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## New Investing and Financing Activity Ratios from the Statement of Cash Flows Enhance Traditional Ratio Analysis in Assessing Future Cash Flows

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**NEW INVESTING AND FINANCING ACTIVITY RATIOS FROM THE  
STATEMENT OF CASH FLOWS ENHANCE TRADITIONAL RATIO  
ANALYSIS IN ASSESSING FUTURE CASH FLOWS**

Thomas L. Zeller  
Raymond E. Figlewicz

*In November 1987 the Financial Accounting Standards Board replaced the Statement of Changes in Financial Position with the Statement of Cash Flows. The intent is to provide better information to decision makers when the new statement is used in conjunction with the other financial statements. When the new investing and financing data from the Statement of Cash Flows are merged with data from the other financial statements, new ratios may be developed to provide a more comprehensive analysis of capital structure. This article suggests a refinement in the format of the Statement of Cash Flows and provides a framework for new investing and financing ratios to enhance financial analysis.*

The utility of financial statement ratio analysis is well-documented in the literature as far back as the 1930s. A large number of ratios have typically been employed in financial analysis, but ratios generally had not been successfully drawn from the now obsolete Statement of Changes in Financial Position (SCFP). Now that the Financial Accounting Standards Board (FASB) has replaced the SCFP with a Statement of Cash Flows (SCF) (FASB, 1987), a structured format exists to derive new investing and financing ratios to enhance traditional ratio analysis.

Accrual accounting does not measure cash flows, and a lack of cash

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flow data has caused problems for investors, analysts, and others in assessing a firm's liquidity, financial flexibility, and operating capability (Drtina and Largay, 1985; Heath, 1978; Nordgren, 1986; Walter, 1957). Gombola and Ketz (1983) empirically determined through factor analysis that cash based ratios load on a unique factor. The Financial Executives Institute (FEI) has encouraged companies to voluntarily report cash flows since the early 1980s. Thus, the need for consistent, reliable cash flow information significantly contributed to the adoption of the SCF. The SCF complements accrual based measures and allows for a more complete assessment of the financial condition of an enterprise, especially through specific measures of cash flows related to investing and financing activities.

The dynamics of cash flows are captured on the SCF in three categories: (1) cash flows from operating activities, (2) cash flows from investing activities, and (3) cash flows from financing activities. The *operating activity section* of the SCF includes cash flows related to producing and selling the entity's product or service. The cycle of these cash flows starts with payments for merchandise, material, etc., and ends with collection of the proceeds from sales within the reporting period. The *investing activity section* of the SCF includes cash flow information from the sale and purchase of operating assets, debt and equity security investments, and other financial investments forming the foundation of operations. The *financing activity section* of the SCF includes cash flow information from the issuance and settlement of, or reacquisition of, a firm's own debt and equity securities. The specific focus on cash avoids the use of spurious surrogates for cash flows in analysis and allows for greater comparability within and among industries. Overall, the three major sections of the SCF show the relationships among, and the cash flows related to, the key activities of a business enterprise.

#### *A Refinement in the Presentation of Cash Flows from Investing and Financing Activities*

Guidance related to the detailed presentation of investing and financing information in the SCF is not provided by the FASB. Statement of Financial Accounting Standards No. 95 only requires a detailed listing of each activity, summed to net cash flows. Thus, statement preparers may group essential investing and financing activities according to individual needs or preferences. By simply employing an ordered grouping of activities within the investing and financing sections, the readability and comparability of the SCF can be improved.

The investing and financing sections may each be subdivided into two categories. The investing section may be segregated into (1) cash flows from property, plant, and equipment (operating) transactions and (2) cash

flows from other (nonoperating) investing activities. The financing section may be segregated into (1) cash flows from debt transactions and (2) cash flows from equity transactions. An example appears in Exhibit #1. Reporting noncash activities should follow the same pattern as the cash activities.

This type of format is an improvement over a simple listing of transactions affecting cash within respective sections because an analyst can more easily identify net changes in asset, liability, and equity levels in association with the cash flows for these events. The impacts of such changes can be analyzed in light of assessing their effects on future cash flows. Additionally, the refined reporting format improves both intracompany and intercompany comparability and enables a more complete comparison of firms and industries. The following section demonstrates how the refined format may be applied in terms of new investing and financing ratios to complement traditional financial ratio analysis.

### Exhibit 1

#### Recommended Refinement

Investing activity		
Property, plant, and equipment activity		
From sale of property, plant, and equipment	xxx	
To purchase property, plant, and equipment	<u>xxx</u>	
Net property, plant, and equipment activity	xxx	
Nonoperating Asset Activity		
From sale of debt or equity security invests	xxx	
From collection of principal on loans	xxx	
To purchase debt or equity security invests	xxx	
To make loans to another entity	<u>xxx</u>	
Net Nonoperating Asset Activity	<u>xxx</u>	
Net Investing cash inflows (outflows)		xxxx
Financing activity		
Debt activity		
From issuance of debt (bonds and notes)	xxx	
To redeem short-term or long-term debt	<u>xxx</u>	
Net debt activity	xxx	
Equity activity		
From sale of equity securities	xxx	
To shareholders as dividends	<u>xxx</u>	
Net equity activity	<u>xxx</u>	
Net financing cash inflows (outflows)		xxxx

*New Investing and Financing Ratios from the Statement of Cash Flows*

Even though several useful financial ratios can be derived from the SCF, only four are offered for the sake of managing the discussion. Further, since the FASB does not provide guidance as to the explicit presentation of investing and financing activities in the SCF, different approaches are likely to evolve in practice. The ratios explored herein flow from the previously recommended format refinement. The new investing and financing activity ratios are initially presented in general terms. The general discussion is followed by analyses under various scenarios depicting the ratios' substance and their complementary nature relative to traditional analysis.

**Investing Activity Ratios**

Operating investments and financial (nonoperating) investments are necessary to produce future cash flows. Johnson and Kaplan [1987, p. 224] state that:

*The costs associated with manufacturing are shifting away from direct labor and from mostly variable to mostly fixed costs, more of a period's cash expenditures now benefit future periods rather than just the current period.*

Essentially, this statement suggests that measures of investing activity may provide information useful for assessing future cash flows.

Traditional ratios which are expected to provide information about asset management and potential future returns to investors, such as asset turnover or return on assets (ROA), may not necessarily depict the full picture of reinvestment required to assess future cash flows. Asset turnover (sales divided by assets) only provides information about whether the firm is generating appropriate volume to support the asset investment. Such information does not necessarily address whether investments in assets are sufficient to support future cash flow generation. Even if the asset turnover ratio appears good, future cash flow generation may be questionable because sales revenue could be inflated by managing revenue recognition or by poor credit screening. ROA (income divided by assets) is simply a measure of profitability providing little information about the future cash flow of the firm. Therefore, ROA may not address the appropriateness of current investing activity to support future cash flows. Essentially, both asset turnover and ROA may be maintained at acceptable levels through income smoothing and other techniques.

Ratios (1) and (2) are new measures of investing activity available from the SCF.

## OPERATING INVESTING ACTIVITY RATIO (1)

$$\frac{\text{net capital investments}^*}{\text{average total assets}}$$

## NONOPERATING INVESTING ACTIVITY RATIO (2)

$$\frac{\text{net financial investments}^*}{\text{average total assets}}$$

*\*Net operating and nonoperating investing activities include both the net cash flows from the activities plus any reported changes in the supplemental schedule of noncash investing activities. Care must be taken in determining the numerator in that net cash outflows and noncash acquisitions are treated as positive in sign while net cash inflows and noncash disposals are treated as negative in sign to represent making investments and disposing of investments in assets, respectively.*

Two major characteristics of an enterprise can be revealed and analyzed within the context of the investing ratios. First, relative measures of the investing cash flow activities (i.e., a trend analysis of the ratios) may provide insight into the basis for generating future cash flows from operations. Second, relative measures of the investing cash flow activities may provide insight into the reasonableness and feasibility of a firm's corporate strategy.

In regard to generating future cash flows from operations, asset turnover and ROA may appear acceptable. Nevertheless, it is possible that the asset base for generating future cash flows may be eroding. Ratios (1) and (2) can provide information about the support base for future cash flows from operations that may not be readily apparent from traditional ratios. The reasoning is that both operating and nonoperating financial investments support the asset base upon which future operating cash flows depend. Trends in ratios (1) and (2) capture reinvesting patterns through current investing cash inflows or outflows relative to an increasing or decreasing average total asset base. If reinvesting does not occur, an analyst may question the basis for future cash flows. The failure of management to expand or replace operating assets may reduce the potential for long-term operating cash flows due to an inadequate base of operating assets. This point will be exemplified in the scenarios which follow the discussion concerning the importance of investing cash activity ratios in light of their information content relative to corporate strategy.

In regard to examining the feasibility and reasonableness of a firm's corporate strategy it is also possible that asset turnover and ROA may appear reasonable. Nevertheless, the strategy may be inappropriate in

light of the environment and other conditions. Measures of investing activity cash flow may make it possible to discern whether an expansion, stabilization, or contraction strategy is in place and whether cash flows to support such strategies are adequate. Information from other sources naturally enhances this type of analysis (e.g., traditional and new SCF profitability ratios and management's discussion and analysis in the annual report). However, since the focus of this paper is on new investing and financing ratios, analysis of the firm's strategies and their feasibility will be confined to the ratios offered herein.

The following scenarios illustrate and expand the assertions about the new investing ratios. Figure #1a depicts a constant rate of fixed asset expansion through the trend of the operating investing activity ratio along with stable nonoperating investing activity indicated by a constant nonoperating investing activity ratio. This information, when coupled with the traditional ROA ratio, provides information about management's commitment to the long-term success of the firm. If corporate resources are committed to growth, revitalization, and replacement of the necessary plant and equipment, then profitability should be stable or increase over the long term even though short-run decreases might show up before increased depreciation charges are offset by other efficiencies. However, if operating cash flows and/or profitability of the firm do not improve along with increasing investment activity, then there should be concern about management's ability to effectively control the resources of the firm because the investing activity is not generating returns. This is precisely the situation of W.T. Grant from 1966 to 1972. Traditional ratios analysis did not uncover poor management decisions and impending failure. If one were to graph Grant's ratios during this time period, the result would appear much like Figure #1a. Therefore, the new ratios help to provide a clearer picture of the effects of management's decisions on future cash flow generation.

Figure #1b provides another scenario in which an inconsistency exists between the signals provided by the traditional ROA measure and the investing activity pattern provided by the new ratios. Figure #1b indicates a constant negative rate of operating investing activity and a stable nonoperating investing activity pattern. Further, it portrays a steadily improving profitability picture through a constantly increasing ROA, a notion consistent with the concept of income smoothing. Such a combination may represent a short term perspective by management and may signal a questionable future. Essentially the investing pattern may indicate that the firm is being 'mined.' That is, resources are being consumed and not being replaced to support future operations. ROA appears sound at present, but the future is nevertheless tenuous because the assets necessary to generate returns are disappearing. Thus, future operating cash flows will dry up. Again, the information provided by

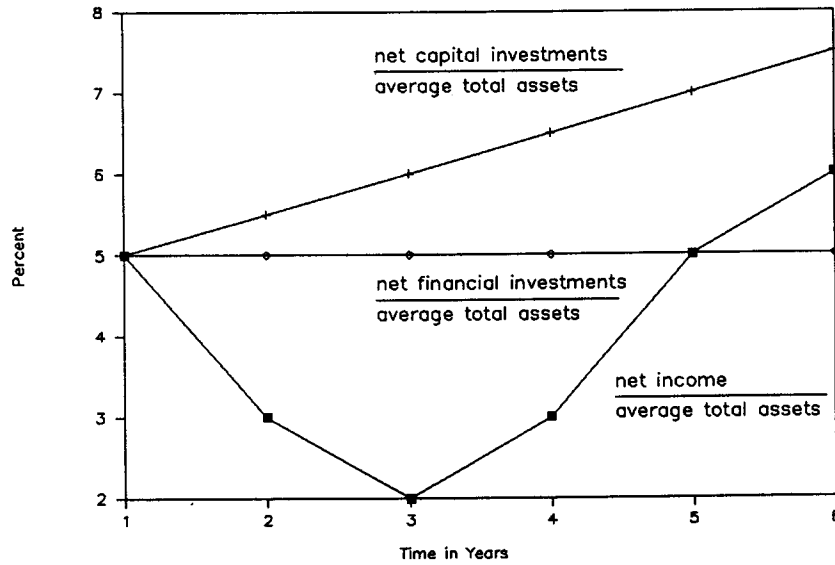


FIGURE 1a

Investing Activity Ratios

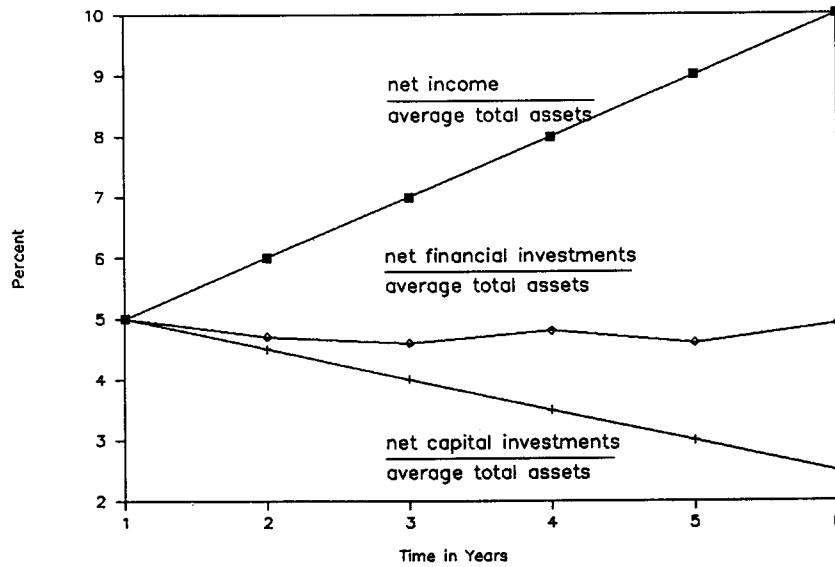


FIGURE 1b

Investing Activity Ratios



examining the new investing activity ratios allows a more complete financial analysis.

### Financial Activity Ratios

Relative to financing activity, creditors and investors evaluate risk and desired rates of return, in part, by the extent to which debt and equity are used to finance the business enterprise. For example, as the proportion of debt to debt plus equity increases, both the risk to creditors and the rate of return demanded by creditors increases. As the proportion of debt to debt plus equity decreases, both the risk to owners and the rate of return desired by owners increases. Ratios (3) and (4) measure financing activity.

NET DEBT ACTIVITY RATIO (3)

$$\frac{\text{net debt activity*}}{\text{total liabilities and equity}}$$

NET EQUITY ACTIVITY RATIO (4)

$$\frac{\text{net equity activity*}}{\text{total liabilities and equity}}$$

*\*Net debt and equity activities include both the net cash flows from the activities plus any reported changes in net debt or net equity reported in the supplemental schedule of noncash financing activities.*

These ratios supplement the traditional debt to debt plus equity ratio. Analyzing the trends in the rates of debt and equity activity ratios shed light on the nature of changes in financial structure affecting the risk positions of creditors and owners. The following scenarios illustrate this point. Figure #2a indicates an interesting trend in the traditional debt to debt plus equity ratio. Obviously, creditors' risks are increasing. This increase can result from either increasing debt, decreasing equity, or some combination of the two. Ratios (3) and (4) provide more detailed information than the traditional debt ratio concerning the changing risk positions because these ratios explicitly exhibit why the debt ratio is changing while it may remain within acceptable limits. The scenario in Figure #2a further depicts an increasing debt activity ratio and a decreasing equity activity ratio.

When two forces are driving a change in the debt to debt plus equity measure, it is essential to capture the critical message of the change. In the scenario presented, the positive increasing rate of debt activity might indicate that the firm is supporting its operations through increased borrowing. Second, the constant negative rate of equity activity might in-

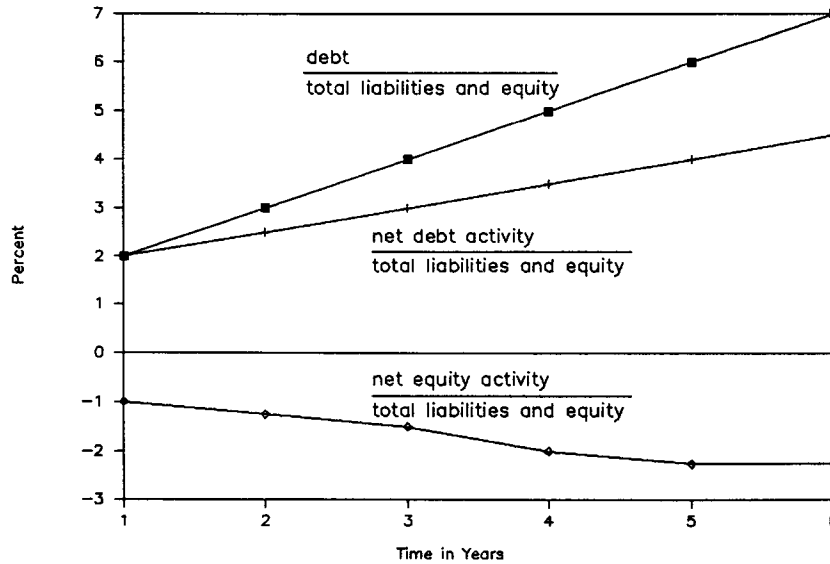
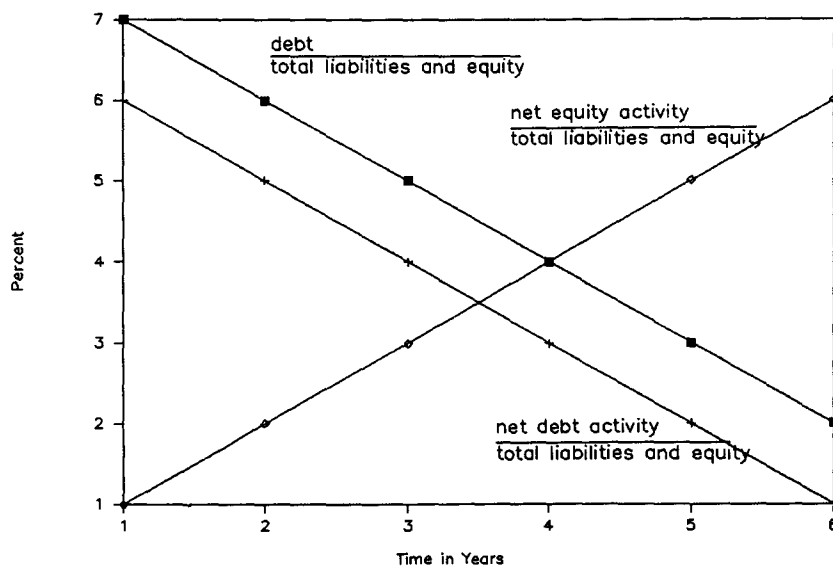


FIGURE 2a

## Financing Activity Ratios

dicating that either high returns on investment or returns of investment are being provided to owners—possibly through the increased borrowings. This might indicate that the trend in the change in the risk structure is more serious to creditors than is perhaps indicated by a changing, but still acceptable, traditional debt to debt to equity measure. Thus, the new financing ratios may provide additional insights beyond those provided by traditional ratio analysis. This, like the scenario in Figure #1a, is the real position of W.T. Grant between 1966 and 1972. Once again, the utility of the new ratios is born out, at least anecdotally.

As a further illustration, a different scenario is demonstrated in Figure #2b. Figure #2b indicates a decreasing trend in the traditional debt to debt plus equity ratio. Obviously, owners' risks are increasing because of either decreasing debt, increasing equity, or some combination of the two. This scenario further assumes a decreasing debt activity ratio and an increasing equity activity ratio. Under such conditions questions may be raised about management's strategy. For example, the negative decreasing rate of debt activity may indicate management's inability to take advantage of the tax savings offered by using debt versus equity financing. Such a position may be dictated by a violation of a debt covenant. Further, the information contained in these measures may indicate a disproportionate use of equity, depicting the inability of management to properly diversify the risk of the firm between creditors and investors.



**FIGURE 2b**

#### Financing Activity Ratios

Again, the new ratios provide additional insight that might not be indicated by traditional ratios.

Other combinations of debt activity and equity activity are possible and would require similar analysis. Overall, however, creditors and investors can determine not only shifts in the risk of a loan or the potential rate of return on an investment, but also insights into, or questions about, the forces behind changing conditions. Hence, the new financing ratios indicate not only a change in the financial structure of the business enterprise, as do traditional ratios, but also provide insight into the forces behind the change which may be critical issues in investment decisions.

#### SUMMARY AND CONCLUSIONS

Prior research and current trends in the business environment indicate a need for cash flow information. The accounting profession has responded by making consistent, reliable cash flow information readily available in the Statement of Cash Flows. From this statement new investing and financing ratios, which open the door to deeper analysis of a business enterprise, have been provided and analyzed. Such ratios enhance financial analysis. The ratios provide a means to enhance predicting future cash flows through a more thorough examination of the investing and financing activities which have significant impacts on the future

cash flows of a business enterprise. Ratios from the Statement of Cash Flows relating to profitability and liquidity can also be formulated and analyzed to enhance traditional analysis. The end result is a more in-depth understanding of the business enterprise. Conceivably, the newly formulated ratios will serve as common tools to the financial analyst when the full potential of the Statement of Cash Flows is realized.

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