

An Investigation of The Usefulness of Cash Flows: The Effect of Firm Size

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Abstract

This paper investigates the association of stock prices and cash flows, using both the traditional cash flow definition and the SFAS 95 definition. The study finds that the traditional cash flow measure is more highly correlated with stock price changes for large firms than is the SFAS 95 measure and that neither definition of cash flow is significantly correlated with stock price changes for the small firm sample.

Introduction

Recent actions by the Financial Accounting Standards Board (FASB) have renewed interest in determining the usefulness of cash flow information. This paper addresses the following series of questions: (1) Is the capital market using cash flows or accrual earnings to value equity securities? (2) Does firm size affect the relationship between stock price and cash flows? Does firm size affect the relationship between stock price and accrual earnings? and (3) Does the way cash flows are measured affect the relationship between stock price and cash flows? The purpose of this research is to investigate the relationship between stock prices and competing definitions of cash flow as well as accrual earnings in an attempt to evaluate their usefulness in assessing a firm's performance. Additionally, this study examines the effect of firm size on the relationship between stock prices and the cash flow and accrual earnings measures.

Differences in Cash Flows and Earnings

Theory/Controversy

In general, the disciplines of accounting and finance agree that the relevant information in pricing entity securities is the future cash flows to the firm. In Statement of Financial Accounting Concepts (SFAC) No. 1, the FASB asserts that accrual accounting earnings provide a better indication of an enterprise's ability to generate favorable cash flows than does cash flow information. This perspective is contrasted with the viewpoint expressed in many finance texts which state that it is current cash flow information, not accounting earnings information, which is important to investors(1).

In addition to the disagreement regarding how best to estimate future cash flows (accrual earnings or cash flows), there is also disagreement regarding what cash flows are. In the past several years, articles on cash flow have appeared in various publications such as *Business-Week* and *Forbes*. These articles (e.g., by Lunzer (1986) and Laderman (1987) describe various kinds of cash flow definitions such as cash flow, free cash flow, and raider cash flow. In finance, the traditional definition of cash flow starts with earnings and adds back noncash charges such as amortization, depreciation, and depletion. This definition ignores accruals in the current assets (e.g., receivables and inventories) and current liabilities (i.e., payables). In fact this "cash flow" figure is the change in working capital (current assets less current liabilities) that resulted from the company's operations. Under the new FASB reporting requirements a true cash flow, the actual change in cash, is computed. The difference between the two definitions are the effects of the accrued items. This difference can be significant. For example, in 1985, Celanese had cash flow of \$332 million using the traditional cash flow definition and \$440 million using the FASB's definition Lunzer (1986).

Past Research

Past empirical research on the information content of cash flows versus accrual earnings is inconclusive. The research can be grouped into two categories: (1) studies which investigate differences among various cash flow measures and accrual earnings, and (2) studies which examine the use of cash flows and earnings in investors' decision models.

In the first category, Gombola and Ketz (1983) perform a factor analysis on financial ratios and find that cash flow ratios load on a factor distinct from other profitability ratios. Thus, they conclude that cash flow ratios contain information not captured by other profitability measures. Thode, Drtina, and Largay (1986) test the ability of other performance measures to serve as proxies for cash flow. They find that cash flow information is not easily inferred from earnings and is a distinct performance measure. Bowen, Burgstahler, and Daley (1986) find that the correlations between traditional cash flow measures (e.g., earnings plus depreciation) and alternative measures of cash flow that incorporate more extensive adjustments (e.g., earnings plus depreciation plus changes in current accruals) are low. Further, the correlations between alternative measures of cash flow and earnings are low while the correlations between traditional measures of cash flow and earnings are high. Kochanek and Norgaard (1988) illustrate that cash flows are very different from earnings for one company which subsequently went bankrupt. This study also examines the differences between two cash flow measures as well as their differences with accrual earnings.

Informativeness of Cash Flows Versus Earnings

Theory/Controversy

In addition to the preceding research investigating differences among various cash flow measures and accrual earnings, there is also an interest in determining their use in investors' decision models. Research has generally focused on what information is used to determine the market price of an equity security. The change in stock price is often used to indicate changes in investors' perceptions regarding the company's future cash flows. Modern financial theory contends that the price of a firm's stock is the present value of the future cash flows discounted at an appropriate interest rate. The FASB maintains that accrual earnings are more important than cash flows to capital market participants in determining prices of equity securities. In an effort to determine the relative importance of the cash flow and earnings measures, the association between the performance measures and stock prices are researched.

Past Research

In this second category, regarding the use of cash flow/earnings information in investors' decision models, the results are mixed. The following research provides evidence that cash flows are more informative than accrual earnings. Beaver, Griffin, and Landsman (1983) conclude that cash flow information may provide explanatory power above that provided by historical cost earnings. Wilson (1986) provides evidence that the cash and total accruals components of earnings have incremental information beyond that of earnings. Based on

stock price behavior around the release of annual reports, Wilson (1987) finds the cash and total accrual components of earnings have incremental information content beyond that of earnings. Ismail and Kim (1989) conclude that cash flow betas provide significant incremental explanatory power over that provided by the earnings beta in explaining the variability in market betas.

Some analyses result in inconclusive findings; cash flows are no more informative than earnings. Casey and Bartczak (1984) find that measures of operating cash flows are not better at predicting bankruptcy than are accrual-based measures. Bowen, Burgstahler, and Daley (1986) conclude that net income plus depreciation and amortization and working capital from operations appear to be better predictors of cash flow from operations than are cash flows. Rayburn (1986) reports significant association between abnormal returns and both operating cash flows and aggregate accruals. There is no difference in the market response to cash flows and current accruals; both are significant. Bowen, Burgstahler, and Daley (1987) find similar results. There is an association between unexpected security returns and unexpected earnings, after controlling for unexpected cash flows. Similarly, there is an association between unexpected returns and unexpected cash flows after controlling for unexpected earnings. Based on these studies, it appears that both accrual earnings and cash flows are important. However, neither performance measure dominates the other.

There are a number of authors that conclude accrual earnings are more informative and more useful than cash flows. Ball and Brown (1968) find stronger evidence of the ability of unexpected earnings to predict the signs of the stock return residuals than unexpected cash flows, as approximated by operating income. Beaver and Dukes (1972) similarly conclude there is a stronger correlation between abnormal returns and unexpected earnings than between abnormal returns and unexpected cash flows. Harmon (1984) finds that earnings variables are more closely associated with the market reaction to earnings announcements than are various funds flow variables (including cash). Greenberg, Johnson, and Ramesh (1986) conclude that current earnings are better predictors of future cash flows than are current cash flows. Bernard and Stober (1989) replicate and extend Wilson's 1987 study finding a larger price reaction to cash flows than to accruals. They are unable to conclude that Wilson's results hold for the overall period 1977-1984. Bernard and Stober (1989) also check for a firm size effect and are unable to detect one.

The decision models of investors which were investigated in the above research differ across studies. Most of the research involves the relationship between

earnings and market returns versus the relationship between cash flows and market returns. Changes in the stock price (i.e., returns) is the decision model investigated in this study. Other researchers have looked at cash flows/earnings as determinants of market risk, as predictors of future cash flows, as bankruptcy predictors, and in ratio analysis. This study investigates the differences in the relationships of stock price changes with cash flow variables and in the relationships of stock price changes with accrual earnings.

The Effect of Firm Size

The importance of firm size on financial statement disclosures has been of interest to researchers and regulatory bodies for a number of years. Both the FASB and the Securities and Exchange Commission (SEC) have at various times considered or required differential disclosure requirements based on firm size. An interesting paradox is that these groups have required less disclosure from small firms, on the basis of cost/benefit. Yet capital market research has shown that investors are more dependent on disclosures of small companies. Atiase, Bamber and Freeman (1988) point out that large firms are more closely watched by investors than are small firms. Atiase (1985) has shown that the amount of information available about a firm is a positive function of its size. The result is that the financial statements of small firms take on an increased importance in the setting of their stock prices. For example, Bamber (1986), in looking at volume reactions, has shown that earnings disclosures are more important in setting small firms' stock prices relative to large firms.

This study assesses the usefulness of cash flow disclosures for small firms relative to those of large firms. The results provide information regarding the value of cash flow data and of differential disclosure requirements.

Methodology

To test the association of stock prices and the variables of interest (traditional cash flows, FASB cash flows and accrual earnings - defined in Table 1), data is gathered from COMPACT Disclosure for 1987. Sales are used as the measure of firm size to obtain a sample of the largest and smallest firms available on Disclosure. Small firms are defined as companies with less than \$50 million in sales, while large firms have sales in excess of \$15 billion. Additional criteria for inclusion in the study are the following: December 31 year-end, listing on the New York Stock Exchange, and available data to compute all the variables of interest. These criteria result in a sample of 22 small firms and 34 large firms.

Table 1 shows the definitions of the variables. As noted, all of the variables are computed as percentage

changes from the previous year. Stock price data is obtained from the *Wall Street Journal* Year-End Review of Markets and Finance. The remaining data items are obtained from COMPACT Disclosure.

Table 1
Definition of Variables

Stock Price:	The percentage change in stock price from December 31, 1986, to December 31, 1987.
Accrual Earnings:	The percentage change from the previous year in reported income from operations.
Traditional Cash Flow:	The percentage change from the previous year in reported working capital from operations.
FASB Cash Flow:	The percentage change from the previous year in reported working capital from operations adjusted for changes in accruals (i.e., current assets, except cash, and current liabilities) as required by Statement of Financial Accounting Standards (SFAS) No. 95.

Spearman rank correlation coefficients are used to test the association of stock price with the variables of interest. This correlation coefficient is a nonparametric measure of association between two variables which requires that both variables can be ranked. Table 2 shows the computed coefficients for this study.

Results

Q1: Do Investors Use Cash Flows or Earnings?

For the total sample, accrual earnings are significantly correlated with the stock price ($r_t = .2822$). However, the traditional cash flow measure has a slightly greater association ($r_t = .2877$) with the price of the stock. This result supports prior research finding both earnings and cash flows (defined as working capital from operations) to be significantly correlated with stock returns. The "pure" or FASB cash flow measure is not significantly correlated ($r_t = .0894$) with the stock price. Overall, investors are using accrual earnings (or working capital from operations, the traditional cash flow measure) to value equity securities. Cash flows as required by FASB Statement No. 95 currently are not used by investors.

The results and conclusions for the sample of large firms are similar to those of the overall sample. Both accrual earnings and the traditional (finance) cash flow measure are significantly associated with the stock price.

Suggestions for Future Research

As in any experimental research, the findings are dependent on the way the theoretical constructs are related to the empirical measures used. Therefore, different measurements of the constructs of interest (e.g., cash flow, accrual earnings, firm size, and market reaction) would be useful. Firm performance is measured using the annual percentage change in the stock price. Other measures which may prove interesting could include bankruptcy/no bankruptcy, changes in net worth, changes in financial ratios and abnormal returns. Firm size is measured by annual sales in this paper. There are a variety of ways to measure firm size, including market value of the equity and total assets.

Another avenue which might provide useful insights would be to examine the relationships over longer time periods and over a larger sample. Examining the relationships between cash flows, accrual earnings, and stock performance over time could be particularly revealing for this study. If the capital markets require time to become familiar with the SFAS cash flow measure, it is likely that there will be a strong relationship between the new measure and market performance in the future.

Finally, using a different research method, analyzing what led the FASB to adopt its definition of cash flow could provide additional insights. 🐼

Footnotes

1. For example, Thomas E. Copeland and J. Fred Weston, *Financial Theory and Corporate Policy* (Reading, Mass.: Addison-Wesley Publishing Company, Third Edition (1988). pp. 362-363

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