

Investing Cash flow and Financial Performance of Listed Consumer Goods Manufacturing Companies in Nigeria

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Abstract

One of the major issues that require attention in the consumer goods manufacturing sector is cash flow management and this has led to failure of many businesses. However, not much has been reported on the relationship between cash flow and financial performance. This study therefore was undertaken to investigate the relationship between cash flow and financial performance of listed consumer goods manufacturing firms in Nigeria. Corporate cash flow was operationalized as net cash flow from operating activities, net cash flow from investing activities, and net cash flow from financing activities, all in ratio scale, while return on asset and return on equity were used as proxies for financial performance. Trade credit policy was used as moderator variable. Panels of secondary data were collected from the annual reports of thirteen (13) listed consumer-goods manufacturing firms, covering the periods of 2012 to 2019. Univariate, bivariate and multivariate statistics were employed to analyse the collected data on complementary basis, using 5 percent level as the significance threshold. Univariate analysis was done using the descriptive statistics; bivariate analysis was done using Pearson's product moment correlation while multivariate analysis was done using multiple regression analytical technique in line with fixed-effect model. Following the analyses, result showed that 76.7% of the variability of return on asset was jointly explained by all three components of cash flow, with each being significant at 1% level of significance. Apart from cash flow from investing activities which showed a positive sign, both cash flows from operation and financing activities were negatively related with return on asset. The result is similar for return on equity. However, when trade credit policy was introduced as a moderator variable, all the components of cash flow remained significant in their relationship with return on asset, while only cash flow from operating activities remained significant in relation to return on equity. Accordingly, it was concluded that the concern about cash flow report being tainted with financial misreporting is unproven. Accordingly, this study recommends among others that firms should be mindful of their individual peculiarities with regards to the sensitivity of their profitability to liquidity in designing their trade credit policies. Also, firms should endeavor to strike an appropriate balance between profitability and liquidity in order to optimize both, among their recommendations.

Keywords: *CashFlow, Investing Cashflow, Financial performance, consumer goods*

Introduction

Cash flow is an index of all the liquid resources that were actually received by or paid out by a firm for certain time period (Albrecht, 2003). This index does not include non-cash accounting charges such as depreciation. Thus cash represents the firm's life wire such that its mismanagement threatens the survival of the business. According to Adelegan (2003), cash flows are more direct measure of liquidity and a contributing factor in corporate performance. In business organization, cash remains the nerve centre, and arguably commands the most attention of all the organization's liquid resources, (Nwude, 2004). Cash flow Accounting (CFA) standards generally recommend that Cash flows (CFs) be categorized into three activity types: operating, financing and investing activities. cash flows from investment is associated with purchases and sales of non-current assets (Barth *et al.*, 2010).

Cash flow from investing activities represents both inflows and outflows of cash attributable to the assets portfolio selection activities of the firm. Assets here refer to both tangible and intangible non-current assets like land, building, plant and machinery, R & D, intellectual property, artificial intelligence and any other capital expenditure requirement which enhances the productive capacity of firms. Profits can be generated by investing in such assets to ensure long term profitability, (Olatunji & Tajudeen, 2014). Similarly, Chun *et al.* (2014) have also produced empirical evidence supporting the notion that investment expenditure directly affects profitability as it enables production of new products and development of new technologies. For instance, R&D investment can reduce costs through efficient production technology, which has a positive impact on future performance. On the other hand, if R&D investment fails, sunk costs will increase, which can

negatively affect the firm value. Therefore, depending on life-cycle stage of the firm, the life-cycle theory of firms predicts either positive or negative association between cash flow from investing activities and financial performance.

Conceptual Framework

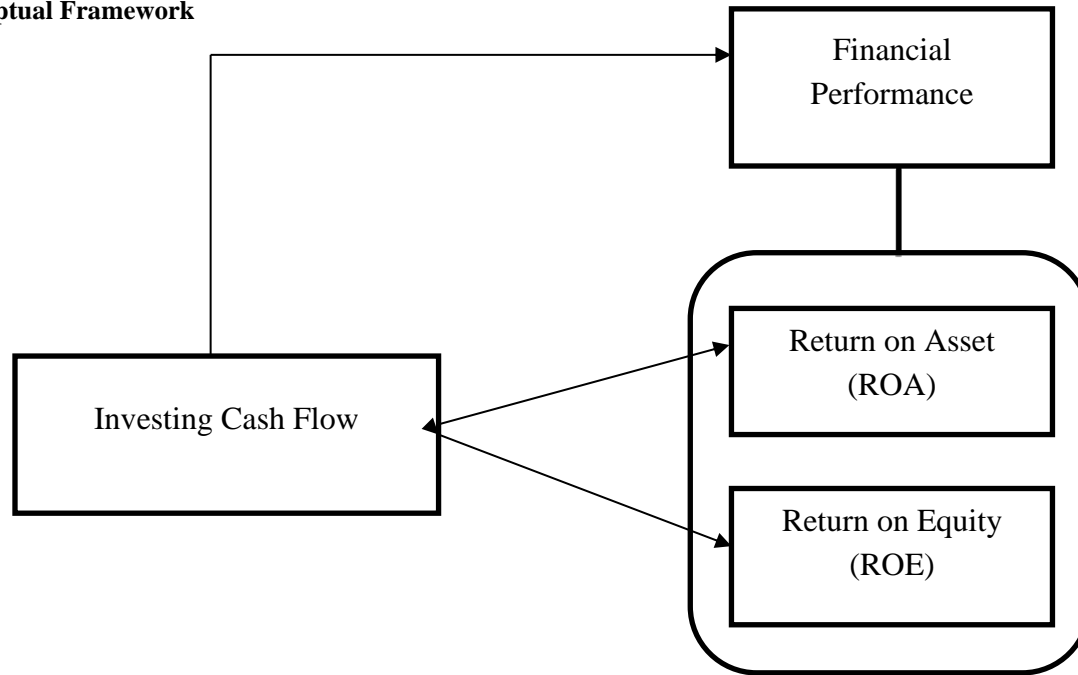


Fig.1: Conceptual Framework of Investing Cash flow and Financial performance

Purpose and Objectives

The purpose of the study is to examine the relationship between cash flow and financial performance of consumer goods manufacturing firms in Nigeria. The objectives of the study are as follows:

- i. Evaluate the relationship between investing cash flow and return on asset of consumer-goods manufacturing firms in Nigeria.
- ii. Investigate the relationship between investing cash flow and return on equity of consumer-goods manufacturing firms in Nigeria.

Theoretical Foundation

The Life Cycle Theory of the Firm

Mueller (1972) proposed a formal theory that a firm has a relatively well-defined life cycle, which is fundamental to the firm life cycle theory of dividends. His main focus is on the agency problem within the firm, namely, the question of whether the managers of a firm maximize shareholder value or pursue growth for the firm's own sake and over-invest in assets contrary to shareholder interests. However, he clearly recognizes the implications of the analysis for dividend policy and discusses the empirical evidence on shareholder preference for dividends in this context. Thus, studying the life cycle theory of the firm as proposed by Mueller is meaningful. Drawing on the work of Knight (1921) and Schumpeter (1934), Mueller (1972) posits that a firm originates in an attempt to exploit an innovation involving a new product, process, or marketing or organizational technique. In its initial stages, the firm invests all available resources in developing the innovation and improving its profitability. The firm's growth is likely to be slow until it successfully sorts out "teething issues" and establishes a foothold in the market. Thereafter, the enterprise will grow rapidly, as it enters new markets and expands its customer base before any major competition can arise. The agency problem is either absent or not significant at these initial stages for three reasons. First, the firm faces so many opportunities for profitable investment that the pursuit of growth is also consistent with the pursuit of profits. Second, unable to meet all its financing needs through internal cash generation; the firm is forced to tap external capital markets and is therefore subject to market monitoring and discipline. Third, the entrepreneur or manager still retains a sufficiently high fraction of the firm's shares for his or her interests to be well aligned with those of the other suppliers of capital. After a while, competitors begin to enter the market, adopting and improving on the pioneering firm's innovations. As existing markets become saturated and new markets harder to find, the growth of the firm begins to slow down. To maintain growth and profitability, the firm needs to generate innovations. However, as the firm grows as an organization, its ability to process information deteriorates, and the risk-taking incentives of the average manager diminish. These factors place a limit on the ability of a large firm to grow through innovations. As a result, the firm eventually reaches a point at which it lacks profitable investment opportunities for the cash generated from its existing operations. At this mature stage, a shareholder-value-maximizing firm would begin distributing its earnings to its shareholders. Eventually, when all the existing operations of the firm are on the verge of becoming unprofitable, a value maximizing firm would liquidate all assets and distribute the proceeds to its shareholders. However, when the managers of a firm do not pursue strict value maximization but are rather interested in expanding the size of the firm to reap perks and other rewards, the distribution of earnings to shareholders will deviate from the optimal policy. In summary, under the life cycle theory proposed by Mueller (1972), the typical firm will display an S-shaped growth pattern, with a period of slow growth at start-up leading to a period of rapid growth and eventually to maturity and stagnation or slow growth.

The take home of the theory in a nutshell is the useful insight it provides in explaining why both positive and negative relationship is likely between investment activities cash flow and financial performance, by putting the life-cycle stage of the firm as a contextual factor in the relationship. According to the theory, at the beginning stage of a firm's life-cycle, cash outflow is likely to be more than inflows while profit is growing, thus implying a negative relationship. On the other hand, as the firm approaches its maturation, cash outflow is likely to be greater than cash inflows while profit is expected to be declining, hence suggesting a positive relationship.

Concept of Investing Activity Cash Flow

Investing activities are acquisition and disposal of long term assets and other investments not included as cash-equivalent investments. Cash flows from investing activities show the CFs associated with purchases and sales of non-current assets (Barth *et al*, 2010). Cash Flow from Investing Activities can also be seen as the section of a company's cash flow statement that displays how much money has been used in (or generated from) making investments during a specific time period. These are also those cash flows often received by a business out of general investments, or even following an acquisition. According to Epstein *et al* (2007) there is a need to be mindful that investment cash flows can also be used in reference to those cash flows that have hitherto been expended or received. For example, a capital expenditure may be regarded as a cash flow that has been expended through the purchase of a given tangible asset, such as property or building. In addition, an investment cash flow could also be used in reference to that flow of cash that has been used for purposes of purchasing a given form of investment, or even cash

that has been acquired as a benefit, following an investment sale. Investing activities include purchases of long-term assets (such as property, plant, and equipment) and could possibly give rise to negative net cash flow or positive net cash flow. Negative cash flow is often misinterpreted as being indicative of a company's poor performance. An increase in capital expenditures means the company is investing in future operations, though such capital expenditures give rise to cash outflow. Therefore, negative cash flow from investing activities might be due to significant amounts of cash being invested in the long-term health of the company, such as research and development. Typically, companies with a significant amount of capital expenditures are in a state of growth. Before analyzing the different types of positive and negative cash flows from investing activities, it's important to review where a company's investment activity falls within its financial statements. There are three core components of financial statements: the statement of financial position, income statement, and cash flow statement. The positional statement provides an overview of a company's assets, liabilities, and owner's equity as of a specific date. The income statement provides an overview of company revenues and expenses during a period. The cash flow statement bridges the gap between the income statement and the positional statement by showing how much cash is generated or spent on operating, investing, and financing activities for a specific period.

Cash flows from investing activities entail loans processing and collection, in addition to equity investment, debt dispensing, plant, property and equipment investment (Berry *et al*, 2005). As such, an inventory purchased by, for example, a jeweler shall normally appear as an operating use of cash on a cash flow statement. Nevertheless, a showcase payment that displays a jewelry inventory often gets reported as an investing activity. Investing activity is an important aspect of growth and capital. A change to property, plant, and equipment (PPE), a large line item on the positional statement, is considered an investing activity. When investors and analysts want to know how much a company spends on PPE, they can look for the sources and uses of funds in the investing section of the cash flow statement. Investing activities includes investments in securities or investments in the company itself, such as purchasing equipment.

Concept of Financial Performance

Performance is a concept used to assess the level at which an organization has succeeded in its line of business (Nwanyanwu, 2015). Different indices can be used to measure it at different times by different organizations, depending on the business' nature of activity. For instance, a hospital might use bed-occupancy rate while school might use number of pupils enrolled. But for profit-driven businesses however, one thing that is common to them all is profit. Therefore, the most suitable index of performance is profitability which is usually measured in financial terms. Frequently used measures of profitability include net profit, return on asset, return on equity current ratio, etc. (Dyckman *et al* 1998; Nwanyanwu, 2013). Accordingly, this study is hinged on the notion that sufficient cash inflow position of a company has the tendency to improve its performance in the context of profitability. Consequently, financial performance in this study is operationalized in terms of profitability.

Profitability is ability of a company to use its resources to generate revenues in excess of its expenses. In other words, this is a company's capability of generating profits from its operations. Profitability is often evaluated by means of profitability ratios, which are basically financial metrics expressing profits relative to revenue or financial position statements. There are three main ratios that can be used to measure the profitability of a business: gross profit margin, net profit margin or Return on Capital Employed. While the first two is revenue-based, the last of the three is calculated relative to the financial position statement. The Return on Capital Employed (ROCE) is aggregating the capital-base of the business, thus obscuring the informativeness of the firm's capital structure dynamics. To overcome this major shortfall, return on Assets (ROA) and Return on Equity (ROE) are used in empirical literature. The popularity of ROA and ROE does not mean they do not have their limitations. For instance, one major drawback with ROA is that the measurement varies heavily between different industries (Hellström & Inagambaev, 2012). For example, in industries where large investments in plants, property and equipment are dominant, ROA is generally low but it is high in industries with low investments in plants property and equipment. Likewise, ROE as a measure of profitability has its own weakness. For example, the measurement depends on the percentage of debt and equity that is used to finance the business. This suggests that firms that finance the majority of its business with debt are likely to have a higher ROE.

In addition, it is worth noting that, ROE varies somewhat between industries but not to the same extent as ROA (Hellström & Inagambaev, 2012). ROE and ROA are closely related to each other as both offer different perspectives of business profitability. In fact, since capital employed is equal to net asset, RONA is the same as ROCE. ROA is probably so popular because of its intuitive appeal resulting from DuPont analytical relevance of asset turnover interaction with profit margin. However, Pandey (2003) also demonstrates that ROCE and ROE are connected together through interaction with capital structure. The intricate link among ROCE, ROA and ROE is quite evident when one takes a closer look at the mathematical relation in measuring these ratios.

Measures of Financial Statement Credibility

Several scholars have various variables for measuring profitability which is an index of financial performance such as net profit, return on asset, return on equity, current ratio. This study adopted two profitability measures which are return on asset and return on equity.

Return on Asset

Return on asset shows how profitable a company's assets are in generating revenue. Return on assets (ROA) is a ratio that measures a company's earnings before interests and taxes (EBIT) relative to its total assets. It is defined as the ratio between net income and total average assets, or the amount of financial and operational income a company receives in a financial year as compared to the average of that company's total assets. The ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings. EBIT is used instead of net profit to keep the metric focused on operating earnings without the influence of tax or financing differences when compared to similar companies.

The greater a company's earnings in proportion to its assets (and the greater the coefficient from this calculation), the more effectively that company is said to be using its assets. The ROA, expressed as a percentage or decimal, provides insight into how much money is generated from each naira invested into the organization. This allows the organization to see the relationship between its resources and its income, and it can provide a point of comparison to determine if an organization is using its assets more or less effectively than it had previously. In circumstances where the company earns a new naira for each naira invested in it, the ROA is said to be one, or 100 percent.

Return on Equity

Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity because shareholders' equity is equal to a company's assets minus its debt, ROE could be thought of as the return on net assets.

In corporate finance, the return on equity (ROE) is a measure of the profitability of a business in relation to the equity, also known as *net assets* or *assets minus liabilities*. ROE is a measure of how well a company uses investments to generate earnings growth. Return on equity (ROE) is a ratio that provides investors with insight into how efficiently a company (or more specifically, its management team) is handling the resources that shareholders have contributed to it. In other words, it measures the profitability of a corporation in relation to stockholders' equity. The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing.

ROE is often used to compare a company to its competitors and the overall market. The formula is especially beneficial when comparing firms of the same industry since it tends to give accurate indications of which companies are operating with greater financial efficiency and for the evaluation of nearly any company with primarily tangible rather than intangible assets.

Investing Activity Cash flow and Financial Performance

Depending on life-cycle stage of the firm, the life-cycle theory of firms predicts either positive or negative association between net cash flow from investing activities and financial performance. Cash flow from investing activities represents both inflows and outflows of cash attributable to the assets portfolio selection activities of the firm. Profits can be generated by investing in such high quality assets to ensure long term profitability, (Olatunji & Tajudeen, 2014). Similarly, Chun et al. (2014) have also produced empirical evidence supporting the notion that investment expenditure directly affects profitability as it enables production of new products and development of new technologies. For instance, R&D investment can reduce costs through efficient production technology, which has a positive (+) impact on future performance. This is often associated with firms at the beginning stage of their life-cycle, which has arrays of profitable investment opportunities; hence free cash flow is zero as such a firm is characterized with more cash outflows than inflows. Therefore, since firms at beginning stage of their life-cycle often experience negative net cash flow from investing activities, the *a priori* expectation is a negative relationship between net cash flow from investing activities (nCFI) and financial performance.

On the other hand, firms at the twilight of their life-cycle often experience positive net cash flow from investing activities because for such firms, that is the time they are harvesting from prior investments. Harvesting from prior investments means that the firm is constantly receiving streams of cash inflows from investments with little or no cash outflows. This is quite different from the invigorated earnings generation capacity of the core operations due to prior capital expenditures. Therefore, for firms in the twilight of their life-cycle, a positive relationship is expected in associating net cash flow from investing activities with financial performance.

Methodology

This study examined the relationship between operating cash flow and financial performance listed consumer-goods manufacturing firms in Nigeria. The research design adopted for this study is ex post facto research design. The population of the study comprised thirteen (13) consumer goods firms in Nigeria. Giving rise to one hundred and four (104) data points which comprises of eight (8) year's annual report (2012 – 2018).

Results and Discussion of findings

Bivariate Analysis

Ho₁: There is no significant relationship between investing of cash flows and return on asset of listed consumer-goods manufacturing firms in Nigeria.

Ho₂: There is no significant relationship between investing of cash flows and return on equity of listed consumer-goods manufacturing firms in Nigeria.

Table 1: Correlation Result of Investing Activities Cash Flow and Financial Performance
Correlations

Correlation Probability Observations	ROA	ROE	CFO
ROA	1.000000 ----- 104		
ROE	0.536919 0.0000	1.000000 -----	
	1646		

	104	104	
CFO	0.020734	0.104467	1.000000
	0.8353	0.2936	-----
	104	104	104

In the relationship between cash flow from investing activities (*CFI*) and return on equity (*ROE*), weak positive relationship ($r = -0.1045$; $p\text{-value} = 0.2936 > 5\%$) were found. This implies that more net *CFI* gave rise to more rate of return on equity. However, this positive impact is insignificant as shown by the $p\text{-value}$ at 5% level of significance. Therefore, this result leads to the confirmation of hypotheses H_{02} , which states that “there is no significant relationship between investing activities cash flow and Return on equity of listed Nigerian consumer-goods manufacturing firms”. Though both hypotheses (i.e. H_{01} and H_{02}) failed the test of significance, it is important to note that there is convergence between *ROE* and *ROA* on the direction of relationship with cash flow from investing activities. This observation is important as it establishes uni-dimensionality in using *ROE* and *ROA* as proxy of financial performance

Multivariate Analysis of ROA Equation

The objective of this analysis is to examine the joint impact of the cash flow dimensions on Return on Asset (*ROA*). Specifically, we want to estimate the *ROA* response coefficients of cash flow from investing activities (*CFI*). Accordingly, a two-prong action plan is implemented. The first plan is testing for the significance of the estimated coefficient; secondly, establishing the direction of estimated coefficient. The parameter for gauging the significance of the estimated coefficients is the $p\text{-value}$. If the $p\text{-value}$ of the estimated coefficient is less than 0.05, then the coefficient is significant otherwise it is not significant. On the other hand, the basis of establishing the direction of the response is the sign of the coefficient. If the coefficient is negative (-) then it means *ROA* decreases for every unit increase of the variable associated with the coefficient. If the coefficient is positive, then it means *ROA* increases for every unit increase in the variable associated with the coefficient.

The equation for the multivariate analysis of *ROA* is as follows:

$$ROA = \beta_0 + \beta_1CFO + \beta_2CFI + \beta_3CFF + \beta_4TCP + U \quad \text{Eqn. (2a)}$$

The result is presented in table 2 as follows:

Table 2: Result on Regression Equation of ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFO	-0.395902	0.059116	-6.697081	0.0000
CFI	0.521945	0.068420	7.628566	0.0000
CFF	-23.92018	3.077997	-7.771347	0.0000
TCP	0.509094	0.066962	7.602702	0.0000
C	-0.629411	0.085442	-7.366549	0.0000
Effects Specification				

Cross-section fixed (dummy variables)

Weighted Statistics			
R-squared	0.768441	Mean dependent var	0.074956
Adjusted R-squared	0.725856	S.D. dependent var	0.082076
S.E. of regression	0.043180	Sum squared resid	0.162211
F-statistic	18.04467	Durbin-Watson stat	1.853013
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.675410	Mean dependent var	0.057286
Sum squared resid	0.211375	Durbin-Watson stat	1.934340

Based on the result from multivariate analyses from tables 2 since the probability value of the ROA response coefficient of CFI is less than 5% we reject the hypothesis: “There is no significant relationship between investing activities cash flow and return on assets of listed Nigerian consumer goods manufacturing companies”. Therefore, we conclude that there is a significant relationship between investing activities and return on assets of listed Nigerian consumer goods manufacturing companies.

Multivariate Analysis of ROE Equation

The purpose of this analysis is to evaluate the joint impact of the cash flow dimensions on Return on Equity (ROE). In precise terms, we seek to measure cash flow elasticity of ROE, with respect to cash flow from operating activities (CFO). To achieve this purpose therefore, a two-prong action plan is similarly carry out. The first line of action is testing for the significance of the estimated coefficient using 5% level of significance as threshold. The next focus is establishing the directional sign of the estimated coefficient. The basis for measuring the significance of the estimated coefficients is the p-value. If the p-value of the estimated coefficient is less than 0.05, then the coefficient is significant otherwise it is not significant. The multivariate equation of ROE is as expressed by equation as follows:

$$ROE = b_0 + b_1CFO + b_2CFI + b_3CFF + b_4TCP + e \quad \text{Eqn. (2b)}$$

where b_1, b_2, b_3 and b_4 are the ROE response coefficients.

Table 3: Result on Regression Equation of ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFO	-3.211062	0.921333	-3.485235	0.0008
CFI	3.829126	0.914271	4.188176	0.0001
CFF	-177.0182	30.14749	-5.871740	0.0000
TCP	2.442075	0.620739	3.934141	0.0002
C	-5.936128	0.723149	-8.208723	0.0000

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.725447	Mean dependent var	-2.502106
Adjusted R-squared	0.674954	S.D. dependent var	1.181383
S.E. of regression	0.866958	Sum squared resid	65.39059
F-statistic	14.36740	Durbin-Watson stat	1.567921
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.432826	Mean dependent var	-2.177589
Sum squared resid	80.65596	Durbin-Watson stat	1.587538

Similarly, with regards to the Hypothesis HO₂: There is no significant relationship between investing activities cash flow and return on equity of listed Nigeria consumer -goods manufacturing firms “since the probability value of the ROE response coefficient of CFI is less than 5% we reject the Hypothesis: therefore, we conclude that there is a significant relationship between investing activities cash flow and return on equity of listed Nigerian consumer goods manufacturing companies.

Conclusion and Recommendation

The study revealed that operating activity of cash flow has significant relationship with financial performance. Operating cash flow have a reasonably high financial performance explanatory capacity. Therefore, the concern about cash flow report being tainted with financial misreporting is unjustified. The study that firms should be mindful of their individual peculiarities with regards to the sensitivity of their profitability to liquidity in designing their trade credit policies. Finally, Corporate governance regulatory bodies such as the Nigerian Stock Exchange (NSE) and Securities and Exchange Commission should incentivize earnings retention as a means of ameliorating the negative impact of cash outflow on corporate profitability.

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