

## THE BASICS OF CASH FLOW ANALYSIS IN THE STOCK SELECTION PROCESS

By John Bajkowski

Cash generation is "king" for many investors selecting stocks. Earnings, dividends, and asset values may be important factors, but it is ultimately a company's ability to generate cash that fuels the growth in these factors. Strong cash flow allows a company to increase dividends, develop new products, enter new markets, pay off liabilities, buy back shares, and even become an acquisition target.

Earnings and earnings multiples dominate standard measures of firm performance and stock price valuation. However, slight accounting differences make it difficult to track earnings over time or between firms. Actual cash flow is free from many of these problems of comparability across firms and consistency over time. This article explores the basics of cash flow analysis and the implementation of a basic cash flow screen.

### TRADITIONAL CASH FLOW MEASURES

Cash flow has traditionally been calculated by adding non-cash expenses back to earnings after taxes and subtracting dividend payments. Non-cash expenses such as depreciation, amortization, and depletion are taxable expenses that appear on the income statement but require no cash outlays. They represent the accountant's attempt to measure the reduction of the book value of assets as the assets are depleted. While dividends are a discretionary item, they are a real cash outlay that is not tax deductible and is not reflected in earnings. Subtracting dividends and adding back non-cash expenses to earnings provides an estimate of cash flow.

This widely used cash flow estimate has many weaknesses that arise out of the use of accrual accounting for the calculation of the income statement. Accrual accounting attempts to match expenses to revenues when the revenues can be expected to be recognized. For example, cash used to build up inventory will not be reflected as an expense on the income statement until the inventory is sold. But even the recognition of this inventory cost may vary from firm to firm if one company uses a last in, first out (LIFO) method to measure the cost of inventory sold while another firm uses a first in, first out (FIFO) method. Higher sales may not translate into higher cash flow if accounts receivable are allowed to grow faster than sales. Prepaid expenses such as income taxes and software development costs may not flow through the income statement when the costs are incurred. On the other hand, much like a personal checkbook, cash accounting tracks cash inflows and outflows directly when they actually occur.

Accrual accounting introduces many interpretations and estimates by management into the financial statements. Decisions regarding the capitalization of expenses, the recognition of revenue, the creation of reserves against losses, and write off of assets are examples of just a few of the factors that may vary from firm to firm. Many of these issues are factors that relate to the "quality" of a firm's earnings. Since the traditional cash flow estimate is tied directly to earnings with few adjustments, it represents a weak estimate of the firm's actual cash flow.

### STATEMENT OF CASH FLOW

Fortunately, companies have been required to provide a statement of cash flow since 1987. The purpose of the statement is to disclose information about the events that affected cash during an accounting period. The statement looks at the changes in the levels of cash directly, eliminating many of the weaknesses with the traditional estimate of cash flow.

The statement divides company uses and sources of cash into three primary segments--operating, investing, and financing cash flows.

The operating cash flow segment is designed to measure a company's ability to generate cash from day-to-day operations as it provides goods and services to its customers. It considers factors such as cash from the collection of accounts receivable, the cash incurred to produce any goods or services, payments made to suppliers, labor costs, taxes, and interest payments. A positive cash flow from operations implies that a firm was able to generate enough cash from continuing operations without the need for additional funds. A negative cash flow from operations indicates that additional cash inflows were required for day-to-day operations of the firm.

The investing segment of the cash flow statement attempts to capture the company's investment in the long-term capital of the firm. Factors such as purchases of property, plant, and equipment; investment or sale of marketable securities; and investments or divestitures in unconsolidated subsidiaries can be recorded in this segment. Negative cash flow from investing activities indicates that the company made additional long-term investments in the company's long-term assets or outside investments. A positive cash flow from investing activities indicates a divestiture or sale of the long-term assets of the firm.

The financial segment of the cash flow statement examines how the company finances its endeavors and how it rewards its shareholders through dividend payments. Factors such as cash received from the issuance of new shares of stock or debt, payment of dividends to stockholders, and the cash used to repurchase stocks to retire debt are summarized by this segment. Note that interest payments are considered part of normal operational expenses and are factored into the operation segment, not the financing segment, of the cash flow statement. The financial segment also often examines the impact of foreign currency translation.

### FREE CASH FLOW

Ideally, a company should not only cover the costs of producing its goods and services but actually produce excess cash flow for its shareholders. Cash flow from operations represents a good starting point for this type of analysis. However, beyond current production, a growing company must reinvest its cash to maintain its operations and expand. While management may neglect capital expenditures in the short term, there are fundamental negative long-term growth implications to such neglect. Free cash flow refines the cash flow from operations measure by considering capital expenditures and dividend payments

to shareholders. While you can argue that dividend payments are not required, they are expected by shareholders and they are paid in cash, so they must be subtracted from cash flow to calculate a free cash flow figure.

Free cash flow is calculated by subtracting capital expenditures and dividend payments from cash flow from operations. This free cash flow figure is considered to be excess cash flow that the company can use as it deems most beneficial. With strong free cash flow, debt can be retired, new products developed, stock can be repurchased, and dividend payments can be increased. Excess cash flow also makes a company a more attractive takeover target.

### SCREENING FOR FREE CASH FLOW

A screen for positive and consistent free cash flow is a good starting point for the investor scanning for firms on a cash flow basis. AAll's Stock Investor was used to perform the screen. The first screening factor excluded financial firms. The cash flow calculation in Stock Investor calculates free cash flow by subtracting capital expenditures and dividends from operating cash flow on the cash flow statement. Financials do not typically have large expenditures in brick and mortar property, plant, and equipment expenditures. However, they make significant investments in marketable securities, which are not considered in the standard free cash flow calculation. When looking at the cash flow of a financial firm it would be best to examine total cash flow figures from the statement of cash flows.

A screen was then applied that required positive free cash flow for each of the last five fiscal years and the most recent 12 months. Ideally, a company would always have positive and increasing free cash flow. However, cyclical firms and companies with long development and construction cycles may have periods of slow sales, inventory build-up, and strong capital expenditures that occur over the normal course of business. A firm such as Boeing, which has a long development cycle for new planes, a long ramp-up period when starting production, and an extended and expensive product construction cycle, may show negative free cash flow until it starts to deliver its planes in quantity. These types of firms may be excluded by a requirement of positive cash flow for each year. If you are interested in screening for these types of firms, you may average the free cash flow over a period of years and require this average to be strong. While Benjamin Graham focused primarily on earnings and book value, Graham also suggested averaging earnings over the last three years to smooth the impact of temporary cyclical effects.

Higher free cash flows should translate into higher stock prices. The ratio of stock price to free cash flow per share is a way to judge value. Comparing a company's ratio of price to free cash flow to those of other companies, industry norms, and historical averages provides some feel for relative value much like the traditional price-earnings ratio. Firms with low price-to-free-cash-flow ratios may represent neglected firms at attractive prices.

Table 1 (encased in the accompanying downloadable file) presents the 15 firms with positive free cash flow for each of the last five years and the lowest price-to-free-cash-flow ratio for the large-, mid-, and small-cap sectors. With the economy currently in the midst of a long expansion, it is not surprising to find many cyclical firms on the list. It is important to keep in mind that cyclical firms often trade with low

## Cash Flow Article

ratios during economic expansions. This occurs when the market expects the economy to slow down and factors such as cash flow and earnings to decrease. These stocks would only be bargains if you felt that the market has incorrectly forecasted the occurrence or severity of a slowdown.

The table is also loaded with many utilities due to their steady and predictable cash flows.

The price-earnings ratio is provided as a familiar benchmark of value. In general, the firms with low price-to-free-cash-flow ratios have low price-earnings ratios. However, six of the companies have had negative earnings per share over the last 12 months and do not have meaningful price-earnings ratios, highlighting how cash flow and earnings can diverge.

Free cash flow does not always capture the actual cash expenditures of the firm. Dick Clark Productions, for example, shows a low price-to-free-cash-flow ratio, but has a relatively high price-earnings multiple. A closer examination of its cash flow statement reveals that, while its cash from operations is high and its capital expenditures are relatively low, it is spending a large proportion of its cash flow on developing new programs. This represents an investment in the future viability of the firm--similar to a capital expenditure, yet outside the traditional definition of one.

The three-year growth rates in free cash flow per share and earnings per share help to provide an indication of the general trend of these factors over time. To calculate the three-year growth rate, the free cash flow per share for the most recent fiscal year was compared against the free cash flow per share three fiscal years ago, and the growth rate was annualized. While this represents four fiscal reporting periods, the growth is over three compounding periods (change between three fiscal years ago and two fiscal years ago, two fiscal years ago and one fiscal year ago, and one fiscal year ago and the last fiscal year). Examining the actual year-to-year figures provides a much clearer picture of the strength and stability of an item, which can be masked by the growth rates. Northrop Grumman has had strong and steady increases in its free cash flow; in contrast, Comdial has had dramatic changes in its free cash flow per share figures over the last four years.

The growth rate in earnings per share is also provided to highlight how it is possible for these factors to diverge.

### CONCLUSION

The analysis of a company's cash flow is a very revealing study of a firm. The free cash flow measure highlights the effective management of overall company operations including factors such as sales, inventory control, production and employee costs, accounts receivable management, interest payment levels, product development, and capital expenditures. Screening for firms with attractive levels of price to free cash flow provides a useful technique to highlight more mature value stocks worthy of further study. However, as with all preliminary screens, a study of the annual report and an understanding of the company, its products and its industry are required.

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DEFINITIONS OF SCREENS AND TERMS

The following is a short description of the screens and terms used in Table 1.

PRICE-TO-FREE-CASH-FLOW RATIO: Price per share divided by the most recent 12 months' free cash flow per share. A measure of the market's expectations regarding a firm's future financial flexibility.

PRICE-EARNINGS RATIO: Price per share divided by most recent 12 months' earnings per share. A measure of the market's expectations regarding the firm's earnings growth and risk.

FREE CASH FLOW GROWTH RATE (3-YEAR): The compound annual growth rate in free cash flow per share over the last three fiscal years. Provides an indication of the trend in free cash flow per share.

EARNINGS GROWTH RATE (3-YEAR): The compound annual growth rate in earnings per share over the last three fiscal years. Provides an indication of the trend of earnings per share.

FREE CASH FLOW PER SHARE: Per share cash from operating activities on the cash flow statement minus dividends and capital expenditures. Reported for the last 12 months, last fiscal year, and one, two and three fiscal years ago. Provides a measure of the excess cash flow available to a firm that can be used as management deems beneficial.

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Screening Results

**Table 1.**  
**Screen Results: Top Free Cash Flow Firms**

Company (Exch: Ticker)	Price to Free Cash Flow (X)	Growth Rate (3-Year)			Free Ca	
		Price- Earnings Ratio (X)	Free Cash Flow (%)	Earnings (%)	Last 12.00 Months (\$)	Last Fiscal Year (\$)
<b>Large-Cap (over \$2 billion)</b>						
Northrop Grumman Corp. (N: NOC)	4.2	13.0	69.8	25.8	16.08	10.78
Long Island Lighting Co. (N: LIL)	6.0	7.7	58.9	-0.5	2.80	2.22
Ford Motor Company (N: F)	6.7	11.8	25.8	35.0	4.81	9.91
Textron Incorporated (N: TXT)	7.1	17.1	6.8	50.0	11.20	9.99
Ohio Edison Company (N: OEC)	9.3	10.5	55.0	6.6	2.36	2.21
DQE, Inc. (N: DQE)	10.2	12.6	7.1	6.0	2.70	2.01
Pinnacle West Capital (N: PNW)	11.7	13.6	0.1	6.2	2.60	2.05
Illinova Corp. (N: ILN)	12.3	13.7	47.6	16.7	2.34	1.70
United Technologies (N: UTX)	13.2	19.5	258.4	61.3	8.74	6.91
IBP, Incorporated (N: IBP)	13.4	10.3	165.8	58.7	2.06	1.88
McGraw-Hill Cos. (N: MHP)	14.8	19.9	21.8	98.3	3.09	2.55
DTE Energy Co. (N: DTE)	15.7	11.0	-20.9	-9.6	1.97	1.11
PECO Energy Company (N: PE)	16.1	9.8	5.4	11.7	1.61	1.33
American Standard Cos. (N: ASD)	18.0	nmf	18.7	47.4	1.83	2.46
Adobe Systems Inc. (M: ADBE)	18.2	27.4	12.8	15.2	1.98	1.73
<b>Mid-Cap (\$500 million to \$2 billion)</b>						
PHH Corp. (N: PHH)	1.2	12.7	27.2	12.4	48.51	50.58
Centerior Energy Corp. (N: CX)	3.2	5.9	44.3	-0.2	2.37	1.97
Unisys Corp. (N: UIS)	5.8	nmf	-26.6	-70.8	1.24	1.86
International Family Ent. (N: FAM)	7.3	103.4	19.3	-34.1	2.53	2.33
Magellan Health Serv (A: MGL)	7.4	nmf	-13.8	-27.1	2.90	2.71
United Illuminating Co. (N: UIL)	9.1	9.7	12.1	-1.1	4.09	4.31
Georgia Gulf Corp. (N: GGC)	9.2	7.9	57.2	58.8	3.16	4.57
Interstate Bakeries Corp. (N: IBC)	10.3	34.3	-39.1	3.7	2.59	0.28
Richfood Holdings (M: RCHF)	11.7	28.6	29.0	21.6	2.77	2.82
Coltec Industries (N: COT)	12.5	18.6	-24.6	50.4	1.14	0.70
Service Merchandise Co. (N: SME)	12.8	11.8	-52.0	-15.8	0.44	0.14
TCA Cable TV (M: TCAT)	14.3	22.2	-13.9	27.8	2.12	0.68
Renaissance Communication (N: RRR)	14.4	20.2	34.2	32.9	2.23	2.23
Southland Corp. (M: SLCM)	14.9	4.7	-20.0	58.9	0.20	0.11
Fiserv, Inc. (M: FISV)	15.5	nmf	26.4	-59.3	1.94	0.99

**Small-Cap (\$50 million to \$500 million)**

Screening Results

CSS Industries (N: CSS)	2.5	19.3	-8.5	7.0	9.49	1.48
Payless Cashways (N: PCS)	2.6	nmf	-49.3	-2.2	1.72	1.03
Tucson Electric Power Co. (N: TEP)	2.7	6.2	-50.1	27.8	5.04	1.88
WCI Steel (N: WRN)	3.4	43.8	255.9	650.7	1.56	1.26
Dick Clark Productions (M: DCPI)	3.8	21.1	-2.7	9.9	3.73	2.83
Zeigler Coal Holding Co. (N: ZEI)	3.9	nmf	24.4	-28.5	4.15	3.83
Gardner Denver Machinery (M: GDMI)	4.4	10.3	35.9	31.6	6.03	4.44
Staff Builders, Inc. (M: SBLI)	4.4	44.4	252.1	-16.4	0.76	0.74
Griffin Gaming & Enter. (A: GGE)	4.6	12.0	-19.8	28.9	3.38	2.64
Bluegreen Corp. (N: BXG)	5.2	12.7	2.5	21.6	0.73	0.65
Kaneb Pipe Line Partners (N: KPP)	6.0	5.1	-3.0	7.6	4.18	4.18
Quebecor, Inc. (A: PQB)	6.1	7.7	5.7	28.5	2.62	2.62
Comdial Corp. (M: CMDL)	6.2	6.8	31.8	111.4	1.40	0.14
Genlyte Group Inc. (M: GLYT)	6.6	11.1	6.1	79.4	1.17	1.46
The Morningstar Group (M: MSTR)	6.6	14.8	14.0	40.8	1.68	1.05

Exchange Key: N = NY Stock Exchange Statistics are based on figures as of 12/31/01  
 A = American Stock Exchange Database: AAll's Stock Invest  
 M = Nasdaq Database

nmf= no meaningful

## Screening Results

### Cash Flow per Share

One Fiscal Year Ago (\$)	Two Fiscal Years Ago (\$)	Three Fiscal Years Ago (\$)	Description
4.63	3.51	2.20	Aircraft & electronic prods
2.60	0.24	0.55	Gas & electric service
6.81	6.30	4.98	Cars, trucks & related accessor
9.37	10.41	8.20	Aircraft, auto, finance, indus
1.39	1.44	0.59	Electric utility
1.12	3.20	1.64	Holding co for electric util
2.05	2.33	2.04	Electric utility in AZ
0.19	0.42	0.53	Electric & natural gas util in IL
1.96	3.01	0.15	Elevators & escalators; heating
2.55	1.18	0.10	Beef & pork prods
2.25	3.09	1.41	Educ & prof publishing
1.67	2.80	2.24	Holding co for public util
1.56	2.33	1.14	Electric & gas utility in PA
2.52	1.86	1.47	Air-cond systems
1.46	1.39	1.21	Computer software prods
29.30	42.71	24.59	Business services
1.66	0.53	0.66	Holding co for elec utils
0.43	3.15	4.69	Computer-based info systems
2.90	0.91	1.37	Family TV programming
3.17	3.17	4.23	Behavioral healthcare centers
2.26	0.70	3.06	Electric utility
1.24	1.41	1.18	Chemicals & plastic prods
0.59	0.79	1.26	Bakery prods
1.24	1.26	1.31	Sells groceries to retailers
0.86	0.96	1.62	Aerospace, auto, indus prods
0.01	1.18	1.27	Merchan catalog stores
0.86	1.11	1.06	Cable TV systems
1.21	2.82	0.92	TV stations
0.24	0.09	0.21	7-Eleven convenience stores
0.35	0.23	0.49	Financial data processing

## Screening Results

1.24	1.54	1.94	Decorative paper prods
0.88	1.94	7.92	Retail building materials
3.85	1.46	15.06	Electric utility
1.71	1.49	0.03	Production of steel prods
4.05	3.91	3.07	TV programming
1.83	4.04	1.99	Coal mining
2.83	1.13	1.77	Air compressors for indus
0.37	0.09	0.02	Home healthcare personnel
6.15	4.64	5.11	Holding co for resort
0.38	0.74	0.61	Real estate
3.91	3.92	4.58	Limited partner for pipeline co
0.97	1.26	2.22	Communication co in Quebec
0.51	0.82	0.06	Telephone systems for business
0.91	1.42	1.22	Lighting fixtures
0.46	0.60	0.71	Specialty food prods

s of June 30, 1996.  
or/Market Guide, Inc.

.1l figure