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THE EFFECTS OF OPERATING INCOME, GROSS PROFIT, NET INCOME, AND TOTAL ACCRUALS ON FUTURE CASH FLOWS: EMPIRICAL EVIDENCE FROM MINING SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE, 2020–2024

Anisa Fitriani^{1*}, Irfan Gaffar Adnan², Melvin Rahma Sayuga Subroto³

¹⁻³Accounting Study Program, Universitas Nahdlatul Ulama Yogyakarta, Indonesia

Corresponding author: Anisa Fitriani

E-mail: anisa.fitriani.akt22@student.unu-jogja.ac.id

Abstract:

This study examines the effects of operating income, gross profit, net income, and total accruals on future cash flows among mining-sector companies listed on the Indonesia Stock Exchange during 2020–2024. A quantitative approach was employed using secondary data obtained from audited annual financial statements. Purposive sampling yielded 10 companies and 50 balanced panel observations. The data were analyzed through panel-data regression in EViews. The Chow and Hausman tests supported the Fixed Effect Model, and Generalized Least Squares with cross-section weights was subsequently applied to address heteroskedasticity. The results show that operating income has a negative and significant effect on future cash flows, although this coefficient should be interpreted cautiously because of the high correlations among the earnings components. Gross profit has no significant effect. Net income has a positive and significant effect and emerges as the most reliable earnings component for predicting future cash flows. Total accruals have a negative and significant effect, indicating that a larger accrual component in reported earnings is associated with lower cash realization in the subsequent period. Collectively, operating income, gross profit, net income, and total accruals significantly affect future cash flows. The adjusted R-squared of 0.845 indicates that the model explains 84.5% of the variation in future cash flows. These findings underscore the importance of net income and total accruals for investors, creditors, and management when assessing the liquidity prospects of mining companies.

Keywords: Future Cash Flows; Operating Income; Gross Profit; Net Income; Total Accruals.

INTRODUCTION

The ability to predict future cash flows is an important aspect of assessing a company's business continuity and financial condition. Cash flow information is used not only by management to plan operating activities and financing requirements but also by investors and creditors to assess whether a company can generate sufficient liquidity and satisfy its financial commitments, and provide returns. Under conditions of economic uncertainty, financial information with predictive value becomes increasingly relevant for supporting well-informed economic decision-making (Ball & Nikolaev, 2022).

Projections of future cash generation are typically derived from a company's prior-period accounting records, with particular attention given to reported profit figures and historical cash movements. Among the information contained in financial reports, earnings are frequently treated as a key measure of business achievement because they summarize the financial consequences of operating and other economic activities during a specified reporting period. However, earnings are



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prepared on an accrual basis, which involves estimates, revenue recognition, expense allocation, and managerial accounting policies. These characteristics may result in differences between reported earnings and the cash actually received or disbursed by the company. Accordingly, accounting profit does not necessarily provide an immediate or accurate indication of the cash-generating capacity that a firm will realize in later reporting periods (Noury et al., 2020).

Operating cash flow is frequently viewed as a more direct indicator of liquidity because it records realized cash receipts and payments. Nevertheless, its value can fluctuate with the timing of customer collections, supplier payments, and short-term working-capital cycles. Consequently, earnings and cash-flow information should be evaluated jointly rather than treated as mutually exclusive indicators. Evidence that analysts' cash-flow and earnings forecasts convey complementary information further supports the disaggregation of accounting performance into components that can be evaluated separately (Dhole et al., 2021).

A more detailed assessment of whether accounting profit can anticipate subsequent cash generation requires the aggregate earnings figure to be separated into gross profit, operating income, and net income. These measures capture different stages of corporate performance. Gross profit indicates the surplus remaining from sales revenue after production or acquisition costs have been recognized. Operating income reflects the financial outcome of the firm's principal activities once operating expenditures are taken into account. Net income, meanwhile, constitutes the residual profit after incorporating all operating and non-operating revenues and expenses, including tax charges. Because each measure represents a distinct layer of financial performance, the extent to which it conveys information about cash flows in future periods is unlikely to be identical.

Beyond the individual profit measures, accrual information is also essential for understanding why reported earnings may differ from actual cash generation. Total accruals capture the non-cash portion of accounting income, including adjustments associated with receivables, payables, inventory movements, depreciation, and other accounting items that do not immediately involve cash transactions. By recognizing economic events when they occur rather than only when cash changes hands, accrual accounting offers a broader portrayal of corporate performance. However, earnings dominated by accrual-based elements may be less certain to convert into cash in later periods. Accordingly, incorporating both earnings measures and total accruals into the same analytical framework is expected to improve the reliability of future cash flow forecasts (Noury et al., 2020).

This issue is particularly relevant to companies operating in the mining sector. The performance of mining companies is strongly influenced by fluctuations in commodity prices, global demand, production costs, exchange rates, and geopolitical conditions. The 2020–2024 period also encompassed the COVID-19 pandemic, the global energy crisis, and significant changes in commodity prices, all of which contributed to fluctuations in the revenues and earnings of mining companies. Rising commodity prices may rapidly increase reported earnings; however, such increases are not necessarily accompanied by proportionate growth in cash flows because of changes in working capital, credit sales, investment requirements, and accrual adjustments. These conditions necessitate a more cautious analysis of earnings and cash flow information in mining companies.

Previous studies have produced mixed findings regarding which financial information has the strongest ability to predict future cash flows. Ball and Nikolaev (2022) demonstrated that accrual-based earnings have greater predictive ability than operating cash flows under certain conditions, although the two forms of information may complement each other. Noury et al. (2020) found that



models combining operating cash flows with disaggregated accrual components provide stronger predictive performance. Meanwhile, Wasalwa and Maha Putra (2025) reported that historical earnings have greater ability to predict operating cash flows than either aggregate or disaggregated accruals.

Inconsistent findings have also been reported when earnings are disaggregated into individual components. Empirical findings from previous studies remain inconsistent. Mudjiyono and Adi Wicaksono (2022) reported that only operating income possessed significant predictive relevance for subsequent cash flows, while gross profit and net income did not demonstrate statistically meaningful effects. A different pattern was identified by Budiman et al. (2025), who showed that gross profit was significantly associated with lower future cash flows, operating income lacked statistical significance, and net income contributed positively and significantly to cash flows in the following period. These differences indicate that the predictive ability of each earnings component may depend on industry characteristics, the observation period, sample composition, and the analytical model employed.

The scope of earlier Indonesian evidence is also fragmented. Some studies compare gross profit, operating income, and net income without incorporating an aggregate accrual measure, whereas others focus on net income, operating cash flow, and individual accrual components. These designs provide useful partial evidence but do not show how the three earnings levels and total accruals operate simultaneously within one predictive specification. Integrating these measures is therefore necessary to identify their conditional contributions while holding the other accounting components constant (Santoso et al., 2024; Sulistyawan M & Septiani, 2015).

Based on the preceding review, several research gaps can be identified. First, a number of previous studies have examined earnings only in aggregate form and have therefore not fully demonstrated the contribution of each earnings component. Second, studies that simultaneously incorporate operating income, gross profit, net income, and total accruals into a single predictive model remain limited. Third, empirical evidence concerning Indonesian mining companies requires further development, given that this sector has distinctive operational and financial characteristics and is highly sensitive to commodity price volatility.

Using mining firms traded on the Indonesia Stock Exchange as the empirical setting, this research investigates whether operating income, gross profit, net income, and total accruals influence cash flow realization in subsequent periods, based on financial data covering 2020–2024. The study is expected to provide a theoretical contribution by extending the empirical evidence regarding the predictive ability of earnings components and accruals. At the practical level, the empirical evidence provides a useful basis for investors, lenders, and corporate decision-makers to assess the credibility of reported earnings, anticipate future liquidity conditions, and judge whether a firm is likely to convert its economic performance into cash in later periods.

LITERATURE REVIEW

Financial Statements. Financial reports condense an entity's financial condition, operating results, and movement of cash within a defined accounting period into an organized set of disclosures. Managers, shareholders, lenders, and other interested parties rely on these records to judge the firm's financial health and make informed economic decisions (Kasmir, 2018). For the purposes of this research, data on gross profit, operating income, net income, aggregate accruals,



and cash flows in the following period are derived principally from the profit-and-loss statement and the cash flow statement.

A company's ability to generate cash flows in subsequent periods can be assessed using historical financial information. However, each component of the financial statements has distinct characteristics and predictive capabilities. Earnings are measured using the accrual basis of accounting, whereas cash flows reflect actual cash receipts and payments. Therefore, disaggregating earnings into several components and examining total accruals are necessary to provide a more accurate assessment of a company's ability to generate future cash flows.

Signaling Theory. According to signaling theory, corporate insiders – particularly management – hold an informational advantage because they have deeper knowledge of the firm's current circumstances and expected future development than parties outside the organization. To reduce such information asymmetry, management conveys signals to the market through financial statements (Spence, 1973). External users, particularly investors and lenders, may interpret disclosures in corporate financial reports as a basis for judging past business performance and anticipating the firm's likely financial outlook in future reporting periods.

In this study, operating income, gross profit, net income, and total accruals are regarded as financial signals concerning a company's ability to generate future cash flows. Consistent earnings may provide a positive signal regarding corporate performance, whereas a high level of accruals may indicate that reported earnings have not yet been fully realized in cash. Therefore, the quality of earnings and accrual information determines the accuracy with which external parties assess a company's liquidity prospects (Brigham & Houston, 2018).

Stewardship Theory. Stewardship theory views management as a trusted party responsible for managing corporate resources in a manner that prioritizes the interests of shareholders. Financial statements serve as a means through which management accounts for its stewardship of corporate resources to shareholders and other stakeholders (Donaldson & Davis, 1991).

Gross profit indicates how effectively management converts sales into an initial earnings margin after accounting for the direct costs associated with producing or acquiring the goods sold, whereas operating income represents the effectiveness with which management controls core operating activities and operating expenses. Net income reflects the final outcome of all corporate activities after accounting for revenues, expenses, and taxes. Total accruals capture the portion of reported profit that is not supported by contemporaneous cash generated from operating activities. Accordingly, earnings and accrual information can be used to evaluate the quality of resource management and management's ability to generate cash flows in future periods.

Previous Studies. Previous studies have not reached a consensus regarding which financial components are most appropriate for predicting future cash flows. Ball and Nikolaev (2022) found that accrual-based earnings, particularly operating income, have greater predictive ability than operating cash flows. Noury et al. (2020) demonstrated that models combining operating cash flows with disaggregated accruals provide stronger predictive performance. Meanwhile, Wasalwa and Maha Putra (2025) found that historical earnings are more effective in predicting operating cash flows than either aggregate or disaggregated accruals.

Inconsistencies have also been identified in studies examining individual earnings components. Budiman et al. (2025) reported divergent predictive patterns across earnings measures: gross profit was significantly associated with a decline in subsequent cash flows, operating income showed no statistically meaningful relationship, while net income was significantly linked to an



increase in cash flows in the following period. These divergent findings suggest that the predictive ability of each earnings component may be influenced by industry characteristics, the observation period, sample composition, and the analytical method employed.

This study addresses these gaps by integrating operating income, gross profit, net income, and total accruals into a single predictive model. The empirical scope is restricted to publicly traded mining firms on the Indonesia Stock Exchange, with observations drawn from the five-year reporting horizon spanning 2020 through 2024. The mining sector was selected because its financial performance is highly sensitive to fluctuations in commodity prices, operating costs, working capital requirements, and global economic uncertainty.

Conceptual Framework. The conceptual framework positions operating income, gross profit, net income, and total accruals as the independent variables, while future cash flows serve as the dependent variable. Each independent variable is examined individually to determine its respective predictive ability and simultaneously to assess the overall explanatory capacity of the model.

Conceptually, the relationships among the variables are formulated as follows:

Operating Income (X_1) → Future Cash Flows (Y)

Gross Profit (X_2) → Future Cash Flows (Y)

Net Income (X_3) → Future Cash Flows (Y)

Total Accruals (X_4) → Future Cash Flows (Y)

The four independent variables are also examined simultaneously in relation to future cash flows.

Hypotheses.

1. Hypothesis 1 (H1): Operating income has a positive effect in predicting future cash flows among mining-sector companies listed on the Indonesia Stock Exchange.
2. Hypothesis 2 (H2): Gross profit has a positive effect in predicting future cash flows among mining-sector companies listed on the Indonesia Stock Exchange.
3. Hypothesis 3 (H3): Net income has a positive effect in predicting future cash flows among mining-sector companies listed on the Indonesia Stock Exchange.
4. Hypothesis 4 (H4): Total accruals have a negative effect in predicting future cash flows among mining-sector companies listed on the Indonesia Stock Exchange.
5. Hypothesis 5 (H5): Operating income, gross profit, net income, and total accruals simultaneously have a significant effect in predicting future cash flows among mining-sector companies listed on the Indonesia Stock Exchange.

METHODS

The research adopted a quantitative design and relied exclusively on archival information extracted from the published annual reports of mining firms traded on the Indonesia Stock Exchange between 2020 and 2024. Rather than including every company in the population, the observations were screened through judgment-based selection requirements. A firm was retained only when its financial disclosures were complete, all variables required for the analysis could be identified, the reports were denominated in Indonesian rupiah, and the corresponding annual statements had undergone an independent audit. Based on these criteria, 10 companies were selected, resulting in a total of 50 firm-year observations.

The observations were compiled from the income statements and statements of cash flows published through the Indonesia Stock Exchange and the official websites of the sampled companies. Because the dataset combines 10 cross-sectional units with five annual observations for



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each firm, it forms a balanced panel of 50 firm-year records. This structure allows the estimation to control for time-invariant firm characteristics while retaining variation across reporting periods (Gujarati, 2004).

Current-period operating cash flow was not entered as an additional independent variable in the final specification. Total accruals were defined as net income minus operating cash flow for the same period; including both operating cash flow and total accruals together with net income would therefore create an exact accounting relationship and a severe identification problem. The final model retained total accruals as the non-cash component of earnings so that the predictive roles of the earnings measures and accrual content could be estimated without introducing perfect multicollinearity.

The dependent variable was future operating cash flow measured at period $t+1$, while the independent variables consisted of operating income, gross profit, net income, and total accruals. The accrual component was derived by subtracting cash generated from operating activities from the reported net profit. Estimation was conducted in EViews using a panel-regression framework, which allows firm-specific observations to be evaluated simultaneously across multiple reporting years by combining cross-sectional variation with temporal movement (Gujarati, 2004).

The appropriate panel-data specification was determined through sequential application of the Chow and Hausman diagnostic procedures. The analysis was subsequently followed by tests of normality, heteroskedasticity, and multicollinearity, as well as the t -test, F -test, and coefficient of determination, using a 5% significance level. When heteroskedasticity was detected, the estimation was corrected using the Generalized Least Squares method with cross-sectional weights.

RESULT AND DISCUSSION

Descriptive Statistics. The distributional profile of the dataset was summarized using descriptive measures applied to 50 company-year records drawn from 10 mining firms over the five reporting periods from 2020 to 2024. Considerable dispersion was observed in every variable, with each standard deviation exceeding the corresponding average value.

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Future cash flows	50	-1.47E+10	1.25E+13	1.60E+12	2.70E+12
Operating income	50	-4.47E+11	1.62E+13	1.52E+12	3.08E+12
Gross profit	50	-6.40E+10	1.80E+13	2.20E+12	3.75E+12
Net income	50	-4.50E+11	1.28E+13	1.18E+12	2.43E+12
Total accruals	50	-5.74E+12	3.19E+12	-3.74E+10	1.28E+12

Source: Processed EViews output, 2026.

Future cash flows had an average value of IDR 1.60 trillion, while operating income, gross profit, and net income had average values of IDR 1.52 trillion, IDR 2.20 trillion, and IDR 1.18 trillion, respectively. Total accruals had a negative average value of IDR 37.4 billion, indicating that, on average, the net income of the sampled companies was lower than their operating cash flows.

Model Selection and Assumption Testing. The panel specification was determined through the Chow and Hausman procedures, each of which yielded a significance level below 5%, thereby supporting the use of a firm-specific fixed-effects framework. Diagnostic testing with the Harvey



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method subsequently revealed non-constant error variance, so the final estimation was reweighted using Generalized Least Squares with cross-section weights to mitigate the heteroskedasticity problem.

Table 2. Summary of Model Selection and Assumption Tests

Test	Probability Value	Result
Chow test	1.3668E-07	Fixed Effect Model
Hausman test	5.9416E-19	Fixed Effect Model
Jarque-Bera test before GLS	0.0000	Non-normally distributed residuals
Jarque-Bera test after GLS	0.6539	Normally distributed residuals
Harvey test	0.0375	Heteroskedasticity detected

Source: Processed EViews output, 2026.

The correlation matrix revealed strong correlations among operating income, gross profit, and net income. Therefore, the partial effects of these three earnings components should be interpreted with caution. Following the GLS correction, the model residuals satisfied the normality assumption.

More specifically, the correlations between operating income and net income, operating income and gross profit, and gross profit and net income were 0.998, 0.975, and 0.967, respectively. These values exceed the conventional 0.80 warning threshold for potential multicollinearity. The estimated coefficients should therefore be read as conditional effects within the joint model rather than as isolated economic effects of each earnings measure (Gujarati, 2004).

Regression Results and Hypothesis Testing. Table 3 reports the parameter estimates generated from the fixed-effects specification after the heteroskedasticity adjustment was applied through the GLS procedure.

Table 3. Regression Results and Hypothesis Testing

Variable	Coefficient	Probability	Result
Operating income	-2.290	0.016	Negative and significant
Gross profit	0.159	0.504	Not significant
Net income	2.468	0.016	Positive and significant
Total accruals	-0.376	0.025	Negative and significant
Model Statistic			Value
R-squared			0.886
Adjusted R-squared			0.845
F-statistic			21.554
Probability of F-statistic			3.772E-10

Source: Processed EViews output, 2026. Significant at $\alpha = 5\%$.

The estimated regression equation is expressed as follows:

$$OFCF_{t+1} = \alpha - 2.290LO + 0.159LK + 2.468LB - 0.376TA + \varepsilon$$

Individually, operating income has a negative and significant effect on future cash flows. Because the direction of the relationship is contrary to H1, which predicts a positive effect, H1 is rejected. Gross profit has no significant effect; therefore, H2 is rejected. Net income has a positive and significant effect, supporting H3, whereas total accruals have a negative and significant effect, supporting H4.



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Simultaneously, operating income, gross profit, net income, and total accruals significantly affect future cash flows, as indicated by the F-statistic probability of 3.772×10^{-10} ; therefore, H5 is supported. The adjusted R-squared of 0.845 indicates that 84.5% of the variation in future cash flows is explained by the independent variables, while the remaining 15.5% is attributable to factors outside the model.

The simultaneous result is consistent with the view that earnings information and cash-flow-related information are complementary rather than substitutive. The explanatory strength of the model arises from evaluating several layers of accounting information jointly: the earnings components summarize performance at different stages, whereas total accruals capture the portion of earnings not supported by current-period operating cash flows (Ball et al., 2021; Noury et al., 2020).

Effect of Operating Income on Future Cash Flows. Operating income has a negative and significant effect on future cash flows, with a coefficient of -2.290 and a probability of 0.016 . Because H1 predicts a positive effect, the opposite coefficient direction indicates that H1 is not supported and is therefore rejected. This result should be interpreted cautiously because operating income is highly correlated with net income, with a correlation coefficient of 0.998 . Severe multicollinearity may inflate standard errors, destabilize the estimated coefficients, and reverse coefficient signs when several earnings components are included simultaneously in the model.

From an economic perspective, operating income is not necessarily converted immediately into cash receipts because a portion of revenue may remain in accounts receivable or may be absorbed by working-capital requirements. In the mining sector, commodity-price increases may raise sales and operating income during the current period, while cash receipts continue to follow contractual billing and collection schedules. At the same time, substantial mining operating costs – including extraction, fuel, heavy-equipment operation, maintenance, transportation, and reclamation expenditures – continuously absorb cash. Production-sharing arrangements, mining concessions, and long-term sales contracts may also create timing differences between revenue recognition, the fulfillment of contractual obligations, and cash collection. Accordingly, the observed negative relationship may reflect both cash-realization timing differences and statistical interactions among the earnings components; operating income should therefore not be used in isolation when evaluating future cash-flow prospects.

Effect of Gross Profit on Future Cash Flows. Gross profit has no significant effect on future cash flows, with a probability of 0.504 ; therefore, H2 is rejected. This finding indicates that gross profit is not a reliable independent predictor of cash flows in the subsequent period. Gross profit reflects only the difference between revenue and cost of goods sold and does not incorporate operating expenses, non-operating expenses, finance costs, or taxes that affect the company's overall cash position.

In mining companies, gross profit is highly sensitive to fluctuations in commodity prices, production volumes, mineral grades, and production costs. Rising commodity prices may rapidly increase margins, but the effect may be temporary and may not be accompanied by proportionate cash receipts. Government restrictions or bans on raw-mineral exports in particular subsectors may also alter sales patterns, encourage domestic processing, and increase inventory, logistics, and working-capital requirements. These expenditures are not fully captured at the gross-profit level. In addition, the high correlations among gross profit, operating income, and net income reduce the ability of gross profit to explain future cash flows independently. Investors and creditors should



therefore assess gross margins together with operating costs, downstream-processing policies, financing structures, and the company's capacity to convert sales into cash.

Effect of Net Income on Future Cash Flows. Net income has a positive and significant effect on future cash flows, with a coefficient of 2.468 and a probability of 0.016; therefore, H3 is supported. This finding indicates that an increase in net income is associated with higher operating cash flows in the subsequent period. Compared with gross profit and operating income, net income provides more comprehensive information because it incorporates operating and non-operating revenues and expenses, finance costs, and corporate taxes.

This result supports signaling theory, which explains that earnings information may signal a company's condition and prospects to external parties (Spence, 1973). Positive and sustainable net income indicates a stronger capacity to generate cash in subsequent periods. The finding is also consistent with Ball and Nikolaev (2022) and Budiman et al. (2025), who show that earnings contain predictive information regarding future cash flows.

In the mining sector, net income summarizes the effects of commodity-price fluctuations, substantial production and operating costs, financing expenses, tax obligations, and adjustments arising from government policy. For mineral subsectors affected by raw-ore export restrictions, domestic-processing requirements and changes in sales channels may simultaneously influence costs, revenues, and cash flows. Net income also captures the consequences of mining-concession cycles and long-term contractual arrangements, including timing differences among revenue recognition, expense recognition, and cash settlement. Because of its broader coverage, net income provides a more comprehensive indication of a company's capacity to sustain performance and generate cash. Nevertheless, financial-statement users should continue to examine the composition of net income to distinguish earnings generated by core operations from non-operating or non-recurring items.

Effect of Total Accruals on Future Cash Flows. Total accruals have a negative and significant effect on future cash flows, with a coefficient of -0.376 and a probability of 0.025; therefore, H4 is supported. This result indicates that the greater the proportion of earnings derived from accrual components, the lower the cash flows potentially realized in the subsequent period. Accruals arise because revenues and expenses are not always recognized when cash is received or paid; consequently, reported earnings do not necessarily reflect the company's immediate cash position.

The negative effect indicates that increases in earnings that are not accompanied by higher operating cash flows should be interpreted cautiously. High total accruals may arise from uncollected revenue, increases in accounts receivable and inventories, changes in trade payables, prepayments, or other non-cash adjustments. In the mining sector, commodity-price volatility may amplify changes in sales values, inventories, and receivables, while substantial operating expenditures may create cash requirements before revenue is realized. Raw-mineral export restrictions may also increase inventory accumulation or domestic-processing requirements, whereas mining concessions and long-term sales contracts may create timing differences between accounting recognition and cash collection. These conditions widen the gap between earnings and cash flows, such that larger total accruals are associated with lower cash flows in the subsequent period.

This finding is consistent with Noury et al. (2020) and Wasalwa and Maha Putra (2025), who emphasize the relevance of accrual components in predicting future cash flows. The result also indicates that earnings quality is determined not only by the magnitude of reported profit but also



by the extent to which that profit is converted into cash. Investors and creditors should therefore analyze total accruals together with net income to assess performance quality and liquidity prospects more accurately.

Simultaneous Effects of Earnings and Total Accruals. Operating income, gross profit, net income, and total accruals simultaneously have a significant effect on future cash flows, with an F-statistic of 21.554 and a probability of 3.772×10^{-10} ; therefore, H5 is supported. The adjusted R-squared of 0.845 indicates that the model explains 84.5% of the variation in future cash flows, while the remaining 15.5% is explained by factors outside the research model.

These findings show that the combined use of several earnings components and total accruals provides more comprehensive information than any single variable used independently. Gross profit captures efficiency at the sales and production stages, operating income reflects the outcomes of core business activities, net income represents overall financial performance, and total accruals explain the difference between accounting earnings and operating cash flows. This result supports Noury et al. (2020), who argue that combining earnings and accrual information can improve the prediction of future cash flows.

More specifically, the model's explanatory power in the mining sector can be understood through four principal characteristics. Commodity-price fluctuations affect revenue and margins; substantial mining operating costs determine the amount of cash absorbed; raw-mineral export restrictions alter sales patterns, processing requirements, and working-capital needs; and mining concessions or long-term cooperation agreements create timing differences between earnings recognition and cash collection. Each earnings component captures only part of these mechanisms, whereas total accruals identify the portion of earnings not yet realized in cash. The joint use of all variables therefore provides a more complete explanation than reliance on a single measure.

Compared with studies that examine the three earnings levels without total accruals, or studies that analyze net income together with operating cash flows and selected accrual components, the present specification provides a more integrated assessment of reported performance and its conversion into cash. The findings do not imply that every component has a significant independent effect; rather, they show that the combined information set is highly relevant for explaining cash realization in the subsequent period among mining companies (Santoso et al., 2024; Sulistyawan & Septiani, 2015).

From a practical perspective, these findings confirm that investors and creditors should adopt a comprehensive approach when evaluating the cash-flow prospects of mining companies. Net income may serve as a primary indicator, but it should be analyzed together with total accruals to assess the quality of cash realization. The analysis should also consider commodity-price volatility, the magnitude of mining operating costs, the effects of export and downstream-processing policies, and the stages of mining concessions or long-term sales arrangements. For management, the findings highlight the importance of maintaining earnings quality, managing working capital, controlling accrual components, and aligning cash planning with operating schedules and contractual obligations so that reported performance genuinely reflects the capacity to generate sustainable cash flows.

Research Limitations. This study has several limitations that should be considered when interpreting the findings. First, the sample comprises only 10 relatively large mining companies and 50 observations; consequently, generalization to the entire mining industry – particularly medium-sized and smaller firms – should be undertaken cautiously. Second, operating income, gross profit,



and net income exhibit extremely high multicollinearity, with correlation coefficients exceeding 0.97; therefore, the stability and direction of the partial coefficients may be influenced by the close accounting relationships among the earnings components. Third, the 2020–2024 observation period includes the COVID-19 pandemic and the subsequent recovery phase, which may have generated anomalies in the revenues, costs, and cash flows of mining companies.

Fourth, the study uses aggregate total accruals and does not disaggregate them into changes in accounts receivable, inventories, trade payables, depreciation expense, and other specific accrual components that may possess different predictive abilities. Fifth, the model does not incorporate control variables such as firm size, leverage, sales growth, and the operating cycle, all of which may also affect future cash flows. Accordingly, the results are best interpreted as empirical evidence specific to the sample and observation period rather than as universal conclusions applicable to all mining companies.

CONCLUSION

The empirical evidence shows that operating income, gross profit, net income, and total accruals collectively have a significant effect on future cash flows among mining-sector companies listed on the Indonesia Stock Exchange during 2020–2024. In the partial tests, net income has a positive and significant effect and emerges as the most reliable earnings component for predicting cash flows in the subsequent period. Total accruals have a negative and significant effect, indicating that a larger proportion of earnings derived from accrual components is associated with lower cash flows potentially realized in the following period.

Operating income also has a negative and significant effect on future cash flows. Because this direction is contrary to the hypothesis predicting a positive effect, H1 is not supported. The coefficient should nevertheless be interpreted cautiously because of the severe multicollinearity among the earnings components, which may destabilize the direction and magnitude of the estimated relationships. Gross profit, by contrast, has no significant independent effect on future cash flows. The adjusted R-squared of 0.845 indicates that the variables included in the model explain 84.5% of the variation in cash flows realized in the subsequent period.

The findings indicate that investment and lending decisions should place greater emphasis on the informational content of net income and on the extent to which reported earnings are supported by accrual components. Management should also control accrual components so that reported earnings more accurately reflect the company's capacity to generate cash. Future research should expand the sample and observation period, incorporate additional control variables, and disaggregate total accruals into more specific components.

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