

Profitability, Cash Flow, and Capital Expenditure Affect Cash Holding in Manufacturing Firms Listed on Indonesia Stock Exchange

Rita Dewi Anggraini¹, Gregorius Nasiansenus Masdjojo^{2✉}

Stikubank University, Semarang, Indonesia.

✉Corresponding author: masdjojo@edu.unisbank.ac.id

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Abstract

Addressing empirical inconsistencies in corporate liquidity behavior during the 2019-2024 economic transition, this study investigates cash holding determinants within the consumer cyclicals sector on the Indonesia Stock Exchange (IDX). Utilizing a purposive sample of 109 firms from 164 population with data sourced from the IDX official website. The Fixed Effect Model was implemented via EViews 13 to capture firm specific heterogeneities ensuring robust unbiased estimation amidst systemic shocks. Result demonstrate that profitability and capital expenditure remain strategically decoupled from cash retention, suggesting earnings are prioritized for operational stabilization and external financing. Conversely, cash flow exerts a significant positive influence, strongly validating the Pecking Order Theory. With an R² of 27.71%, these findings reveal that internal metrics explain core dynamic. Though 72.29% of variance is dictated by unobserved catalysts. Theoretically, this study refines emerging market liquidity frameworks, practically it mandates that managers optimize cash conversion cycle to maintain solvency against market volatility.

Keywords: Profitability; Cash Flow; Capital Expenditure; Cash Holding.

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INTRODUCTION

In the contemporary global economic landscape, Indonesia has solidified its standing as a strategic industrial powerhouse, consistently ranking among the world's top ten manufacturing hubs. As the primary engine of national economic acceleration, the manufacturing sector's resilience is heavily contingent upon its ability to navigate market volatility, demographic shifts, and government's industrial downstreaming initiatives.

However, this capital-intensive sector faces a precarious balancing act: maintaining sufficient liquidity to buffer against external shocks while avoiding the opportunity costs associated with idle resources. This strategic equilibrium is encapsulated in the firm's cash holding policy a critical determinant of corporate survival in an era of heightened uncertainty.

Despite extensive literature on corporate liquidity, empirical evidence regarding the determinants of cash holding specifically profitability, cash flow, and capital expenditure remains deeply fragmented and inconsistent. This study identifies a critical research gap the limited scholarly attention given to the adaptive liquidity mechanisms of manufacturing firms specifically within the consumer cyclicals sub sector during the unique transitional window of 2019 to 2024. This period represents an unprecedented natural experiment in corporate finance, encompassing the stable pre-pandemic environment of 2019, the extreme systemic shocks of COVID-19 (2020-2021), and the complex recovery phase (2022-2024) characterized by global inflation and monetary tightening.

Reviewing this period is essential to understanding the precautionary motive in emerging markets. During the pandemic height, manufacturing entities faced a dramatic contraction in consumer demand, forcing management to treat cash reserves as a survival shield rather than an investment pool. Furthermore, the subsequent recovery phase introduced new complexities, where rising capital costs and raw material price volatility compelled firms to re-evaluate their internal liquidity architecture. By synthesizing Pecking Order Theory and the Precautionary Motive, this research investigates how internal profit accumulation (ROA) and operational cash flow dynamics influence cash positions relative to long term growth investments or capital expenditure.

The primary contribution of this research is twofold. Theoretically, it offers fresh empirical insights into how global crises alter the relationship between internal cash generation and liquidity retention in a post pandemic context. Practically, it provides a strategic framework for financial managers to formulate adaptive liquidity policies that enhance competitive advantage amidst on going industrial transformation. By resolving prior empirical inconsistencies and incorporating the disruption of 2019-2024, this study serves as a robust reference for optimizing corporate resilience in the face of future macroeconomic turbulence.

Literature Review

Trade Off Theory

The Trade Off Theory, pioneered by Modigliani and Miller in (1958), posits that firms aim for an optimal cash equilibrium by weighing the marginal benefits of liquidity against its associated costs. According to (Opler et al., 1997) and (Jebran et al., 2019), the primary advantage of maintaining cash reserves is its function as a financial buffer to mitigate the risks of financial distress and the high costs of external financing. However, cash holding also entails significant opportunity costs, as liquid assets typically yield lower returns than productive capital investments. Within the context of this study (2019-2024). The Trade Off Theory suggests that Indonesian firms must strategically recalibrate this balance to ensure that the precautionary benefits of cash outweigh the costs of foregone interest, especially during the extreme market volatility caused by systemic global shocks.

Pecking Order Theory

The Pecking Order Theory, introduced by Donaldson (1961) and formally refined by Myres (1984), establishes a financing hierarchy aimed at minimizing the costs of asymmetric information. Under this framework, firms prioritize internal funding (retained earnings and depreciation) over debt, with external equity as a last resort. This theory views cash holding as a dynamic reservoir that fluctuates based on the availability of internal surpluses (Almeida et al., 2003), (Damayati & Sudirgo, 2020). In volatile environments, firms with high information asymmetry such as those in the Indonesian manufacturing sector tend to aggressively hoard cash from internal cash flow to avoid the adverse signaling and restrictive costs of external capital markets (Bates et al., 2008). Thus, cash holding are not merely static assets but represent the firm's strategic response to financing constraints and operational surpluses.

Cash holding

In the realm of corporate finance, cash holding is articulated as the strategic aggregation of liquid assets and cash equivalents maintained to buffer investment requirements and support multifaceted organizational objectives (Agustianingrum et al., 2023). The criticality of maintaining such liquidity stems from its function as a versatile internal financing mechanism, safeguarding the seamless continuity of business operations against unforeseen market disruptions (Ridha et al., 2019). Beyond mere transactional utility, these liquid resources act as essential capital cushions, facilitating long term strategic growth while simultaneously ensuring the firm's capacity to meet external commitments to equity holders (Putri & Naibaho, 2022). The operational measurement for cash holding is defined as:

$$\frac{\text{Cash} + \text{Cash Equivalent}}{\text{Assets Total}}$$

Profitability

Profitability serves as a definitive metric of managerial proficiency in optimizing corporate resources to generate net earnings. Operationalized primarily through Return on Assets (ROA), this variable provides a rigorous appraisal of a firm's aptitude for transforming its asset base into tangible economic value (Meilinda & Masdjojo, 2023) and (Lestari & Wulandari, 2019). The Pecking Order Framework, superior profitability is perceived as a primary source of internal strength, as it directly bolsters a firm's internal liquidity position. As noted by (Opler et al., 1997), firms with robust earnings capacity are fundamentally better positioned to accumulate larger liquid buffers, thereby reducing reliance on costly external financing channels. The mathematical formulation for profitability is expressed as:

$$\frac{\text{Net Income}}{\text{Assets Total}}$$

Cash Flow

Cash flow constitutes the comprehensive manifestation of all monetary movements that dictate a firm's immediate solvency and financial flexibility. Entities characterized by robust cash flow dynamics typically maintain substantial liquidity levels. Enabling the strategic deployment of resources for capital projects (Jovanca & Wiriananta, 2024). (Almeida et al., 2003) introduced the concept of cash flow sensitivity of cash to explain that financially constrained firms exhibit a systematic propensity to hoard cash from incremental inflows to protect future investment opportunities. Following the logic of (Bates et al., 2008), these inflows are utilized to construct a capital cushion, ensuring organizational resilience during periods of macroeconomic turbulence. The measurement of cash flow in this study is articulated as:

Cash flow for operation

Assets Total

Capital Expenditure

Capital expenditure pertains to the strategic allocation of financial resources intended for the acquisition, maintenance, or enhancement of long term corporate assets (Mawarni & Widodo, 2023). While (Opler et al., 1997) and (Bates et al., 2008) acknowledge that cash is essential to fund growth, they emphasize that large capital expenditure outlays act as a periodic drain on existing liquid resources. This relationship underscores a critical trade off where high intensity in capital spending necessitates a reduction in liquid cash levels as capital is converted into illiquid fixed assets. To capture the investment intensity, capital expenditure is calculated using the following ratio:

$$\frac{(\text{Fixed Assets } t - \text{Fixed Assets } (t - 1)) + \text{Depreciation}}{\text{Assets Total}}$$

Hypothesis Development

The Effect of Profitability on Cash Holding

Profitability, measured via Return on Assets (ROA), signifies managerial prowess in converting resources into economic surpluses. According to the Pecking Order Theory Myres (1984), firms prioritize internal funds to mitigate information asymmetry. (Opler et al., 1997) substantiate that robust earnings capacity allows firms to accumulate liquid buffers efficiently. During the COVID-19 pandemic (2020-2021). The consumer cyclicals sector experienced extreme demand volatility. In this natural experiment, profitable firms leveraged their superior margins to build a liquidity fortress, adhering to the precautionary motive (Bates et al., 2008). This internal capital accumulation acted as a survival shield against systemic shocks, enabling firms to maintain solvency without resorting to expensive external debt. Recent studies (Fiona et al., 2025), (Azia & Binsar Naibaho, 2022) confirm that high profit entities in Indonesia aggressively bolstered their cash positions to navigate the post pandemic recovery. Therefore, the following hypothesis is formulated:

H1: Profitability has a positive effect on cash holding

The Effect of Cash Flow on Cash Holding

Operational cash flow represents the literal monetary vitality of an organization. (Almeida et al., 2003) introduced the cash flow sensitivity of cash, arguing that financially constrained firms common in emerging markets like Indonesia systematically save cash from incremental inflows. For consumer cyclicals, where cash conversion cycles are highly sensitive to discretionary spending, robust cash flows are critical. During the 2019-2024 transitional window, characterized by global inflation and monetary tightening, firms utilized operational surpluses to construct a capital cushion (Bates et al., 2008). This behavior ensures organizational resilience against macroeconomic turbulence, allowing management to fund strategic mandates while reducing reliance on restrictive external capital (Rokhayati et al., 2024), (Azia & Binsar Naibaho, 2022). Thus, consistent cash generation is projected to reinforce liquidity retention. The hypothesis is formulated as follows:

H2: Cash flow has a positive effect on cash holding

The Effect of Capital Expenditure on Cash Holding

Capital expenditure represents a firm's commitment to long term growth through fixed asset acquisition. Within the Trade Off Theory framework, firms balance the marginal benefit of liquidity against the opportunity cost of idle capital (Opler et al., 1997). For the consumer cyclicals sub sector, intensive investments in distribution infrastructure or production facilities act as a systematic drain on liquid reserves. As firms re-evaluate their internal architecture post pandemic, large scale capital expenditure necessitates a contraction in cash balances as liquid wealth is transformed into illiquid assets. This inverse relationship is exacerbated during periods of rising capital costs (2022-2024),

where internal cash is prioritized for investment before seeking external financing (Nurjanah et al., n.d.), (Halim & Novianty, 2023), (Santioso & Daryatno, 2023), (Kacaribu et al., 2023). The hypothesis is formulated as follows:

H3: Capital expenditure has a negative effect on cash holding

METHOD

This research employs a quantitative methodology, utilizing secondary data extracted from official financial statements available on the Indonesia Stock Exchange (IDX) repository. By implementing a rigorous purposive sampling framework, a final sample of 109 firms was culled from an initial population of 164 entities with the consumer cyclicals sector, spanning a six-year longitudinal horizon. To empirically examine the formulated hypotheses, the study utilizes panel data regression analysis. This technique was specifically selected for its robustness in capturing simultaneous dynamic across both cross-sectional units and time series dimensions. The specific inclusion criteria for the sample selection are delineated below:

Tabel 1. Sampling Criteria

No	Criteria	Number
1	Consumer cyclicals manufacturing companies on the Indonesia Stock Exchange in 2019-2024	164
2	Consumer cyclicals manufacturing companies that did not publish financial reports consecutively from 2019 to 2024	(55)
Number of Company Samples		109

RESULTS AND DISCUSSION

Result

Panel Data Regression Results Table

Table 2. Fixed Effect Model Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.508158	0.319358	1.591186	0.1122
X1	0.001740	0.002516	0.691471	0.4896
X2	0.420820	0.045591	9.230397	0.0000
X3	9.61E-10	1.21E-07	0.007974	0.9936
R-squared	0.277167			
Adjusted R-squared	0.129133			
F-statistic	1.872316			
Prob (F-statistic)	0.000002			

The empirical results derived from the Fixed Effect Model, as presented in Table 2, elucidate the nuanced relationship between internal determinants and liquidity positions within the consumer cyclicals sector. By employing the Least Square Dummy Variable (LSDV) technique, this model captures the idiosyncratic characteristics of each firm through intercept variations while maintaining slope consistency. The estimation reveals that cash flow is the dominant driver of liquidity, exhibiting a coefficient of 0.4208 with a highly significant probability of 0.0000. This robust correlation confirms the Pecking Order Theory, suggesting that firms in the consumer cyclicals sub sector prioritize internal operational inflows to fortify their liquidity fortress against market volatility. Conversely, probability and capital expenditure demonstrate statistically insignificant impacts, with probability value of 0.4896 and 0.9936, respectively. The neutrality of probability implies that under heightened uncertainty 2019-2024, earnings are likely diverted toward stabilizing operations rather than mere cash accumulation. Simultaneously, the insignificance of capital expenditure suggests that long term investments in this sector are

potentially financed through external debt or strategic restructuring, thereby by passing any immediate drain on internal cash reserves.

The structural integrity and Goodness of Fit the regression model are validated through the F-statistic and Coefficient of Determination (R^2). The simultaneous test yielded an F-value of 1.8723 with a Prob (F-statistic) of 0.000002, which sits substantially below the 0.05 significance threshold. This confirms that profitability, cash flow, and capital expenditure collectively exert a synchronized influence on the cash holding behavior of consumer cyclicals firms, establishing the model as highly reliable for predictive analysis.

Furthermore, the R^2 value of 0.2771 with an Adjusted R^2 of 0.1291 indicates that the integrated independent variables account for approximately 12.91% to 27.71% of the variance in corporate cash policies. While this reflects a targeted explanatory scope, it underscores that the remaining 72.29% of liquidity fluctuations are dictated by external macroeconomic catalysts and strategic variables beyond the current study's parameters. This finding highlights the complexity of liquidity management in the Indonesian Stock Exchange during the turbulent transitional window of 2019-2024

Results of Classical Assumption Test

Multicollinearity Test Results

Table 3. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.000962	2.825292	NA
X1	0.056118	3.503937	1.323252
X2	0.009892	1.045152	1.045070
X3	1.69E-14	1.428536	1.323890

To ensure that each financial determinant within the consumer cyclicals sector provides a distinct contribution without informational redundancy, this study employs the Variance Inflation Factor (VIF) metric. As evidenced in Table 3, the centered VIF values for profitability 1.3232, cash flow 1.0450, and capital expenditure 1.3238 remain significantly below the critical threshold of 10. Economically, these results confirm the absence of multicollinearity, ensuring that the regression estimates remain robust and stable. This independence is vital during the 2019-2024 transitional window, as it validates that the observed impact of cash flow on liquidity is not a statistical artifact of its correlation with investment intensity of earnings capacity.

Heteroscedasticity Test Results

Table 4. Heteroscedasticity Test Results

F-statistic	0.122468	Prob. F (3,2)	0.9389
Obs*R-squared	0.931155	Prob. Chi-Square (3)	0.8179
Scaled explained SS	0.090143	Prob. Chi-Square (3)	0.9930

The reliability of the model's coefficient is further scrutinized using the Breusch-Pagan Godfrey test to detect potential heteroscedasticity. Table 4 reports an Obs*R-squared of 0.9311 with a Chi-Square probability of 0.8179, which exceeds the 0.05 significance level. This confirms the presence of homoscedasticity, indicating that the residual variance is constant across all observations. From a managerial perspective, this consistency implies that the liquidity framework developed in this study is universally applicable to firms within the consumer cyclicals sub sector, regardless of their asset volatility or operational scale, thereby mitigating the risk of biased interpretations.

Autocorrelation Test Result

Table 5. Autocorrelation Test Results

F-statistic	0.232890	Prob. F (2,17)	0.7947
Obs*R-squared	0.613367	Prob. Chi-Square (2)	0.7359

The scientific integrity of the research model is fortified by the Breusch-Godfrey Serial Correlation LM Test. Based on the results in Table 5, a Chi-Square probability of 0.7359 was obtained, confirming the absence of serial correlation between residuals. This statistical independence signifies that corporate cash holding decisions during the post pandemic era are not merely a reflection of previous errors but are strategic responses to contemporary macroeconomic catalysts. By satisfying the prerequisite of independent error terms, the model achieves the status of a Best Linear Unbiased Estimator (BLUE), providing a robust foundation for strategic policy recommendations in the face of future industrial transformations.

Discussion

The Effect of Profitability on Cash Holding

The empirical estimation utilizing the Fixed Effect Model reveals that profitability does not exert a statistically significant on the cash holding policies of consumer cyclicals firms (Prob. 0.4896 > 0.05). economically, this finding suggests a departure from the traditional Pecking Order Theory, which posits that higher earnings inherently lead to increased internal liquidity. During the 2019-2024 period, characterized by the systemic shock of COVID-19 and subsequent global inflation, firms in this sector likely prioritized operational survival and debt servicing over the passive accumulation of cash.

As argued by (Opler et al., 1997) and (Bates et al., 2008), in high uncertainty environments, the “precautionary motive” becomes the dominant driver. However, for the consumer cyclicals sector which is highly sensitive to consumer discretionary spending profits may have been too volatile to serve as a reliable source for cash stockpiling. Management likely treated net income as a resource to buffer immediate losses rather than an investment pool. This result aligns with (Darmawan & Nugroho, 2021) and (Romel & Ekadjaja, 2023), confirming that profit levels in post pandemic emerging markets do not automatically translate into stronger liquid buffers due to the high opportunity cost of idle capital in a recovering economy.

The Effect of Cash Flow on Cash Holding

In stark contrast to profitability, the analysis provides robust evidence that cash flow has a positive and highly significant effect on cash holding (Coeff. 0.4208, Prob. 0.0000 < 0.05). This compelling result strongly validates the Pecking Order Theory (Myres, 1984) and the concept of cash flow sensitivity of cash introduced by (Almeida et al., 2003). Within the consumer cyclicals sector, where cash conversion cycles are frequently disrupted by shifts in market demand, operational cash inflow serve as the vital monetary lifeblood.

The positive correlation signifies that for every incremental increase in operational cash firms systematically channel a significant portion into their liquidity fortress. This behavior reflects a strategic managerial response to financial constraints firms hoard cash from internal flows to safeguard future investment opportunities and mitigate the risks of expensive external financing during periods of monetary tightening. This finding is consistent with (Bates et al., 2008) regarding the capital cushion and receives empirical support from (Rokhayati et al., 2024) and (Azia & Binsar Naibaho, 2022). For policymakers and managers, this underscores that cash flow stability is the most critical predictor of a firm’s ability to withstand macroeconomic turbulence.

The Effect of Capital Expenditure on Cash Holding

The research identifies that capital expenditure does not significantly impact cash holding positions (Prob. $0.9936 > 0.05$). While the Trade Off Theory implies that large scale investments should drain liquid reserves, the empirical data suggests a decoupling between fixed asset acquisition and internal cash balances in the consumer cyclicals sector. This statistical neutrality indicates that long term strategic growth investments during the 2019-2024 window were likely financed through external credit facilities or long-term debt rather depleting immediate liquid assets.

This financing strategy adheres to a sophisticated interpretation of the Pecking Order, where firms preserve their internal survival shield for operational emergencies while leveraging external capital markets for asset expansion when interest rates are manageable or strategic restructuring is required. This result corroborates the findings (Kacaribu et al., 2023) and (Wijayanto & Yanti, 2022), suggesting that capital expenditure does not inherently compromise liquidity. Practically, it implies that financial managers in the consumer cyclicals sub sector have successfully insulated their short-term solvency from the pressures of long-term capital commitments, ensuring a robust resilience framework against future industrial transformations.

Limitation

The Adjusted R^2 value of approximately 12.91% to 27.71% in this research model indicates that while internal financial determinants are critical, they offer a concentrated rather than exhaustive explanation of liquidity dynamics within the consumer cyclicals sector. This statistical outcome underscores a vital limitation. The prevailing reliance on internal metrics alone is insufficient to fully encapsulate the multifaceted nature of corporate cash policies during the unprecedented systemic shocks of the 2019-2024 period. The remaining variance suggests that corporate liquidity is heavily dictated by unobserved external catalysts and potential model specification gaps that prior studies which often utilized broader, less volatile datasets failed to address.

Specifically, this study acknowledges the presence of potential endogeneity and measurement nuances that may arise when analyzing cyclical industries under extreme macroeconomic stress. Unlike previous research that largely ignored the interplay between institutional shifts and firm level responses, this model highlights the necessity for more comprehensive specifications. To elevate the granularity of future empirical frameworks, it is imperative to integrate external variables such as Economic Policy Uncertainty (EPU), geopolitical risk indices, and interest rate volatility. Furthermore, future inquiries should explore the role of corporate governance structures as moderating variables to resolve the lingering empirical inconsistencies regarding how managerial discretion influences cash retention when internal cash flow is abundant but external markets are restrictive.

CONCLUSION

In summary, this research elucidates that within the dynamic consumer cyclicals sector during the volatile 2019-2024 period, operational cash flow serves as the primary anchor for financial resilience, exerting a robust positive influence that reaffirms the salience of the Pecking Order Theory, where internal inflows are systematically prioritized to construct a liquidity fortress against systemic shocks. Conversely, profitability and capital expenditure demonstrate a strategic irrelevance toward immediate cash retention, suggesting a sophisticated managerial approach that decouples net earnings for operational stabilization and utilizes external credit facilities for asset expansion to preserve internal stability. The identified R^2 value of 0.2771 with an Adjust R^2 of 0.1291 acknowledges the intricate nature of the Indonesian institutional environment, indicating that while internal financial metrics explain a specific portion of the variance, approximately 72.29% of corporate liquidity is dictated by unobserved macroeconomic catalysts. Consequently, these findings necessitate the integration of economic policy uncertainty in future scholarly inquiries to achieve a more holistic projection of corporate cash holding strategies in emerging economies.

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