ratio**

The activity ratio measures the effectiveness of asset management in a company. If the company has too many assets, the capital costs will be too high, and the profits will be depressed. On the other hand, if the asset is too low, they will lose profitable sales.

**Solvency Ratio**

The solvency ratio or financial leverage ratio indicates the company's capacity to meet both short-term and long-term obligations.

**Profitability Ratio**

This ratio shows the combination of the effect of liquidity, asset management, and debt on operating results.

**METHOD**

This type of research used in this research was quantitative descriptive research. The objects involved in this study are mining companies that are listed on the Indonesia Stock Exchange during 2013-2017. Data were obtained from financial statements issued by companies listed on the Indonesia Stock Exchange from 2013 to 2017. The object of the research consisted of 42 companies. The sampling technique used was the purposive sampling method. The sample was selected based on certain criteria. The criteria used are Public companies listed on the Indonesia Stock Exchange during 2013-2017 and Publish financial statements in a row during the study period.

Based on those criteria, 37 mining sector companies obtained are:

The ratios used in this study are liquidity ratio, activity ratio, solvency ratio, and profitability ratio.

Table 1 Company Code and Name

| No | Company Code | Company Name                          |
|----|--------------|---------------------------------------|
| 1  | ADRO         | PT Adaro Energy Tbk                   |
| 2  | ANTM         | PT Aneka Tambang Tbk                  |
| 3  | APEX         | PT Apexindo Pratama Duta Tbk          |
| 4  | ARTI         | PT Ratu Prabu Energi Tbk              |
| 5  | ARII         | PT Atlas Resource Tbk                 |
| 6  | ATPK         | PT Bara Jaya Internasional Tbk        |
| 7  | BSSR         | PT Baramulti Seukessarana Tbk         |
| 8  | BYAN         | PT Bayan Resources Tbk                |
| 9  | CITA         | PT Cita Mineral Investindo Tbk         |
| 10 | CKRA         | PT Cakra Mineral Tbk                  |
| 11 | CTTH         | PT Citatah Tbk                        |
| 12 | DEWA         | PT Dharma Henwa Tbk                   |
| 13 | DOID         | PT Delta Dunia Makmur Tbk             |
| 14 | DSSA         | PT Dian Swastika Sentosa Tbk          |
| 15 | ELSA         | PT Elnusa Tbk                         |
| 16 | ENRG         | PT Energi Mega Persada Tbk            |
| 17 | ESSA         | PT Eka Surya Perkasa Tbkq             |
| 18 | GEMS         | PT Golden Energy Mines Tbk            |
| 19 | GTBO         | PT Garda Tujuh Buana Tbk              |
| 20 | HRUM         | PT Harum Energy Tbk                   |
| 21 | INCO         | PT Vale Indonesia Tbk                 |
| 22 | INDY         | PT Indika Energy                      |
| 23 | ITMG         | PT Indo Tambahgraya Megah Tbk          |
| 24 | KKGI         | PT Resource Alam Tbk                  |
| 25 | MBAP         | PT Mitrabora Adiperdana Tbk           |
| 26 | MEDC         | PT Medco Energi International Tbk      |
| 27 | MITI         | PT Mitralinvestindo Tbk               |
| 28 | MYOH         | PT Samindo Resources Tbk              |
| 19 | PKPK         | PT Perdana Karya Perkasa Tbk          |
| 30 | PSAB         | PT Pelita Sejahtera Abadi Tbk         |
| 31 | PTBA         | PT Tambang Batubara Bukit Asam Tbk    |
| 32 | PTRO         | PT Petrosea Tbk’                     |
| 33 | RUIS         | PT Radiant Utama Interisco Tbk        |
| 34 | SIAP         | PT Sekawan Intipatama Tbk             |
| 35 | SMMT         | PT Golden Eagle Energy Tbk            |
| 36 | SMRU         | PT SMR Utama Tbk                      |
| 37 | TOBA         | PT Toba Bara Sejahtra Tbk             |

The operational definition of research model is as follows:

**Liquidity Ratio**

- Net Working Capital

This kind of ratio is used to find out the
company’s ability to pay off current debt. The ratio of net working capital is calculated by reducing current assets to current debt.

- **Current Ratio**
The current ratio is used to measure a company’s ability to meet short-term obligations or debt that will be due soon. The current ratio is calculated by multiplying current assets by one hundred percent then divided by current debt.

**Activity Ratio**

- **Inventory Turnover Ratio**
  This type of ratio is used to measure the number of times the funds invested in inventory revolve in one period. The inventory turnover ratio is calculated by dividing the cost of goods sold by inventory.

- **Fixed Assets Turnover**
  This ratio is used to measure how many times the funds invested in fixed assets circulate in one period. The ratio of fixed assets turnover is calculated by dividing sales by inventory.

**Solvency Ratio**

- **Debt Ratio**
  This ratio indicates how much the overall assets of the company spent on debt. The debt ratio is calculated by multiplying total debt by one hundred percent then divided by total assets.

- **Debt Equity**
  This ratio is used to assess debt with equity. The debt-to-equity ratio is calculated by multiplying long-term debt by a hundred percent then divided by own capital.

**Profitability Ratio**

- **Gross Profit Margin**
  This type of ratio is used to determine the company’s revenue derived from sales. The ratio of gross profit margin is calculated by reducing sales and cost of goods sold, then multiplied by a hundred percent and divided by sales.

- **Net Profit Margin**
  This ratio is used to measure net profit margins after tax interest on net sales. The ratio of net profit margin is calculated by multiplying the after-tax income by one hundred percent and then divided by sales.

**DuPont Analysis**

- **Return on Investment**
  This ratio measures the profits derived from the results of the company’s activities. The ratio of return on investment is calculated by multiplying the net profit margin by the total assets turnover.

- **Return on Equity**
  This ratio is used to measure net income after tax. The ratio of return on equity is calculated by multiplying the return on investment by the total assets divided by the total equity and then multiplied by one hundred percent.

**RESULTS AND DISCUSSION**

**Financial Ratio Analysis**

1. **Liquidity Ratio**
   Based on the calculation results, there are three companies that experienced an increase starting from 2013 to 2017, namely PT Adaro Energy Tbk, PT Golden Energy Mines Tbk, and PT Vale Indonesia Tbk. Other companies experienced fluctuations, and even some companies showed negative results. That can be a negative sign, because of the lower the results, the lower the company’s ability to pay its current liabilities.

   Negative results mean that the current liabilities are greater than the current assets and vice versa. Negative results also can jeopardize the survival of the company because the company does not have sufficient current assets to pay off current liabilities. If the company cannot pay obligations immediately, the company could go bankrupt. Companies that have large current assets can pay off short-term obligations immediately, which will benefit the company and creditors.
Table 2  Results of Net Working Capital

| No | Company Code | Net Working Capital (in thousand rupiahs) |
|----|--------------|----------------------------------------|
| 1. | ADRO         | 7,763,600,000                           |
| 2. | ATPK         | 83,893,384                              |
| 3. | ARII         | -1,676,142,000                          |
| 4. | BBSR         | -441,321,803                            |
| 5. | ARTI         | 335,841,180                             |
| 6. | BYAN         | 554,982,792                             |
| 7. | DEWA         | 399,365,031                             |
| 8. | DODD         | 1,585,600,063                           |
| 9. | GEMS         | 902,473,000                             |
| 10.| GTBO         | 111,043,335                             |
| 11.| HRUM         | 2,628,869,711                           |
| 12.| ITMG         | 4,831,502,000                           |
| 13.| KKGI         | 267,376,798                             |
| 14.| MBAP         | -186,289,857                            |
| 15.| MYOH         | 385,422,545                             |
| 16.| PKPK         | 80,336,177                              |
| 17.| PTBA         | 4,218,827,000                           |
| 18.| PTRO         | 874,692,000                             |
| 19.| SMMT         | 144,347,300                             |
| 20.| TOBA         | -198,287,544                            |
| 21.| ANTM         | 3,224,925,540                           |
| 22.| CITA         | 1,032,240,075                           |
| 23.| CTKRA        | 630,820,419                             |
| 24.| ELSA         | 932,022,000                             |
| 25.| ENRG         | -2,618,460,949                          |
| 26.| ESSA         | 401,101,766                             |
| 27.| INCO         | 5,051,101,735                           |
| 28.| MEDC         | 5,348,099,120                           |
| 29.| RUIS         | 37,380,000                              |
| 30.| APEX         | 428,242,256                             |
| 31.| CTTH         | 16,963,413                              |
| 32.| DSSA         | 2,754,322,225                           |
| 33.| INDY         | 5,355,313,925                           |
| 34.| MITI         | 73,294,730                              |
| 35.| PSAB         | -124,336,316                            |
| 36.| SIAP         | 136,196,264                             |
| 37.| SMRU         | 80,334,657                              |

Based on the results of calculations, all companies experience fluctuations. A company with the highest ratio is PT Cakra Mineral Tbk amounted to 7800.4 (in percent), which means that each 1 rupiah current debt is guaranteed by 7,8004 rupiahs current assets. Conversely, the lowest ratio during the study period was found in PT Atlas Resource Tbk, amounted to 16.91. Impairment is caused by

Source: Processed Data, 2019.
• Current Ratio

Table 3  Results of Current Ratio

| No | Company Code | Current Ratio (%) |
|----|--------------|-------------------|
| 1. | ADRO         | 177.18            |
| 2. | ATPK         | 132.08            |
| 3. | ARII         | 24.28             |
| 4. | BBSR         | 49.39             |
| 5. | ARTI         | 360.18            |
| 6. | BYAN         | 109.89            |
| 7. | DEWA         | 127.78            |
| 8. | DOID         | 140.65            |
| 9. | GEMS         | 183.31            |
| 10.| GTBO         | 229.28            |
| 11.| HRUM         | 345.31            |
| 12.| ITMG         | 199.19            |
| 13.| KKGI         | 173.48            |
| 14.| MBAP         | 71.61             |
| 15.| MYOH         | 173.37            |
| 16.| PKPK         | 145.55            |
| 17.| PTBA         | 286.59            |
| 18.| PTRO         | 155.46            |
| 19.| SMMT         | 470.65            |
| 20.| TOBA         | 89.51             |
| 21.| ANTM         | 183.64            |
| 22.| CITI         | 190.98            |
| 23.| CKRA         | 780.04            |
| 24.| ELSA         | 159.73            |
| 25.| ENRG         | 68.81             |
| 26.| ESSA         | 323.92            |
| 27.| INCO         | 330.07            |
| 28.| MEDC         | 200.32            |
| 29.| RUIS         | 105.13            |
| 30.| APEX         | 105.13            |
| 31.| CTTH         | 107.89            |
| 32.| DSSA         | 206.33            |
| 33.| INDI         | 218.58            |
| 34.| MITI         | 390.61            |
| 35.| PSAB         | 90.38             |
| 36.| SIAP         | 199.84            |
| 37.| SMRU         | 814.23            |

Source: Processed Data, 2019.

The higher the ratio the better it will be since the company’s ability to close short-term liabilities will be higher. A low ratio indicates that the com-

an increase in current assets, followed by an increase in current debt. This shows that the company’s liquidity is decreasing.
pany is experiencing difficulties in fulfilling its current obligations. On the other hand, the current ratio that is too high may indicate that the company is not using its current assets or short-term financing facilities efficiently or indicates problems in managing working capital.

2. Activity Ratio
   • Inventory Turnover Ratio

Table 4 Results of Inventory Turnover Ratio

| No | Company Code | 2013  | 2014  | 2015  | 2016  | 2017  |
|----|--------------|-------|-------|-------|-------|-------|
| 1  | ADRO         | 24,73 | 26,93 | 29,41 | 25,04 | 24,76 |
| 2  | ATPK         | 2,77  | 7,85  | 5,11  | 2,55  | 3,02  |
| 3  | ARII         | 9,31  | 14,34 | 6,08  | 34,34 | 6,78  |
| 4  | BBSR         | 7,93  | 19,22 | 26,77 | 31,52 | 39,93 |
| 5  | ARTI         | 10,79 | 13,87 | 9,79  | 9,45  | 6,96  |
| 6  | BYAN         | 6,56  | 8,61  | 3,79  | 7,68  | 6,08  |
| 7  | DEWA         | 2,72  | 10,02 | 10,11 | 7,27  | 3,24  |
| 8  | DOI          | 20,78 | 20,48 | 22,18 | 24,45 | 18,97 |
| 9  | GEMS         | 169,59| 25,45 | 15,01 | 28,79 | 27,87 |
| 10 | GTBO         | 2,91  | 6,69  | 1,07  | 1,28  | 3,19  |
| 11 | HRUM         | 23,51 | 15,71 | 26,54 | 18,48 | 18,39 |
| 12 | ITMG         | 13,81 | 10,23 | 19,57 | 16,72 | 10,89 |
| 13 | KKG1         | 14,43 | 13,13 | 13,18 | 8,36  | 2,65  |
| 14 | MBAP         | 10,26 | 7,44  | 10,82 | 12,16 | 6,77  |
| 15 | MYOH         | 8,78  | 11,34 | 13,76 | 11,85 | 9,72  |
| 16 | PKPK         | 6,21  | 2,51  | 6,87  | 0,74  | 1,18  |
| 17 | PTBA         | 8,58  | 8,86  | 7,77  | 8,76  | 9,48  |
| 18 | PTRO         | 56,78 | 56,12 | 40,23 | 35,08 | 30,06 |
| 19 | SMMT         | 2,71  | 0,19  | 2,04  | 17,42 | 15,95 |
| 20 | TOBA         | 10,56 | 9,86  | 12,81 | 13,09 | 8,78  |
| 21 | ANTM         | 3,95  | 4,89  | 6,01  | 5,94  | 10,06 |
| 22 | CITA         | 3,15  | 0,17  | 0,01  | 0,65  | 0,95  |
| 23 | CKRA         | 4,58  | 1,96  | 0,71  | 7,76  | 272,64|
| 24 | ELSA         | 33,78 | 21,51 | 23,89 | 23,02 | 45,59 |
| 25 | ENRG         | 10,31 | 3,04  | 2,71  | 12,08 | 5,34  |
| 26 | ESSA         | 16,59 | 14,96 | 23,05 | 18,99 | 6,37  |
| 27 | INCO         | 5,17  | 5,25  | 6,45  | 4,23  | 5,29  |
| 28 | MEDC         | 6,87  | 12,27 | 8,93  | 4,97  | 5,67  |
| 29 | RUIS         | 103,89| 121,11| 122,48| 155,03| 145,01|
| 30 | APEX         | 5,24  | 4,51  | 6,53  | 3,05  | 2,29  |
| 31 | CTTH         | 0,97  | 0,66  | 0,63  | 0,75  | 0,51  |
| 32 | DSSA         | 8,87  | 14,57 | 11,01 | 13,53 | 11,25 |
| 33 | INDIY        | 38,79 | 69,75 | 104,93| 77,03 | 12,76 |
| 34 | MITI         | 3,46  | 0,36  | 2,28  | 1,04  | 0,62  |
| 35 | PSAB         | 1,84  | 3,26  | 3,26  | 1,67  | 1,53  |
| 36 | SIAP         | 2,19  | 24,19 | 24,14 | 18,43 | 0,34  |
| 37 | SMRU         | 20,28 | 6,69  | 14,22 | 14,29 | 14,94 |

Source: Processed Data, 2019
Based on the calculation above, all companies studied in this research show fluctuating results. None of the companies experienced consecutive increases or decreases during the study period. The highest turnover rate was found in PT Cakra Mineral (272.64) times, while PT Cita Mineral Investindo experienced a turnover of 0.01 times. The lower the company’s inventory turnover, the less efficient the company is in carrying out its operations and vice versa.

- Fixed Asset Turnover

| No | Company Code and Name | Fixed Asset Turnover (times) |
|----|------------------------|-----------------------------|
|    |                        | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1. | ADRO                   | 0.61 | 0.64 | 0.55 | 0.51 | 0.67 |
| 2. | ATPK                   | 0.35 | 0.61 | 0.21 | 0.01 | 0.01 |
| 3. | ARII                   | 0.32 | 0.13 | 0.08 | 0.03 | 0.09 |
| 4. | BBSR                   | 1.31 | 1.69 | 2.03 | 1.86 | 2.91 |
| 5. | ARTI                   | 0.36 | 0.27 | 0.13 | 0.11 | 0.13 |
| 6. | BYAN                   | 1.05 | 0.98 | 0.71 | 0.92 | 1.84 |
| 7. | DEWA                   | 0.26 | 1.21 | 0.73 | 0.48 | 0.24 |
| 8. | DOID                   | 1.05 | 1.01 | 1.07 | 1.04 | 1.28 |
| 9. | GEMS                   | 2.04 | 2.51 | 2.03 | 2.21 | 4.32 |
|10. | GTBO                   | 0.38 | 0.43 | 0.02 | 0.01 | 0.16 |
|11. | HRUM                   | 4.41 | 2.92 | 1.61 | 1.52 | 2.25 |
|12. | ITMG                   | 3.37 | 2.62 | 2.41 | 2.03 | 3.01 |
|13. | KKGI                   | 3.36 | 2.26 | 1.85 | 1.56 | 0.34 |
|14. | MBAP                   | 3.19 | 3.55 | 5.41 | 4.59 | 4.95 |
|15. | MYOH                   | 2.71 | 3.12 | 2.98 | 3.01 | 3.75 |
|16. | PKPK                   | 1.43 | 0.41 | 0.18 | 0.08 | 0.11 |
|17. | PTBA                   | 2.15 | 1.75 | 1.36 | 1.37 | 1.79 |
|18. | PTRO                   | 1.12 | 1.19 | 0.72 | 0.85 | 0.94 |
|19. | SMMT                   | 0.03 | 0.15 | 0.04 | 0.09 | 0.08 |
|20. | TOBA                   | 2.32 | 2.64 | 1.87 | 1.35 | 1.25 |
|21. | ANTM                   | 0.76 | 0.61 | 0.55 | 0.47 | 0.61 |
|22. | CITTA                  | 2.56 | 0.11 | 0.01 | 0.25 | 0.37 |
|23. | CKRA                   | 0.08 | 0.04 | 0.03 | 0.11 | 0.16 |
|24. | ELSA                   | 2.18 | 2.08 | 1.62 | 1.55 | 2.01 |
|25. | ENRG                   | 0.43 | 0.54 | 0.58 | 0.84 | 0.61 |
|26. | ESSA                   | 0.57 | 0.35 | 0.19 | 0.05 | 0.04 |
|27. | INCO                   | 0.53 | 0.61 | 0.46 | 0.35 | 0.39 |
|28. | MEDC                   | 0.51 | 0.38 | 0.31 | 0.24 | 0.29 |
|29. | RUIS                   | 3.49 | 3.26 | 3.02 | 2.49 | 2.31 |
|30. | APEX                   | 0.41 | 0.41 | 0.41 | 0.18 | 0.15 |

A low inventory turnover ratio indicates that sales are either not smooth or low. Conversely, the high ratio indicates strong sales because the company generates many products to maintain stable inventory, thus the market needs can be met. If sales go well, the profits will be increased. The high turnover ratio indicates that the company does not spend excessive costs to buy merchandise and can avoid waste.
Based on the calculation results, PT Apexindo Tbk obtained constant results during 2013-2015 and experienced ratio decreases in a row after that period. Meanwhile, other companies are fluctuating. The highest turnover was found in PT Mitrabara Adiperdana (5.41 times), while the lowest turnover was found in PT Bara Jaya International Tbk, PT Garda Tujuh Buana Tbk, and Cita Mineral Investindo Tbk (0.01 times). The lower the turnover rate, the less efficient the company is in managing fixed assets.

3. Solvency Ratio
   • Debt Ratio

Table 6  Results of Debt Ratio

| No | Company Code | Debt Ratio (%) |
|----|--------------|----------------|
|    |              | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1.  | ADRO         | 0.52 | 0.49 | 0.43 | 0.41 | 0.39 |
| 2.  | ATPK         | 0.24 | 0.29 | 0.43 | 0.53 | 0.61 |
| 3.  | AIRI         | 0.57 | 0.65 | 0.79 | 0.82 | 0.88 |
| 4.  | BBSR         | 45.23| 46.32| 39.64| 30.88| 28.67|
| 5.  | ARTI         | 41.17| 45.45| 31.16| 33.84| 29.76|
| 6.  | BYAN         | 71.28| 78.01| 81.64| 77.18| 41.98|
| 7.  | DEWA         | 39.27| 37.51| 39.73| 40.96| 43.36|
| 8.  | DOID         | 93.67| 89.84| 89.78| 85.66| 81.26|
| 9.  | GEMS         | 26.18| 21.41| 33.04| 29.85| 50.51|
| 10. | GTBO         | 17.26| 15.34| 12.52| 13.95| 20.19|
| 11. | HRUM         | 18.05| 18.61| 9.77 | 14.01| 13.83|
| 12. | ITMG         | 30.81| 32.49| 29.61| 24.99| 29.47|
| 13. | KKGI         | 30.85| 27.49| 22.11| 14.48| 15.64|
| 14. | MBAP         | 73.56| 42.57| 32.35| 21.26| 23.93|
| 15. | MYOH         | 56.91| 50.61| 42.11| 26.98| 1.89 |
| 16. | PKPK         | 51.55| 51.61| 44.71| 55.74| 56.81|

High asset turnover indicates that fixed assets are used efficiently, and the number of sales generated is only using a small number of assets. Conversely, a low ratio can be caused by several factors, such as overproduction. However, there is no demand for products, which can be caused by constraints in the supply chain so that the number of products cannot meet the company’s target.
Based on the calculation results, PT Bara Jaya International, PT Atlas Resource, and PT Surya Essa Perkasa experienced successive increases, while PT Delta Dunia Tbk, PT Samindo Resources, PT Vale Indonesia Tbk, and PT Radiant Utama Interinsco Tbk experienced consecutive decreases, and the other companies experience fluctuations. The highest result was found in PT Dian Swastatika Sentosa Tbk (280.04), while the lowest result was found in PT Bara Jaya International (0.24). An increase in debt ratio shows that there is an increase in the number of liabilities or long-term debt of the company.

The higher the ratio, the greater the risk of the company, in this case, is the risk related to company operations. The lower the ratio, the smaller the company’s assets financed with debt. It indicates an opportunity to get loans without significant risk.

- **Debt Equity Ratio**

Table 7  Results of Debt Equity Ratio

| No | Company Code | 2013  | 2014  | 2015  | 2016  | 2017  |
|----|-------------|-------|-------|-------|-------|-------|
| 1  | ADRO        | 801.32| 694.26| 627.25| 609.96| 566.34|
| 2  | ATPK        | 1.24  | 4.79  | 6.55  | 7.21  | 4.55  |
| 3  | ARII        | 19.11 | 124.73| 109.55| 100.96| 156.87|
| 4  | BBSR        | 17.41 | 66.07 | 47.33 | 27.19 | 20.43 |
| 5  | ARTI        | 66.38 | 72.77 | 42.96 | 44.03 | 46.53 |

Source: Processed Data, 2019
The results showed that PT Harum Energy experienced successive increases during the research period. The highest result was found in PT Medco Energi International, amounted to 26654, and PT Cakra Mineral amounted to 0.05. The higher the result, the greater the company’s financial risk and debt.

In terms of the company’s ability to pay long-term obligations, the lower the ratio, the better the company’s ability to pay obligations. A high ratio indicates great total debt; therefore, the company’s burden on creditors will be greater as well. An increasing burden on creditors shows that the source of the company’s capital depends on outsiders. The greater the debt, will smaller the number of company profits.

4. Profitability Ratio
   - Gross Profit Margin

| No | Company Code | Debt Equity Ratio (%) |
|----|--------------|----------------------|
| 6. | BYAN         | 1920.9               |
| 7. | DEWA         | 13.71                |
| 8. | DORI         | 1557.2               |
| 9. | GEAMS        | 6.39                 |
| 10. | GBTO        | 31.16                |
| 11. | HRUM         | 11.43                |
| 12. | ITMG         | 83.91                |
| 13. | KKGI         | 19.76                |
| 14. | MBAP         | 28.26                |
| 15. | MYOH         | 113.19               |
| 16. | PKPK         | 8.36                 |
| 17. | PTBA         | 161.85               |
| 18. | PTRO         | 569.29               |
| 19. | SMMT         | 109.75               |
| 20. | TOBA         | 81.02                |
| 21. | ANTM         | 546.85               |
| 22. | CITTA        | 160.43               |
| 23. | CKRA         | 0.05                 |
| 24. | ELSA         | 72.02                |
| 25. | ENRG         | 165.63               |
| 26. | ESSA         | 120.93               |
| 27. | INCO         | 291.72               |
| 5.  | MEDC         | 1206.2              |
| 29. | RUIS         | 490.84               |
| 30. | APEX         | 319.01               |
| 31. | CTTH         | 7.17                 |
| 32. | DSSA         | 188.21               |
| 33. | INDY         | 1791.2              |
| 34. | MITI         | 30.23                |
| 35. | PSAB         | 5315.2               |
| 36. | SIAP         | 60.31                |
| 37. | SMRU         | 5.02                 |

Source: Processed Data, 2019
Table 8 Results of Gross Profit Margin

| No | Company Code | 2013  | 2014  | 2015  | 2016  | 2017  |
|----|--------------|-------|-------|-------|-------|-------|
| 1  | ADRO         | 22.65 | 21.65 | 20.23 | 27.14 | 35.03 |
| 2  | ATPK         | 8.81  | 23.77 | -31.88| -1183.8| -596  |
| 3  | ARII         | -9.21 | -23.66| -27.31| -900  | -1.28 |
| 4  | BBSR         | 18.29 | 21.73 | 34.15 | 31.81 | 42.11 |
| 5  | ARTI         | 66.88 | 54.01 | 50.69 | 46.05 | 58.91 |
| 6  | BYAN         | 14.24 | 11.71 | 26.41 | 37.87 | 51.86 |
| 7  | DEWA         | -5.14 | 5.84  | 7.29  | 10.53 | 8.07  |
| 8  | DOID         | 16.19 | 20.19 | 22.24 | 26.81 | 29.26 |
| 9  | GEMS         | 17.69 | 33.66 | 31.21 | 35.95 | 41.41 |
| 10 | GTBO         | 5.71  | -10.91| -144.9| -34.47| -8.09 |
| 11 | HRUM         | 20.71 | 18.19 | 18.38 | 32.74 | 34.36 |
| 12 | ITMG         | 23.37 | 21.04 | 21.88 | 24.18 | 29.91 |
| 13 | KKGI         | 27.78 | 16.42 | 23.84 | 25.75 | 35.51 |
| 14 | MBAP         | 13.41 | 20.02 | 35.04 | 36.31 | 44.55 |
| 15 | MYOH         | 14.08 | 14.88 | 18.67 | 18.91 | 14.56 |
| 16 | PKPK         | 15.53 | -1.07 | -117.8| -34.47| -8.09 |
| 17 | PTBA         | 30.89 | 29.99 | 24.59 | 31.31 | 43.68 |
| 18 | PTRO         | 25.16 | 19.16 | 14.09 | 16.65 | 15.74 |
| 19 | SMMT         | -137.3| 41.97 | 0.77  | 7.27  | 26.08 |
| 20 | TOBA         | 18.85 | 17.24 | 20.22 | 20.63 | 30.28 |
| 21 | ANTM         | 14.31 | 8.42  | 1.85  | 9.35  | 12.99 |
| 22 | CITTA        | 53.65 | 41.93 | 20.63 | 27.21 | 40.89 |
| 23 | CKRA         | 23.82 | -25.65| 11.58 | -8.87 | 38.49 |
| 24 | ELSA         | 15.72 | 41.69 | 19.03 | 16.97 | 11.61 |
| 25 | ERNG         | 36.78 | 17.54 | 4.12  | 17.28 | 41.14 |
| 26 | ESSA         | 64.25 | 63.36 | 42.17 | 33.91 | 48.05 |
| 27 | INCO         | 15.17 | 29.54 | 14.98 | 5.84  | 1.04  |
| 28 | MEDC         | 41.31 | 35.72 | 37.71 | 41.73 | 45.45 |
| 29 | RUIS         | 16.33 | 16.38 | 18.62 | 17.41 | 17.69 |
| 30 | APEX         | 37.85 | 38.61 | 29.31 | 23.51 | 17.37 |
| 31 | CTTH         | 35.64 | 47.66 | 33.47 | 36.52 | 38.31 |
| 32 | DSSA         | 17.51 | 28.46 | 41.86 | 40.42 | 39.21 |
| 33 | INDIY        | 22.36 | 14.51 | 7.69  | 11.44 | 11.18 |
| 34 | MITI         | 31.64 | 0.87  | -100.77| -1.58 | 32.61 |
| 35 | PSAB         | 4.18  | 46.19 | 51.97 | 59.02 | 57.32 |
| 36 | SIAP         | -240.2| 23.33 | 5.91  | 4.93  | 11.36 |
| 37 | SMRU         | -240.2| 23.33 | 4.91  | 4.93  | 11.36 |

Source: Processed Data, 2019

The results showed that PT Delta DuniaTbk and PT MitrabaraAdiperdana experienced successive increases, while the other companies experienced fluctuations. The highest result was found in PT Atlas Resource Tbk, amounted to 66.88, and the lowest result was found in PT Bara Jaya International Tbk, amounted to -1183.8. The higher the ratio, the better the company’s operations because it shows that the cost of goods sold is lower than sales.
A high ratio indicates that the company is able to conduct good management in minimizing the burden and maximizing raw materials. Companies that have a high ratio will be more resistant to crises compared to those that have a low ratio.

- Net Profit Margin

Table 9  Results of Net Profit Margin

| No | Company Code | 2013 | 2014 | 2015 | 2016 | 2017 |
|----|--------------|------|------|------|------|------|
| 1. | ADRO         | 7.06 | 5.57 | 5.62 | 13.49| 16.46|
| 2. | ATPK         | 3.18 | 7.73 | -73.59| -2823.1| -1923.59|
| 3. | ARII         | -13.28| -63.99| -91.46| -218.88| -58.18|
| 4. | BBSR         | 2.87 | 1.16 | 10.18| 11.30| 21.57|
| 5. | ARTI         | 16.42| 8.41 | 7.88 | 4.58 | 11.56|
| 6. | BYAN         | -4.81| -22.82| -17.59| 3.24 | 31.66|
| 7. | DEWA         | 0.89 | 0.12 | 0.05 | 0.87 | 0.04|
| 8. | DOI D        | -4.22| 2.54 | -1.46| 6.06 | 6.12|
| 9. | GEMS         | 3.84 | 2.48 | 0.59 | 9.11 | 15.81|
| 10.| GITBO        | -21.13| -15.46| -1099.27| -2076.9| 0.35|
| 11.| HRUM         | 5.72 | 0.55 | -7.61| 9.11 | 17.12|
| 12.| ITMG         | 10.57| 10.34| 3.97 | 9.55 | 14.95|
| 13.| KKG I        | 8.91 | 6.63 | 5.11 | 102.25| 19.61|
| 14.| MBAP         | 3.32 | 10.81| 15.81| 14.48| 22.67|
| 15.| MYO H        | 7.07 | 8.39 | 9.15 | 11.18| 6.54|
| 16.| PKPK         | 0.44 | -30.06| -176.71| -162.69| -93.64|
| 17.| PTBA         | 16.54| 14.25| 16.01| 14.39| 23.35|
| 18.| PTRO         | 4.81 | 0.67 | -6.13| -3.73 | 3.19|
| 19.| SMMT         | 130.57| -39.21| -210.56| -32.61| 69.53|
| 20.| TOBA         | 8.21 | 7.11 | 7.37 | 5.64 | 13.31|
| 21.| ANTM         | 3.62 | -7.89| -13.68| 0.71 | 1.07|
| 22.| CITTA        | 22.19| -266.94| -2454.35| -54.54| 6.55|
| 23.| CKRA         | 0.54 | -1042.5| -247.17| -70.13| -586.7|
| 24.| ELSA         | 5.89 | 10.22| 10.05| 8.72 | 5.03|
| 25.| ENRG         | 21.48| -9.11 | -46.07| -84.21| 4.66|
| 26.| ESSA         | 30.18| 25.83| 12.02| 0.53 | 6.51|
| 27.| INCO         | 4.19 | 16.59| 6.39 | 0.32 | -2.42|
| 28.| MEDC         | 1.79 | 1.82 | -32.36| 31.15 | 14.23|
| 29.| RUIS         | 1.64 | 3.01 | 2.58 | 1.98 | 1.85|
| 30.| APEX         | 18.96| -6.36 | 7.99 | -18.61| -137.66|
| 31.| CTTH         | 0.21 | 0.38 | 0.88 | 7.56 | 2.02|
| 32.| DSS A        | -0.75| 1.47 | 15.71| 9.09 | 9.71|
| 33.| INDY         | -6.23| -2.75 | -7.01 | -1.03 | 2.25|
| 34.| MITI         | 15.71| -76.91| -622.18| -89.19| -79.29|
| 35.| PSAB         | -33.81| 9.26 | 10.91| 9.45 | 7.24|
| 36.| SIAP         | -2.35| 2.19 | -15.13| -101.64| -1149.42|
| 37.| SMRU         | -489.91| -10.16| -49.61| -39.03| 4.35|

Source: Processed Data, 2019
The calculation results show that all companies involved in this research experienced fluctuations during the study period. The lowest result was found in PT Cita Mineral Investindo, amounted to -2454.45, while the highest result was found in PT Golden Eagle Energy Tbk, amounted to 130.57. The lower the ratio, the worse the company’s operational activities, because they cannot generate large profits after tax.

5. DuPont
   - Return on Investment

**Table 10 Results of Return on Investment**

| No | Company Code | ROI (%) |
|----|--------------|---------|
|    |              | 2013    | 2014    | 2015    | 2016    | 2017    |
| 1  | ADRO         | 3.46    | 2.89    | 2.53    | 5.22    | 7.87    |
| 2  | ATPK         | 0.87    | 2.89    | -10.23  | -18.16  | -30.76  |
| 3  | ARII         | -3.71   | -7.01   | -7.64   | -7.71   | -5.11   |
| 4  | BBSR         | 2.97    | 1.51    | 15.16   | 14.95   | 39.28   |
| 5  | ARTI         | 4.21    | 1.69    | 0.72    | 0.35    | 1.15    |
| 6  | BYAN         | -3.52   | -16.27  | -8.72   | 2.18    | 38.03   |
| 7  | DEWA         | -1.46   | 0.08    | 0.02    | 0.28    | 0.01    |
| 8  | DOID         | -2.71   | 1.71    | -0.99   | 4.21    | 4.94    |
| 9  | GEMS         | 4.23    | 3.42    | 0.56    | 9.26    | 20.34   |
| 10 | GITBO        | -6.73   | -5.69   | -26.66  | -9.46   | 0.05    |
| 11 | HRUM         | 10.08   | 0.59    | -4.99   | 4.34    | 12.13   |
| 12 | ITMG         | 16.55   | 15.33   | 5.35    | 10.81   | 18.59   |
| 13 | KGGI         | 16.25   | 9.04    | 5.75    | 95.96   | 4.19    |
| 14 | MBAP         | 5.32    | 17.32   | 31.75   | 23.29   | 36.46   |
| 15 | MYOH         | 9.57    | 13.09   | 12.85   | 14.43   | 9.04    |
| 16 | PKPK         | 0.18    | -4.75   | -17.44  | -8.66   | -7.61   |
| 17 | PTBA         | 15.87   | 12.54   | 12.05   | 10.89   | 20.68   |
| 18 | PRO          | 3.39    | 0.51    | -2.98   | -1.98   | 1.91    |
| 19 | SMMT         | 3.08    | -0.48   | -8.49   | -2.87   | 5.52    |
| 20 | TOBA         | 11.11   | 11.82   | 9.11    | 5.57    | 11.87   |
| 21 | ANTM         | 1.87    | -3.37   | -4.71   | 0.21    | 0.45    |
| 22 | CITF         | 24.26   | -13.65  | -12.20  | -9.72   | 1.77    |
| 23 | CKRA         | 0.02    | -31.98  | -5.55   | -5.98   | -45.66  |
| 24 | ELSA         | 5.55    | 10.13   | 8.61    | 7.54    | 5.16    |
| 25 | ENRG         | 7.47    | -3.84   | -18.95  | -41.59  | 1.95    |
| 26 | ESSA         | 10.78   | 7.37    | 1.75    | 0.02    | 0.26    |
| 27 | INCO         | 1.69    | 7.38    | 2.21    | 0.08    | -0.69   |
| 28 | MEDC         | 0.63    | 0.51    | -6.39   | 5.19    | 2.54    |
| 29 | RUIS         | 2.31    | 4.34    | 3.78    | 2.66    | 2.18    |
| 30 | APEX         | 6.22    | -2.03   | 2.81    | -2.86   | -17.74  |
| 31 | CTTH         | 0.14    | 0.27    | 0.32    | 3.39    | 0.67    |
Based on the results of calculations, all companies above experience fluctuations and none have either increased or decreased in a row. The highest result was found in PT Resource Alam Indonesia Tbk, amounted to 95.96, while the lowest was found in PT Bara Jaya International, amounted to 30.76. The decline is not good for the company because it indicates that the company has decreased the ability to manage assets to generate profits.

A ratio that produces a positive value and has a high value indicates that the investment costs can be returned and can make a profit from the remaining investment. Meanwhile, the negative ratio value indicates that the earned income cannot cover the total investment costs. Any investment where the ROI ratio has a positive return can be considered as an investment that gives a good return.

### Table 11 Results of Return on Equity

| No | Company Code | 2013 | 2014 | 2015 | 2016 | 2017 |
|----|--------------|------|------|------|------|------|
| 1. | ADRO         | 7.31 | 7.79 | 4.47 | 9.01 | 13.11|
| 2. | ATPK         | 1.16 | 4.46 | -17.98 | -39.07 | -77.89|
| 3. | ARII         | -8.79 | -22.93 | -31.61 | -45.28 | -42.03|
| 4. | BBSR         | 5.42 | 2.82 | 25.12 | 21.53 | 55.07|
| 5. | ARTI         | 7.15 | 3.11 | 1.05 | 0.53 | 1.64|
| 6. | BYAN         | -12.27 | -73.97 | -47.51 | 9.57 | 65.55|
| 7. | DEWA         | -2.41 | 0.13 | 0.04 | 0.47 | 0.01|
| 8. | DOID         | -42.92 | 16.82 | -9.77 | 29.32 | 26.38|
| 9. | GEMS         | 5.73 | 4.36 | 0.84 | 13.21 | 41.11|
| 10. | GTBO | -30.76 | -6.72 | -30.48 | -10.99 | 0.07|
| 11. | HRUM         | 12.31 | 0.72 | -5.53 | 5.05 | 14.08|
| 12. | ITMG         | 23.91 | 22.71 | 7.56 | 14.41 | 26.37|
| 13. | KKGK         | 23.51 | 12.46 | 7.38 | 112.22 | 4.95|
| 14. | MBAP         | 20.14 | 30.16 | 46.94 | 29.59 | 47.94|
| 15. | MYOH         | 22.21 | 26.51 | 22.21 | 19.77 | 12.01|
| 16. | PKPK         | 0.38 | -9.16 | -31.54 | -19.58 | -17.59|
| 17. | PTBA         | 24.55 | 21.86 | 21.93 | 19.18 | 35.52|
| 18. | PTRO         | 8.76 | 1.22 | -7.11 | -4.59 | 4.65|
| 19. | SMMT         | 4.16 | -0.76 | -15.17 | -4.79 | 9.55|
| 20. | TOBA         | 26.52 | 25.04 | 16.58 | 9.87 | 23.66|
The calculation results show that all companies experience fluctuation. PT Energi Mega Persada Tbk generated the highest result, amounted to 617.16, while PT Mitraisinvestindo generated the lowest result, amounted to -176.01. Low ROE is not good for the company because it indicates that the level of net income received by the company from the invested capital decreases.

The increase in the ROE ratio means that the company can meet the interests of shareholders. It also means that the company is able to maximize equity to generate greater profits; therefore, the company can invest well. This ratio is an important indicator of shareholder value creation; the higher the value of the ratio, the higher the value of the company, which eventually will attract investors to invest in the company.

**RESEARCH IMPLICATION**

Theoretically, high liquidity ratio, activity ratio, profitability ratio, and DuPont analysis will be beneficial for the company. Whereas, the lower the solvency ratio the better it is for the company. The results of the study are consistent with the financial ratio theory and Du Pont analysis. Based on the results of this study, there are companies that have high and low ratio values. In addition, the ratio tends to fluctuate during the study period.

Practically, investors can make the results of financial ratio analysis and DuPont analysis as the reference to make investments and find out which companies have better performance. Companies that have a low ratio should improve their performance and reduce their operational costs so that corporate sustainability can be maintained, and they can attract investors. For companies that have high ratio values, they can maintain and improve their performance.

**CONCLUSIONS**

This research examines financial ratio analysis and DuPont analysis of mining companies listed on the Indonesia Stock Exchange. Based on the results of the analysis, the following conclusions were obtained:

| No | Company Code | 2013 | 2014 | 2015 | 2016 | 2017 |
|----|--------------|------|------|------|------|------|
| 21 | ANTM         | 3.21 | -6.17| -7.86| 0.35 | 0.73 |
| 22 | CITA         | 43.64| -23.16| -26.41| -27.54| 5.19 |
| 23 | CKRA         | 0.02 | 1.01 | 1.04 | 1.02 | 1.02 |
| 24 | ELSA         | 10.61| 16.92| 14.41| 10.98| 8.21 |
| 25 | ENRG         | 19.52| -11.89| -78.06| 617.16| -26.35|
| 26 | ESSA         | 14.17| 10.28| 2.66 | 0.07 | 1.03 |
| 27 | INCO         | 2.25 | 10.28| 2.66 | 0.07 | 1.03 |
| 28 | MEDC         | 1.77 | 1.49 | -26.53| 21.01| 9.39 |
| 29 | RUIS         | 11.31| 17.72| 12.19| 7.24 | 5.51 |
| 30 | APEX         | 120.15| -61.34| 42.91| -72.57| 218.15|
| 31 | CTTH         | 0.61 | 1.14 | 0.67 | 6.62 | 1.46 |
| 32 | DSSA         | -0.53| 1.05 | 10.69| 5.04 | 8.81 |
| 33 | INDY         | -5.66| -3.34| -9.24| -1.08| 2.21 |
| 34 | MITI         | 19.72| -5.04| -176.01| -24.41| -27.41|
| 35 | PSAB         | -10.14| 9.07 | 9.85 | 6.49 | 4.54 |
| 36 | SIAP         | -5.77| 0.15 | -0.15| 2.47 | 0.09 |
| 37 | SMRU         | -20.13| -2.73| -21.77| -22.87| 3.18 |

Source: Processed Data, 2019
Liquidity Ratio

The higher the percentage, the more profitable it is since the company’s liquidity is in good condition.

Activity Ratio

The lower the average age of inventory, fixed asset turnover, and total asset turnover, the more inefficient it is for the company.

Solvency Ratio

The higher the debt ratio, the debt to equity ratio, and the debt to total capitalization ratio, the worse it is for the company, because it will lead to greater loan and risk.

Profitability Ratio

The greater the gross profit margin, operating profit margin, and net profit margin, the better the operating condition of the company in generating profits.

DuPont

The greater ROI and ROE, the better it is, because the company can manage assets related to generating operating profit well.

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