

Cash flow ratios – Investment Basics XXVIII

1. INTRODUCTION

The objective of a statement of cash flow information is to provide users of financial statements with information concerning the source and use of all financial resources during a period: in particular, details of cash generated or utilized by operating activities, investing activities and financing activities. In South Africa, Statement of Generally Accepted Accounting Practice: Cash Flow Information (hereafter referred to as AC 118) was issued in July 1988. The effective date for implementation of AC 118 was a period commencing on or after 1 October 1988.

Financial statement ratios have been useful in financial analysis for a number of decades, and the techniques of traditional ratio analysis are well founded in the literature. Much of the financial analysis was based on accounting performance through profitability measures (eg. net income to sales, return on assets, return on equity, etc.). However, such ratios all suffer from the basic limitations of accrual based accounting.

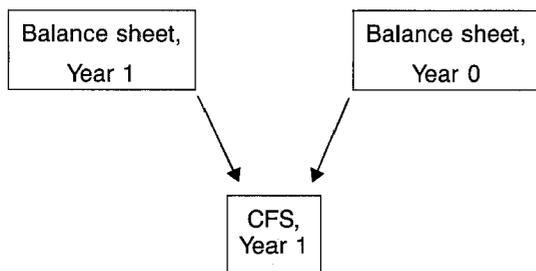
The concept of cash based performance ratios is not new. Prior to the publication of Cash Flow Statements (CFS), many surrogates for cash flow from operations were used. Such examples are:

- net income after taxation plus depreciation;
- net income after taxation plus depreciation plus deferred taxation;
- net income plus depreciation plus/minus working capital changes, etc.

CFS offers new/complementary ratios to measure a firm's performance. Cash flows from operations are now defined in a more standardised format.

2. CONCEPTUAL RELATIONSHIPS

Conceptually a CFS is the difference between two balance sheets, i.e. changes in assets, liabilities and equity.



The CFS is divided into three activities:

- Cash from operating activities
- Cash effects of investing activities
- Cash effects of financing activities

Investing activities are those activities relating to the acquisition and disposal of fixed assets, subsidiaries and investments.

Financing activities are those activities which result in changes in debt and capital funding.

Operating activities include all transactions and other events that are not investing and financing activities. Cash flows from operating activities are generally the cash effects of transactions and other events that enter into the determination of income.

Cash for the purpose of the CFS, is cash at bank and on hand and cash equivalents, such as money market instruments.

In broad terms the above three activities can be linked to an income statement and the two sides of a balance sheet:

Operating activities: Income statement plus/minus working capital changes (excluding cash, short term loans and overdraft).

Investing activities: Asset side of balance sheet (excluding current assets).

Financing activities: Equity and liability side of balance sheet, excluding three current liability items: creditors, taxation and dividends.

3. FORMAT OF A CASH FLOW STATEMENT (CFS)

A CFS is usually of the following format (see Table A: a modified version of Barlow Rand's 1992 CFS):

**TABLE A
FORMAT OF A CASH FLOW STATEMENT**

OPERATING ACTIVITIES:		
Cash generated by operations (CF01)		4 036
Changes in non-cash components of working capital:		
Stock	(436)	
Debtors	(594)	
Creditors	491	(539)
Cash generated by operating activities (CF02)		3 497
Finance cost		(550)
Taxation paid		(657)
Cash available from operating activities (CF03)		2 290
Dividends paid		(461)
Cash retained from operating activities (CF04)		1 829
INVESTING ACTIVITIES:		
Replacement of fixed assets	(741)	
Expansion capital expenditure	(1 098)	
Proceeds on disposal of fixed assets and investments	1 827	
Other assets acquired	(1 122)	(1 134)
Cash retained after investing activities (CF05)		695
FINANCING ACTIVITIES:		
Long-term liabilities (net)	191	
Short-term loans repaid	(526)	
Proceeds of ordinary share issue	243	(92)
Cash available after financing activities (CF06)		603
Utilized to increase cash balance		603
		0

A study of the above will reveal that the items appearing between CF01 to CF04 are all income statement items with the exception of the changes in non-cash components of work

ing capital (see 539 above). CF03 could well be regarded as the equivalent of net income after taxation after eliminating the impact of accrual accounting. CF04 could be regarded as the equivalent of net income after dividends i.e. net income for the year retained. Investing activities entail movements in fixed and other assets. Financing activities explain the movement in borrowed capital: both long and short, as well as ordinary equity issues and preference share capital issues and redemptions.

The subtotals (CF01 to CF06) are all calculated on a cumulative total basis in the order of operating, investing and financing activities.

4. FRAMEWORK FOR RATIOS

While cash flows from investing activities and from financing activities are important components, the most useful figure is likely to be cash from operations. However, operating activities are broken up into four subtotals CF01 to CF04. In our opinion the best measure to consider, is most probably CF03 which is the cash available (before dividends) from operating activities. CF03 is probably the closest cash flow concept available to the traditional net income after taxation under accrual based accounting.

Cash flow ratios may be discussed from the point of view of:
 Cash flow returns
 Cash flow coverage
 Capital expenditure cash flow ratios
 Financing cash flow ratios

Examples of the above cash flow ratios, and where applicable, comparable traditional ratios are given in Table B.

**TABLE B
 EXAMPLES OF CASH FLOW RATIOS (AND WHERE APPLICABLE, COMPARABLE TRADITIONAL RATIOS)**

CASH FLOW RATIOS		TRADITIONAL RATIOS
(a) Cash flow returns		
(i)	Operating cash flow/Sales = $\frac{CF03}{Sales}$	Net profit after taxation/Sales = $\frac{PAT}{Sales}$
(ii)	Operating cash flow/Assets = $\frac{CF02}{Assets}$	Operating income/Assets = $\frac{EBIT}{Assets}$
(iii)	Operating cash flow/Assets = $\frac{CF03}{Assets}$	Return on assets (ROA) = $\frac{PAT}{Assets}$
(iv)	Operating cash flow/Equity = $\frac{CF03 - PD - MD}{Equity}$	Return on equity (ROE) = $\frac{PAT - PD - MI}{Equity}$
(v)	Operating cash flow per share = $\frac{CF03 - PD - MD}{Number\ of\ ordinary\ shares}$	Earnings per share (EPS) = $\frac{PAT - PD - MI}{Number\ of\ ordinary\ shares}$
(b) Cash flow coverage		
(vi)	Interest cover = $\frac{CF02}{Interest\ paid}$	Interest cover = $\frac{EBIT}{Interest\ paid}$
(vii)	Dividend cover = $\frac{CF03 - PD - MD}{Ordinary\ dividends}$	Dividend cover = $\frac{PAT - PD - MI}{Ordinary\ dividends}$

TABLE B (CONTINUED)

CASH FLOW RATIOS	
(c) Capital expenditure cash flow ratios	
(viii)	Acquisition of fixed assets = $\frac{CF04}{Gross\ fixed\ assets\ purchased\ or\ CF04 + proceeds\ of\ fixed\ assets\ sold}$ Gross fixed assets purchased or CF04 Net fixed assets purchased
(ix)	Acquisition of fixed assets and subsidiaries = $\frac{CF04}{Gross\ fixed\ assets + subsidiaries\ acquired}$
(d) Financing cash flow ratios	
(x)	Debt coverage = $\frac{CF03}{Total\ debt}$
(xi)	Current liability coverage = $\frac{CF03}{Current\ liabilities}$
(xii)	Current portion of long-term debt coverage = $\frac{CF03}{Current\ portion\ of\ long-term\ debt}$

Abbreviations: PAT = Net income after taxation
 EBIT = Earnings before interest and taxation
 PD = Preference dividends
 MD = Dividends paid by subsidiaries to minority shareholders
 MI = Minority interest in income of subsidiaries

(a) Cash flow returns

The closest surrogate for net income after taxation will be CF03. Instead of using net income after taxation, CF03 can be used as the numerator in a number of ratios. These ratios can then be used in addition to the traditional accrual based ratios.

- (i) Operating cash flows (CF03)/sales will indicate the cash flow return to sales.
- (ii) Operating cash flow to assets could be compared to operating income to assets.
- (iii) Operating cash flow to assets (based upon CF03) could be compared to ROA.
- (iv) Operating cash flow to equity compared to ROE would give a shareholder a very good idea of the impact of accrual accounting on the return on his investment.
- (v) Operating cash flow per share can be used as an alternative to EPS.

(b) Cash flow coverage

- (vi) This ratio should be a better measure than the traditional interest cover to indicate risk of default on interest payments, because the ratio represent a cash flow figure rather than an accrual based figure.
- (vii) This ratio will supplement dividend cover. The difference between the cash flow coverage of dividends and ordinary dividend cover would indicate the impact of accrual based accounting.

(c) Capital expenditure cash flow ratios

The ratios (viii) and (ix) show the company's ability to meet its capital expenditure out of operating cash flows. The capital expenditure could include replacement of fixed assets as well as expansion of fixed assets. A high percentage could be an indication that the company is not using borrowed money to a large extent when acquiring fixed assets, and *vice versa*.

(d) Financing cash flow ratios

Measures of liquidity and coverage are of prime interest to creditors. Creditors are concerned with the firm's ability to meet the required interest and principal repayments. Cash flow coverage of interest has been discussed under b(vi) above.

The ratios (x) to (xii) are indicators of the time it will take for the present CF03 to repay total debt, current liabilities and the current portion of long-term debt. As such it would be a good indicator of the potential risk of default on capital repayments.

CF03/current liabilities could also be used as an alternative to the current ratio (all things being equal). A ratio less than

one could indicate critical current needs, while a ratio in excess of one could indicate a healthy liquidity activity. This ratio is quite often quoted as a key indicator when predicting bankruptcy. A downward trend may indeed be a sign of a possible future disaster.

5. CONCLUSION

The incorporation of cash flow ratios into the analysis process has been rather slow and is very much overdue. Current literature has not provided an abundance of different ratios to be used. Companies should be encouraged to publish those cash flow ratios which they regard as suitable for their circumstances. Such ratios should preferably be included in a five or ten-year statistical summary. Ratios in isolation are of little value. By studying ratios over a longer period, a reader should be able to form an idea as to different norms for different companies and/or industries. If cash flow ratios could be calculated over a longer period, one might even be able to assess the influence of cash flows on share prices.