




HISTORICAL EARNINGS, ACCRUAL ACCOUNTING, AND FUTURE CASH FLOWS: A MALAYSIAN PERSPECTIVE

 Mazurina Mohd Ali^{1*}


¹Faculty of Accountancy, Universiti Teknologi MARA Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia.

¹Email: mazurina@uitm.edu.my

 Kamalia Mohamed Ali²


²Adni Islamic School, Ampang, Selangor, Malaysia.

²Email: ilaailamak@gmail.com

 Ammar Daher Bashatweh³

³Luminus Technical University College, Amman, Jordan.

³Email: bashatwahammar@yahoo.com

 Suhaily Hasnan⁴

⁴International School, Vietnam National University, Vietnam.

⁴Email: suhailyhasnan@uitm.edu.my



(+ Corresponding author)

ABSTRACT

Article History

Received: 12 April 2022

Revised: 3 June 2022

Accepted: 17 June 2022

Published: 8 July 2022

Keywords

Forecasting

Historical earnings

Accrual accounting

Future cash flow

Cash flow

Financial health.

JEL Classification:

M00; M41.

This study investigates the influence of historical earnings and historical accrual accounting on projecting future cash flows. The sample consisted of 159 construction, energy, and property development companies from the main capital market of Malaysia. The compiled data of these companies spanned from 2015 to 2019 and was collected from the financial statements of the companies, including operating cash flows and earnings. The profit or loss statement and cash flow statement were used for calculating historic accrual accounting. Earnings, cash flow, and accrual accounting models were used as the basis for the regression model construction. The accounting data demonstrated that the prediction performance of the models was improved by the three-year lag. The previous two-year earnings and accrual accounting had positive and significant predictive power for forecasting future cash flows. Moreover, the past one- and two-year cash flows from operations significantly predicted future cash flows. These results are important for a sound understanding among academics and practitioners of the crux of historical earnings, operating cash flow, and accrual accounting. The findings can assist corporate leaders and management executives in tracking the sustainability and financial growth of an organization.

Contribution/Originality: This study contributes to the existing literature on the importance of a sound understanding of historical earnings, accrual accounting, and future cash flows and their relationships thereof. This study can benefit corporate leaders and management executives by helping to identify financial growth and track the sustainability of their companies.

1. INTRODUCTION

Financial statements (namely those of profit or loss), financial position, and cash flows can clearly indicate the position of an organisation's financial health. Financial statements provide information on the operations, performance, positions, cash flow, and financial health of a company at a given time. Evaluating the financial health of a firm enables the forecasting of the future cash flows of the firm. In particular, the statement of cash flows depicts the flow of money in and out of a firm. Typically, the statement is computed over a specified limited time frame. Cash flow measurements can be used for calculating other metrics that provide insight into the worth and condition of a

company. The cash flow statement warrants a fundamental analysis routine. As the statement bypasses the optics of accounting, it links the numerous financial statements and focuses on cash earned from merely doing business (Krantz, 2016). The statement provides helpful insight when analysing a firm.

The capacity of a company for producing cash flows affects the value of its shares, as it is possible for investors to estimate share values by anticipating future cash flows. Cash flow forecasting is a vital activity as it entails several economic considerations and the investor's assessment of whether a company can create future cash flows affects their decision to invest in it.

Financial data should facilitate future cash flow forecasting for financial statement users. The accounting data compiled from public financial statements are a valuable source of useful data for various reasons. Investors and shareholders frequently use reported financial data to assess managers' performance to perform their stewardship duties and make economic decisions.

The International Accounting Standards Board (IASB) has emphasised the need for assessing organisational capacity, timeliness, and predictability for creating future cash flows. The IASB Conceptual Framework for Financial Reporting 2018 states that financial reporting is mainly aimed at providing useful financial information to present and potential investors, lenders, and other stakeholders. Such information is vital in assisting in the decision-making process of providing capital to a company, particularly when appraising future net cash inflow possibilities.

Similarly, creditors, vendors, and employees typically use cash flow projections to determine the solvency and liquidity of a company (Palea & Scagnelli, 2017). Knowledge of adequate financial flows and proper flow management can help businesses evade financial risks, making it invaluable information for managers (Mulenga & Bhatia, 2017). Generally, forecasting cash flows is a vital component of economic decision-making, particularly regarding large investments, evaluating the risk and rewards of new investments, and determining the cost of capital (Chong, 2012).

Cash flow forecasting has drawn considerable attention in accounting and finance. There is extensive literature on forecasting cash flows. A primary area of research focuses on using historical earnings and accrual accounting on the predictive value of cash flow information. However, the findings are unclear, and as such, more studies are required to establish whether historical earnings and historical accrual accounting are effective predictors of cash flow.

Given the increasing importance of cash flows as a performance metric in addition to earnings, International Financial Reporting Standards (IFRS) efficiency in meeting this financial reporting goal has increased (Atqa, Lee, & Mohd-Saleh, 2019). Cash flow forecasting is a valuable and fundamental component on financial management. As it involves several economic decisions, forecasting future cash flows is an important challenge (Ali & Ali, 2021).

Despite this, the market, sector, and objectives of a company can lead to differing performance quantification and measurement. Given their importance, future cash flows remain relevant and essential in the current investing climate. Financial statements are important as they can reveal much about the revenue, spending, profitability, debt burden, and capacity of a company for meeting short- and long-term financial commitments. Financial data, specifically cash flows, are vital to making important decisions, making them pertinent to the interests of shareholders, analysts, and executives. It would be beneficial to know how this information can be managed with the most acceptable cash expectation strategy.

The present study involved the construction, energy, and property industries. Several factors determine the financial performance of construction companies, including cash inflows and outflows. Cash inflows are the distinction between the amount earned and the total amount spent for a specific duration. Companies with low cash flows have a harder time paying suppliers or personnel and purchasing materials. Consequently, they would have limited capacity for executing on-site tasks and would be forced to reduce employment or work at a slower pace to control the cash flow. In the energy industry, the oil and gas sectors are important energy sources for the global economy (Hoque, Low, & Zaidi, 2020). Oil and gas businesses continue to aim for sufficient free cash flows from existing earnings to fulfil increased capital requirements for replacing reserves. Simultaneously, the businesses are required to mitigate any possible future cash flow declines by preventing decreased current assets over their life cycle (Agostinho &

Weijermars, 2017). Low oil and gas prices in the future might lead to reduced cash flows and place assets at risk (Hoque et al., 2020).

Threats are poorly studied in the property development market, challenging business survival (Bergmann, Kamarás, Gleißner, & Guenther, 2020). Bergmann et al. (2020) have emphasised that the most significant threats in property development are increasing resource costs and regulation alterations. These threats have significant impacts on material selections and therefore risks to the development projects. Therefore, the sustainability of the property development market is very important. The above studies suggest a property development roadmap that takes into account the economy and long-term cash flow projections.

Most previous research has examined the capacity of historical earnings and historical accrual accounting for predicting future cash flows. However, most of these studies were performed in developed countries, in particular the United States and the United Kingdom. In contrast, such studies concerning emerging economies such as that of Malaysia are scarce. In Malaysia, there has also been limited research on the construction, energy, and property industries for forecasting potential cash flows, thus the present study is aimed at bridging this gap by evaluating the impact of historical earnings and historical accrual accounting on the future cash flows of these industries. The findings directly address the following question: What effects do historical earnings and historical accrual accounting from the profit or loss statement have on predicting future cash flows?

The study is structured as follows: Section 2 contains the literature review. Section 3 describes the research method. Section 4 presents and discusses the findings. Section 5 contains the concluding remarks.

2. LITERATURE REVIEW

2.1. The Cash Flow Statement

The statement of cash flows not only details a company's cash inflows and outflows but also the cash equivalents of a company, as well as detailing the net change in the cash balances of a company over a specified period (Subramanyam, 2014). There are three components in the statement: operating, investing, and financing activity cash flows. Understanding of the concept of cash flows and how they are calculated is simple, which is one of its most attractive features. Cash flows are real and predictable. They appear tangible rather than as the invention of accounting techniques. They indicate how much money a company obtains or pays over a certain period to ensure the smooth functioning of the organisation (Ijeoma, 2016). A lack of cash would disrupt operations and possibly lead to insolvency (Akinyomi, 2014).

The statement of cash flows is used for evaluating and quantifying the financial health of a company, including performance, solvency, and liquidity. The statement may also be used for assessing the financial performance of different firms by removing the influence of other accounting methods. It can also demonstrate the volume, timing, and probability of anticipated cash flows. The statement of cash flows has become more favourable, as it removes the allocations derived using numerous accounting procedures, such as different time frames. Furthermore, investors consider the cash flow statement a useful indicator of the long-term viability and potential of a company as well as when performing due diligence and formulating projections for a given firm.

2.2. Accrual Accounting

Accounting information in financial statements reflects the effect of credit and cash transactions and is typically compiled based on accrual. Supporters of accrual accounting prefer it to cash accounting for monitoring the companies' performance and financial condition. Accrual-based earnings are deemed significant for evaluating the performance of a firm (Godfrey, Hodgson, & Holmes, 2003) as they prevent the distortion of volatile cash flow swings when assessing performance (Kremer & Rizzuto, 2000). Furthermore, matching expenditure and income to derive accrual-based results may predict future cash flows.

Information on past transactions that involve cash receipts and payments as well as details of future cash payment commitments or cash receipt benefits is contained in accrual method financial statements, and such information is crucial for economic decisions (Elliott & Elliott, 2007). Accrual accounting is aimed at informing users as quickly as possible and with a reasonable level of confidence about the effects of business operations on the future cash flows of a company. The information spread is accomplished by recording the revenue earned and expenditure incurred regardless of whether cash flows occur simultaneously. For example, in a revenue cycle, the accrual accounting basis registers financial information to appreciate the effect of financial payments over the period in which the incidents occur instead of focusing solely on financial accounts or transactions. The financial reports record that payments have been reported and registered regardless of whether cash has been received or paid. Following reasonable assumptions and judgments, accrual adjustments are registered without compromising the reliability of the accounting information (Subramanyam, 2014).

2.3. Historical Earnings and Future Cash Flow

Historical earnings have long been considered a critical indicator for assessing the performance of a company. They play an essential role in managing debt and debt contracts and alone have a high capacity for predicting potential cash flows (Atqa et al., 2019). In a similar vein, Takhtaei and Karimi (2019) have found that net earnings have a better capacity than operational cash flows and conventional proxies for anticipating future cash flows. Since 1978, the Financial Accounting Standard Board (FASB) has mentioned estimating operating cash flows, emphasising that historical earnings interest investors more than historical cash flows for predicting potential cash flows (Nguyen & Nguyen, 2020). Those who set the standards for accounting have stated that past earnings have better predictive potential than past operating cash flows (Ebaid, 2011). Senan (2019) examined current earnings, cash flows, and earnings disaggregation to forecast the future operating cash flows of Saudi Arabian firms. The author analysed data between 2006–2015 and reported that there was a favourable association between current earnings and future operating cash flows.

Umoren and Umoffong (2018) constructed four models; (1) past cash flows to predict future cash flows model; (2) net income accrual model; (3) comprehensive income in predicting future cash flows and (4) earnings are disaggregated into components of net income and other comprehensive income. Least squares regression analysis was used to test all the models, and what was found was that previous earnings in Nigeria substantially influenced future operating cash flows. It is also worth noting that there is a positive link between the past earnings of Nigeria and the projected bank operational cash flows. Similarly, Blessing (2016) examined the relation between past earnings and historical cash flows to approximate the probable cash flows of Nigerian banks. The author collected data from the financial reports of 21 commercial banks between 2004 and 2013 and used least squares regression analysis to observe that the historical earnings of a company had a major impact on future operating cash flows.

Previous studies on the predictive capacity of value relevance earnings calculated under the IFRS have demonstrated that earnings are expected to aid forecast cash flows as either net or total income. Therefore, past earnings can be considered a credible potential cash flow predictor, provided stock prices denote the present value of future cash flows. While Gordon, Henry, Jorgensen, and Linthicum (2017) demonstrated evidence of the IFRS having a positive influence, Othman, Ching, and Arshad (2011) demonstrated that the IFRS delivers higher-level information on reported historical earnings. Malaysia has deviated from the accounting and business practices of the United Kingdom and is adopting the accounting and reporting rules of the United States. Kim and Kross (2005) have stated that the predictive power of previous earnings over future cash flows has increased over time. Using United States businesses from the past three decades, they demonstrated that historical earnings are better predictors than present earnings of future operating cash flows.

Mulenga (2015) argued that historical cash flows from operations rather than historical earnings predict future cash flows more robustly. The study argued that historical earnings are never a good indicator of potential cash flows.

Nevertheless, the findings contradicted FASB and IASB statements in 1978 and 1989, respectively, where historical earnings than historical cash flows from operating activities are much more accurate for forecasting future cash flows. Yunanda and Islahuddin (2017) noted that earnings are important for projecting future operational cash flows when the firm's earnings are positive but are unhelpful when the firm reports negative profits.

2.4. Historical Accrual Accounting and Future Cash Flows

Both the effect of debt and cash deposits are included in management accounting of profit and loss accounts (Barth, Clinch, & Israeli, 2016). Furthermore, historical accrual accounting assists managers in the anticipation of the future cash flows of a company. Thus, historical accrual accounting has been represented as the best of the future cash and earning flows and equity value of the company. The vital function of historical accrual accounting is to associate the historical cash flows of the firm and the economy that generates the cash flows, which may transpire in the period in which the cash flows take place.

Khansalar and Namazi (2017) have suggested that the main cause for applying accrual accounting is to minimise cash flow problem sequencing and alignment to measure the performance of a business; the knowledge needed to evaluate the efficiency of a firm emerges from the assessment and rewarding management.

Barth et al. (2016) have asserted that the degree to which shareholders are supported in their forecasting and valuation responsibilities by each accrual accounting differs with the kind of accrual accounting and whether it is based on the current or preceding period. Nallareddy, Sethuraman, and Venkatachalam (2020) have highlighted discrepancies due to the means of measuring the variables, the definition of the sample, and the research design. For example, some studies have calculated historical accrual accounting and historical cash flows using the balance sheet approach.

Others, on the other hand, have calculated historical accrual accounting using cash flows from the cash flow statement. Further, although cross-section regression estimation has been used in some studies, firm-specific estimations in addition to focusing on aggregate historical earnings and historical cash flows were used in others. In particular, Nallareddy et al. (2020) have also highlighted that previous researchers have decomposed historical accrual accounting into six key components and documented the current accelerated predictive value of the cash flows of these modules in order to predict future cash flows. The authors reported that other researchers might also collapse historical accrual accounting into components based on their limited scope of management estimation. Furthermore, they determined that historical accrual accounting components with considerable estimates do not aid future cash flow forecasting. Despite this, Barth et al. (2016) discovered that cash flow prediction was improved by additional clustering of accrual accounting based on the function in cash flow orientation.

Farshadfar and Monem (2013) examined historical accrual accounting components in Australia (Farshadfar & Monem, 2013) and reported an improved approach to future cash flow prediction, and it was expected that the global financial crisis would affect the historical accrual accounting and future cash flow prediction combination. The global economic crisis had a substantial impact on the relationship between historical accrual accounting and future cash flow prediction of manufacturing companies listed on the Pakistan Stock Exchange (PSX) (Hussain, Abidin, Ibrahim, & Joginder, 2020).

In addition, increasing industrial growth leads to a mounting number of transactions, requiring accrual accounting systems to accommodate them. The cash-generating capacity of a company determines its productivity, however, there are synchronisation and balance issues in cash receipts and disbursement reporting, rendering cash flows a poor sign of company growth (Lee & Kim, 2019). McInnis and Collins (2011) augmented these findings, examining the effect of projected cash flows on accrual accounting consistency. Their results demonstrated a substantially reduced magnitude of the statistical analysis values of irregular historical accrual accounting and a more important transition of historical accrual accounting to historical cash flows for the period in which they began issuing cash flow projections.

Comparably, before cash flow prediction issuance, companies have depended on some forms of actual transaction processing. This approach to evaluating historical earnings is very conservative in meeting financial experts' estimates. These findings support the view that the projected cash flow problem improves a company's approach to the responsibility against exploiting historical accrual accounting and is a barrier to disreputable income diversion (Jemâa, Toukabri, & Jilani, 2015).

Hussain et al. (2020) have stated that historical accrual accounting components include identifying assets, liabilities, sales, and transaction expenditures (both cash and credit transactions). On the other hand, assets (fixed and current) are linked to resources belonging to the organisation due to previous financial transactions, and the economics and industrialisations sparking company expansion have removed the need for accumulated values.

Conversely, the historical accrual accounting basis is an accounting assumption that acknowledges the inferences of financial data together with the accounting process in the event instead of relying wholly on financial transactions or settlements. Historical accrual accounting includes absorption costing and comparing profits to spending whereas income and expenses are under historical costs. As a result, the original fixed expenses of a company establish its asset value and are deducted for impairment loss. In contrast, identifying revenue and expenditure is based on their corresponding definitions (Ball, Gerakos, Linnainmaa, & Nikolaev, 2016).

Mulenga and Bhatia (2017) have stated that, apart from historical operational cash flows, various authors have used historical accrual accounting as a potential determinant for future cash flows and have measured it separately. Nonetheless, Nguyen and Nguyen (2020) mentioned that a part of historical accrual accounting includes depreciation and change of accounts receivable, prepaid expenditures, and inventory. Lee, Dobiyski, Sviiland, and Zhu (2020) reported that previous research used partitions collected in non-discretionary and discretionary historical accrual accounting using the Jones Model, which assumes that accumulation varies with depreciable assets and the economic activity of the organisation. Typically, non-discretionary accruals are projected by declining adjustments in revenues and gross assets, buildings, and machinery balances on accruals. Accordingly, historical accrual accounting might represent the amount of discretion for managers to quantify historical earnings. Deferred accruals are residuals in the regression model. Lee et al. (2020) reported that historical accrual accounting and current stock prices and profit margins were associated positively. A significant relationship may support the view that managers augment the firm performance of historical earnings with historical accrual accounting by including private information on the possible financial perspective of the company. However, we note that the study did not consider whether investors value historical accrual accounting adequately when determining the value of a firm. Discretionary historical accrual accounting has lower persistence than other historical earning elements such as historical accrual accounting and historical operations cash flow. Senan (2019) has reported that previous studies queried the patterns in firm values for historical cash flows and found that financial analysts forecast firms with broad historical accrual accounting, numerous accounting options, surplus capital, inconsistent earnings, and a depleted financial situation. The author also discovered that companies with cash flow predictions demonstrated a weaker link between past earnings and profits on inventory. Thus, excluding historical earnings from historical cash flows, the critical historical accrual accounting elements, and the whole accumulation relies on the margin of uncertainty of predicting historical cash flows. Examination of the relationship between continued earnings and historical earning reliability has demonstrated that the low historical accrual accounting reliability might reduce earnings perseverance and thus reduce the investors' expectations that typically contribute to the volatility of price security (Senan, 2019).

The ability to predict the future is an essential part of financial decision-making as it attempts to anticipate what could happen so as to effectively mitigate events that damage a company's financial position (Chotkunakitti, 2005). Forecasting future cash flow involves predicting financial inflows and outflows and should be the primary focus in evaluating the success of a company (Frigo & Graziano, 2003). Security experts, creditors, and managers make virtually all of their economic decisions using future cash flow predictions. Thus, the capacity of a business for handling cash is crucial to its long-term sustainability and wealth (Sharma & Jones, 2000). Various cash flow

forecasting algorithms widely use accounting data as input data (Godfrey et al., 2003). Kelly and O' Connor (1997) reported that managers can identify potential financial issues by forecasting future cash flows, thereby allowing the business to plan its finances accordingly.

2.5. Hypothesis Development

Investors expect to take future cash flows into account when estimating the value of an investment. Narktabtee (2000) studied the Thai stock market and reported that the share prices reflect the management's ability to produce such future cash flows to benefit both the business and investors. It may be concluded that forecasting future cash flows enables investors' prediction of stock prices. Previous analyses have revealed that the historical earnings framework could be a better indicator of future cash flows (Mulenga, 2015; Umoren & Umoffong, 2018).

Typically, the advantage of forecasting future cash flows is limited to brief time lags. For example, Palea and Scagnelli (2017) examined the predictive potential of historical earnings over a three-year lag, while, Agana, Mireku, and Appiah (2015) explored the relative earnings and operating cash flows in the scenario of a developing country with comparable predictive power for future operating cash flows. Both authors found that both historical earnings and operating cash flows are vital for predicting future cash flows, however, the predictive capacity of historical earnings, proxied by the past one to three years, is preferable to the precision of future cash flow prediction. The authors concluded that earnings are a stronger predictor than previous operating cash flows of future operating cash flows. Jemâa et al. (2015) forecast the future cash flows of companies in Tunisia, and reported that historical earnings for the past one and two years outperformed cash flow from operations for predicting future cash flows. Based on the above, the first hypothesis states that:

H1: Historical earnings have significant predictive power for predicting future cash flows.

In the United States, Arthur, Cheng, and Czernkowski (2010) examined disaggregated accruals and future cash flow forecasting and discovered that the former had better predictive capabilities for future cash flow predictions. Farshadfar and Monem (2013) investigated historical accruals accounting components in Australia and reported a more accurate prediction of future cash flows. Hussain et al. (2020) suggested that the global financial crisis was projected to affect accruals and future cash flow forecasting combined. They reported that the financial crisis greatly influenced the relation between accruals and future cash flow forecasting in industrial businesses listed on the PSX.

Jemâa et al. (2015) further demonstrated that the cash flow variable provides knowledge exceeding that of accounting revenue for predicting potential cash flows. They also reported a significant decrease in the overall predictive power when the cash flow variable was attached to the components of accounting income. They used three metrics for predicting potential cash flows: operating activities cash flows, operating profits, and present accruals. The first implication of the metrics is that the multivariate model is more effective as it creates the estimation of company-specific parameters and incorporates the accounting factors rate (accruals) given the initial cash flow values. The second implication is that taking income data and financial basis into consideration improves the projected cash flow, supporting the FASB statement. Based on the above, the second hypothesis is:

H2: Historical cash flows and historical accrual accounting have significant predictive power for predicting future cash flows.

3. RESEARCH METHOD

3.1. Sample and Data Collection

The study population involved all companies listed on the Bursa Malaysia. The sample involved the construction, energy, and property sectors. Table 1 summarises the total sample units. The study was conducted in 2015–2019, spanning five years. The elements compiled for the table were operating cash flows, earnings, and accrual accounting. The company had to have been in operation for at least 12 months before the submission of its annual reports, and organisations with a non-December calendar year-end were excluded to retain an equivalent number of companies.

Table 1. Summary of sample.

Industry	Number of Companies
Construction	46
Energy	21
Property	92
Total	159

The three industries are considered high risk as they operate in a high-uncertainty environment with high costs. Predicting cash flows within these industries could minimise or avoid any associated risks.

3.2. Earnings Model

Several analytical methods have been used for examining the predictability of operating cash flows. In specific investigations, ordinary least squares regression has been used for constructing a prediction model (Al-Attar & Hussain, 2004). This study utilised the earnings model for predicting the potential cash flows of the sample. The dependent variable was the operation cash flows while earnings from the previous one to three years were the independent variables. As such, the relationship between historical earnings (EARN) and cash flow from operations (CFO) was analysed as follows:

$$CFO_t = \beta_0 + \beta_1 EARN_{t-1} + \beta_2 EARN_{t-2} + \beta_3 EARN_{t-3} + \varepsilon$$

where

CFO_t = Cash flow from operations for year t.

EARN_{t-1} = Earnings for year t-1.

EARN_{t-2} = Earnings for year t-2.

EARN_{t-3} = Earnings for year t-3.

β₀, β₁, β₂, β₃ = Unknown parameters.

ε = Error term.

It was projected that historical earnings would have a beneficial effect on potential cash flows.

3.3. Cash Flow and Accrual Accounting Model

In the above model, the most important step is to convert accrual-based income to cash-based income. Net earnings (or loss) were calculated under the implicit method of measurement by non-monetary factors, such as accumulated depreciation and alterations in cash and cash equivalents. The income and other information in the financial statements were used for calculating the commodity modification values and it is described in the following formulae:

$$\text{CASH FLOW OPERATION} = \text{EARNING} - \text{ACCRUAL}$$

$$\text{ACCRUAL} = \text{EARNING} - \text{CASH FLOW OPERATION}$$

Several studies have examined the year overlaps of accrual-based earnings elements for predicting future cash flows (Nallareddy et al., 2020). However, a new method has been developed from the income statements and balance sheets for calculating the accrual components in those studies.

Nguyen and Nguyen (2020) analysed the accrual elements of earnings in two concepts: the consolidated accrual variable and the differentiated accrual function. The accrual accounting component was calculated as the difference between operating cash flows and earnings. The present study examined the ability of both definitions to predict actual accrual earnings. The aggregated accumulated components of quarterly earnings are denoted as ACCR, t-i. The approach was presented to resolve the study hypotheses. It is postulated that cash flows and accruals accounting components of earnings can greatly predict future cash flows.

Model of multiple linear regression:

$$CFO_{nt} = \lambda_0 + \lambda_1 CFO_{t-1} + \lambda_2 CFO_{t-2} + \lambda_3 CFO_{t-3} + \lambda_4 ACCR_{t-1} + \lambda_5 ACCR_{t-2} + \lambda_6 ACCR_{t-3} + e$$

where,

CFO_t = Cash flow from operations in year t.

ACCR_{t-1} = Accrual accounting components of earnings for year t-1.

ACCR_{t-2} = Accrual accounting components of earnings for year t-2.

ACCR_{t-3} = Accrual accounting components of earnings for year t-3.

λ₁, λ₂, λ₃, λ₄, λ₅, λ₆ = Unknown parameters.

e = Error term.

It was expected that the historical cash flows and accruals accounting components of earnings would correlate with the projected cash flows, whereas the prediction ability was expected to be improved by more year-ends. As a result, a substantial indication in the model should be detected in the forecasting capabilities of the historical cash flows and accrual accounting components of earnings.

4. RESULTS

4.1. Historical Earnings and Future Cash Flows

The earnings model of the present study consisted of four variables: EARN 2016, EARN 2017, EARN 2018, and CFO 2019. Table 2 lists a total 159 earnings records for each year (N = 159). There were no missing values in any of the variables. The companies recorded good historical earnings on average for predicting future cash flows as the median for each variable was RM12 million–RM20 million. The central tendency is best measured using the median.

Table 2. Descriptive statistics of earnings model.

Statistics		EARN (2016)	EARN (2017)	EARN (2018)	CFO (2019)
N	Valid	159	159	159	159
	Missing	0	0	0	0
Mean		42,449,152.82	49,679,520.59	-6,017,384.18	80,089,117.81
Median		21,570,149.00	12,784,011.00	14,317,699.00	15,141,000.00
Std. Deviation		250,878,117.163	223,197,273.547	357,161,992.388	220,403,976.008
Variance		62,939,829,671,165,256.000	49,817,022,918,706,400.000	127,564,688,806,677,136.000	48,577,912,640,025,536.000

Table 3. Model summary of earnings model.

Model Summary ^b					
Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Durbin-Watson
1	0.451 ^a	0.204	0.179	0.68384	2.145

Note: a. Predictors: (Constant), EARN (2018); EARN (2017); EARN (2016).
 b. Dependent variable: Residual CFO.

Table 3 demonstrates that the R² value was 0.204, therefore 20.4% of the variation of the dependent variable (CFO 2019) is explained by the independent variables (EARN 2018, EARN 2017, and EARN 2016) while the remaining 79.6% is explained by other factors.

Table 4. Final model of earnings.

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.608	0.072		105.480	0.000
	EARN (2016)	-4.873E-10	0.000	-0.184	-1.198	0.234
	EARN (2017)	1.779E-9	0.000	0.563	4.055	0.000
	EARN (2018)	1.066E-10	0.000	0.063	0.557	0.579

The variables in the final model Table 4 were EARN 2016, EARN 2017, and EARN 2018. Only EARN 2017 had a significant value (0.000) < α-value (0.05).

Table 5. Descriptive statistics of the cash flow and accrual accounting model.

Statistics		CFO (2016)	CFO (2017)	CFO (2018)	CFO (2019)	ACCR (2016)	ACCR (2017)	ACCR (2018)
N	Valid	159	159	159	159	159	159	159
	Missing	0	0	0	0	0	0	0
Mean		368,041,63.11	39,218,383.81	73,794,361.35	80,089,117.81	5,644,989.71	10,461,136.78	79,811,745.52
Median		8,040,000.00	14,046,107.00	2,769,483.00	151,41,000.00	6,177,308.00	750,664.00	1,051,000.00
Std. Deviation		139,233,077.203	192,148,216.552	253,459,462.569	220,403,976.008	250,476,156.207	254,505,743.625	487,328,552.176
Variance		19,385,849,787, 503,264.000	36,920,937,123,9 98,888.000	64,241,699,165,9 25,672.000	485,77,912,640, 025,536.000	62,738,304,828,09 3,688.000	64,773,173,537,9 50,768.000	237,489,117,765,7 34,976.000

The H1 hypothesis was supported to the extent that EARN 2017 (past two-year earnings) predicts the future cash flows of Malaysian listed construction, energy, and property companies positively and significantly. The past one-year earning had no significant relationship with the future cash flow. Nevertheless, it demonstrated a positive direction. It is suggested that the past two-year earnings have a better degree of future cash flow prediction, therefore managers can plan the activities of the company to ensure that earnings are healthy at least two years in advance to ensure that the company has a better future cash flow and to ensure its financial health.

4.2. Historical Accrual Accounting and Future Cash Flows

Table 5 lists the cash flow and accrual accounting model descriptive statistics, consisting of the CFO for 2016–2019 and accrual accounting (ACCR) for 2016–2018. The mean CFO was RM36,000–80,000 and the mean ACCR was RM7000–79,000. The median CFO was RM804,000–15,000,000 and the median ACCR was RM750,000–6,000,000.

Table 6. Model summary of the cash flow and accrual accounting model.

Model Summary					
Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Durbin-Watson
1	0.496 ^a	0.246	0.197	0.67616	2.018

Note: a. Predictors: (Constant), ACCR (2018); ACCR (2017); CFO (2016); ACCR (2016); CFO (2017); CFO (2018).
b. Dependent variable: Residual CFO.

Table 6 depicts the summary of the cash flow and accrual accounting model. The R² value was 0.246. Therefore, 24.6% of the variation of the dependent variable (CFO 2019) is explained by the independent variables (CFO 2018, CFO 2017, CFO 2016, ACCR 2016, ACCR 2017, and ACCR 2018) while other factors explain the remaining 75.4%.

Table 7. Final cash flow and accrual accounting model.

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.583	0.074		102.692	0.000
	CFO (2016)	-7.257E-10	0.000	-0.159	-1.106	0.271
	CFO (2017)	1.114E-9	0.000	0.294	1.770	0.080
	CFO (2018)	1.143E-9	0.000	0.444	2.223	0.029
	ACCR (2016)	-5.636E-10	0.000	-0.216	-1.364	0.176
	ACCR (2017)	1.196E-9	0.000	0.412	2.327	0.022
	ACCR (2018)	2.923E-10	0.000	0.232	1.401	0.165

Table 7 displays the multiple regression analysis results, where CFO 2017 and the future cash flow (CFO 2019) were significantly positively related ($p = 0.080$), though this relationship was only significant at 10% ($p = 0.080, > 0.05$). Furthermore, there was a significant and positive relation between the CFO 2018 and future cash flow (CFO 2019) at 5% ($p = 0.029$), which demonstrates an increasing predictive ability of historical cash flow for future cash flows and suggests that the cash flow forecasts of many companies are usually for a 12-month term (Ali & Ali, 2021).

For the accrual accounting, only ACCR 2017 had a significant positive relationship with future cash flow (CFO 2019) at 5% ($p = 0.022$). These results indicate that the two-year accrual accounting contributes to future cash flow prediction. The results also demonstrate a positive relationship for the past one-year accrual accounting, but it is not significant.

These findings indicate that Malaysian construction, energy, and property sector cash flows are better predictors of future cash flows.

5. CONCLUSION

Historical earnings, operations cash flows, and historical accrual accounting could optimally predict the future cash flows of listed Malaysian companies. The findings suggest that financial statements are reliable decision-making aids for users of financial statements or related parties. For such users, cash flow is a better predictor than earnings for estimating the expected cash flows at least two years earlier. Evidence-based practice might result from more research.

Generally, forecasting future cash flows is a vital part of economic decision-making, particularly when large investments, evaluating the risk and rewards of new investments, and determining the cost of capital are involved (Chong, 2012). For example, creditors can use the forecast model to assess their customers' ability to repay debts and borrow money. Investors interested in future returns prediction may also be interested the predictions of future cash flows. This study also contributes to the body of information and research on historical cash flows in potential cash flow predictions, and the results can be extended to the decision-making processes of other stakeholders, such as business executives. Furthermore, the cash flow modelling data can be measured and used by financial statement users for determining the possible cash flows of businesses for predicting projected cash flows, funding, and other results.

This study might aid a company in managing day-to-day cash flows and continuing operations and regulating business strategies and could benefit managers, business owners, financial professionals, and investors by providing aid cash flow monitoring for ongoing activities as a going concern and the sustainability of a firm, which is critical, especially during difficult times.

This study has limitations that might have partially influenced the results. Specifically, it is restricted to only three industries. Therefore, the results cannot be extended to other industries. Future research may extend the coverage of the results to all industries to obtain more robust results.

Funding: This research was supported by Fundamental Research Grant Scheme (FRGS) provided by the Ministry of Higher Education of Malaysia (FRGS/1/2019/SS01/UITM/02/34).

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study.

Acknowledgement: The authors also would like to thank the Universiti Teknologi MARA Selangor, Puncak Alam Campus for facilitating this research project.

REFERENCES

- Agana, J. A., Mireku, K., & Appiah, K. O. (2015). Comparative predictive abilities of earnings and operating cash flows on future cash flows: Empirical evidence from Ghana. *Accounting and Finance Research*, 4(3), 40-45. Available at: <https://doi.org/10.5430/afr.v4n3p40>.
- Agostinho, M. D. S. C., & Weijermars, R. (2017). Petroleum business strategies for maintaining positive cash flow and corporate liquidity under volatile oil and gas prices as the sustainable energy transition unfolds. *Journal of Financing and Accounting*, 5(1), 34-55. Available at: <https://doi.org/10.11648/j.jfa.20170501.14>.
- Akinyomi, J. O. (2014). Effect of cash management on profitability of Nigerian manufacturing firms. *International Journal of Marketing and Technology*, 4(1), 129-140.
- Al-Attar, A., & Hussain, S. (2004). Corporate data and future cash flows. *Journal of Business Finance & Accounting*, 31(7-8), 861-903. Available at: <https://doi.org/10.1111/j.0306-686x.2004.00560.x>.
- Ali, M. M., & Ali, K. M. (2021). Using a cash flow model to predict future cash flow from historical cash flow: A Malaysian perspective. *Academy of Accounting and Financial Studies Journal*, 24(5), 1-11.
- Arthur, N., Cheng, M., & Czernkowski, R. (2010). Cash flow disaggregation and the prediction of future earnings. *Accounting & Finance*, 50(1), 1-30. Available at: <https://doi.org/10.1111/j.1467-629x.2009.00316.x>.
- Atqa, A. A., Lee, K.-H., & Mohd-Saleh, N. (2019). Has IFRSs improves predictions of future cash flows? Evidence from Malaysia. *International Journal of Business and Society*, 20(2), 851-869.

- Ball, R., Gerakos, J., Linnainmaa, J. T., & Nikolaev, V. (2016). Accruals, cash flows, and operating profitability in the cross section of stock returns. *Journal of Financial Economics*, 121(1), 28-45. Available at: <https://doi.org/10.1016/j.jfineco.2016.03.002>.
- Barth, M. E., Clinch, G., & Israeli, D. (2016). What do accruals tell us about future cash flows? *Review of Accounting Studies*, 21(3), 768-807. Available at: <https://doi.org/10.1007/s11142-016-9360-4>.
- Bergmann, P., Kamarás, E., Gleißner, W., & Guenther, E. (2020). Enhanced cash flow valuation in real estate management by integrating innovative materials and risk assessment. *Sustainability*, 12(6), 2201. Available at: <https://doi.org/10.3390/su12062201>.
- Blessing, I. (2016). Relationship between earnings and cash flow in estimating cash flows: Evidence from listed Nigerian banks. *Journal of Research in Business, Economics and Management*, 6(1), 811-821.
- Chong, K. W. (2012). *Prediction of operating cash flows using accrual-based and cash-based accounting information among Malaysian industrial corporations*. DBA Thesis, Southern Cross University, Lismore, NSW.
- Chotkunakitti, P. (2005). *Cash flows and accrual accounting in predicting future cash flows*. DBA Thesis Southern Cross University.
- Ebaid, I. E. (2011). Accruals and the prediction of FCFs: Empirical evidence from an emerging market. *Management Research Review*, 34(7), 838-853. Available at: <https://doi.org/10.1108/01409171111146715>.
- Elliott, B., & Elliott, J. (2007). *Financial accounting and reporting*. Essex: Pearson Education.
- Farshadfar, S., & Monem, R. (2013). The usefulness of operating cash flow and accrual components in improving the predictive ability of earnings: A re-examination and extension. *Accounting & Finance*, 53(4), 1061-1082. Available at: <https://doi.org/10.1111/j.1467-629x.2012.00486.x>.
- Frijo, M. L., & Graziano, R. (2003). Strategic decisions and cash flow. *Strategic Finance*, 85(1), 8-31.
- Godfrey, J. M., Hodgson, A., & Holmes, S. (2003). *Accounting theory*. Milton, Queensland: John Wiley & Sons Australia.
- Gordon, E. A., Henry, E., Jorgensen, B. N., & Linthicum, C. L. (2017). Flexibility in cash-flow classification under IFRS: Determinants and consequences. *Review of Accounting Studies*, 22(2), 839-872. Available at: <https://doi.org/10.1007/s11142-017-9387-1>.
- Hoque, M. E., Low, S.-W., & Zaidi, M. A. S. (2020). The effects of oil and gas risk factors on Malaysian oil and gas stock returns: Do they vary? *Energies*, 13(15), 3901. Available at: <https://doi.org/10.3390/en13153901>.
- Hussain, R. I., Abidin, N. S. Z., Ibrahim, F., & Joginder, J. S. (2020). Accruals in the prediction of forthcoming cash flows in the companies listed at Pakistan stock exchange. *International Journal of Economics and Financial Issues*, 10(5), 130-139. Available at: <https://doi.org/10.32479/ijefi.10313>.
- Ijeoma, N. (2016). Relationship between earnings and cash flow in estimating cash flows: Evidence from listed. *Journal of Research in Business, Economics and Management*, 6(1), 804-814.
- Jemâa, O. B., Toukabri, M., & Jilani, F. (2015). The examination of the ability of earnings and cash flow in predicting future cash flows: Application to the Tunisian context. *Accounting and Finance Research*, 4(1), 1-16. Available at: <https://doi.org/10.5430/afr.v4n1p1>.
- Kelly, J., & O' Connor, J. (1997). Is profit more important than cash flow? *Management Accounting*, 75(6), 28-29.
- Khansalar, E., & Namazi, M. (2017). Cash flow disaggregation and prediction of cash flow. *Journal of Applied Accounting Research*, 18(4), 464-479. Available at: <https://doi.org/10.1108/jaar-02-2015-0011>.
- Kim, M., & Kross, W. (2005). The ability of earnings to predict future operating cash flows has been increasing—not decreasing. *Journal of Accounting Research*, 43(5), 753-780. Available at: <https://doi.org/10.1111/j.1475-679x.2005.00189.x>.
- Krantz, M. (2016). *Fundamental analysis for dummies*. Canada: John Wiley & Sons, Inc.
- Kremer, C., & Rizzuto, R. (2000). Three bottom lines. *Executive Excellence*, 17(9), 6-7.
- Lee, J., & Kim, E. (2019). Foreign monitoring and predictability of future cash flow. *Sustainability*, 11(18), 4832. Available at: <https://doi.org/10.3390/su11184832>.
- Lee, B. B., Dobiyski, A., Sviland, M., & Zhu, L. (2020). Accruals, earnings quality and research methodology. *Journal of Applied Business and Economics*, 22(1), 92-105. Available at: <https://doi.org/10.33423/jabe.v22i1.2717>.

- McInnis, J., & Collins, D. W. (2011). The effect of cash flow forecasts on accrual quality and benchmark beating. *Journal of Accounting and Economics*, 51(3), 219-239. Available at: <https://doi.org/10.1016/j.jacceco.2010.10.005>.
- Mulenga, M., & Bhatia, M. (2017). The review of literature on the role of earnings, cash flows and accruals in predicting of future cash flows. *Accounting and Finance Research*, 6(2), 59-70. Available at: <https://doi.org/10.5430/afr.v6n2p59>.
- Mulenga, M. J. (2015). The relative ability of earnings and cash flow from operations in predicting future cash flows: Evidence from India. *International Journal of Accounting and Financial Reporting*, 5(2), 178-194. Available at: <https://doi.org/10.5296/ijaf.v5i2.8468>.
- Nallareddy, S., Sethuraman, M., & Venkatachalam, M. (2020). Changes in accrual properties and operating environment: Implications for cash flow predictability. *Journal of Accounting and Economics*, 69(2-3), 101313. Available at: <https://doi.org/10.1016/j.jacceco.2020.101313>.
- Narktabtee, K. (2000). *The implications of accounting information in the Thai capital market*. PhD Thesis, University of Arkansas, Thailand.
- Nguyen, H., & Nguyen, T. (2020). The prediction of future operating cash flows using accrual-based and cash-based accounting information: Empirical evidence from Vietnam. *Management Science Letters*, 10(3), 683-694.
- Othman, I. W., Ching, P. W., & Arshad, R. (2011). *Adoption of IFRS in Malaysia and the information content of earnings*. Paper presented at the In 2011 IEEE Colloquium on Humanities, Science and Engineering. IEEE.
- Palea, V., & Scagnelli, S. D. (2017). Earnings reported under IFRS improve the prediction of future cash flows? Evidence from European banks. *Australian Accounting Review*, 27(2), 129-145. Available at: <https://doi.org/10.1111/auar.12115>.
- Senan, N. A. M. (2019). Ability of earnings and cash flows in forecasting future cash flows: A study in the context of Saudi Arabia. *Academy of Accounting and Financial Studies Journal*, 23(1), 1-13.
- Sharma, R., & Jones, S. (2000). Managing cash flow: Taking a strategic view. *Australian CPA*, 70(1), 32-33.
- Subramanyam, K. R. (2014). *Financial statement analysis*. New York: McGraw-Hill International Edition.
- Takhtaei, N., & Karimi, H. (2013). Relative ability of earnings data and cash flow in predicting future cash flows. *International Journal of Accounting and Financial Reporting*, 3(1), 214. Available at: <https://doi.org/10.5296/ijaf.v3i1.3803>.
- Umoren, A. O., & Umoffong, N. (2018). Cash flows and earnings in predicting future cash flows: A study of deposit money banks in Nigeria. *Advances in Research*, 15(1), 1-13. Available at: <https://doi.org/10.9734/AIR/2018/41226>.
- Yunanda, F., & Islahuddin, I. (2017). The influence of earnings, cash flow components and operating working capital on future cash flow of banking sector in Indonesia. *Proceedings of AICS-Social Sciences*, 7, 228-235.

Views and opinions expressed in this article are the views and opinions of the author(s), The Economics and Finance Letters shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.