Trends

Financial Statements from 30,000 Feet: Six Numbers and Four Ratios Tell the Story

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Teaching and learning introductory accounting can be overwhelming for students and instructors. The enormous volume of content creates a challenge … to step back and look at the big picture. Over the years we have implemented an approach in our classes that serves as an anchor to teach the basics of double-entry while at the same time emphasizing the uses of financial statements in managing a business.

Our approach is called *Financial Statements from 30,000 Feet*. While it is important to know the details, it is vitally important for business students to view the statements and see the elements of financial statements, their relationships. and how they change when actions (transactions) affect them.

We have come to focus on *Six Key Numbers and Four Key Ratios*. Why these numbers and ratios? They are based on more than 15 years of research resulting in 12 published peer reviewed articles. In this research, we wanted to learn which financial measures are most important in assessing a company's performance. We identified dozens and dozens of financial ratios found in the literature. We studied more than 20,000 companies worldwide to discover the financial characteristics of those able to sustain high financial performance, [1] We found only a small percentage of these companies met our criteria for high performance and these highly successful companies, no matter where they are in the world, invariably do well on six key numbers and four key ratios.

Some examples of U.S. high performing companies (HPCs) that students will likely recognize are

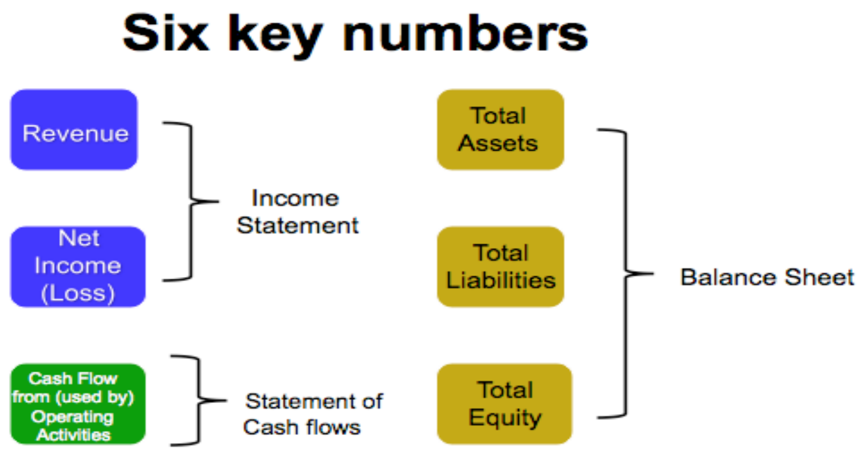
• Coca-Cola Company	• Adobe Systems
• Best Buy	• Coach

Some international high performing companies are

• Nestle SA(Switzerland)	• Yahoo Japan (Japan)
• Danone (France)	• Anheuser-Busch Inbev SA (Brazil)

[1] The latest of twelve studies is found in Needles, Jr., Belverd E., Mark Frigo, Marian Powers, and Anton Shigaev, "The Operating Performance of High Performance Companies: Strategic Direction for Management," Studies in Managerial and Financial Accounting, (Marc Epstein, ed.), (Emerald Group Publishing Ltd.), 28, 2014.

What are the *six key numbers*? They are Total Assets, Total Liabilities, Total Equity, Revenues, Net Income and Cash Flows from Operating Activities.



Note that these are the elements of financial statements that most instructors teach in the first week of introductory accounting. What you have taught and emphasized all these years is important. These key elements are something your students can learn, remember, and use. They can see the effect of almost every transaction on the balance sheet, income statement, and cash flows from operations.[2]

When these six key numbers are arranged to produce *four key ratios*, they are excellent guides as to whether a company is operating well. These ratios and their components are as follows:

- Asset turnover (Revenues/Average Total Assets)
- Profit margin (Net Income/Revenues)
- Debt to equity (Total Liabilities/Total Equity)
- Cash flow yield (Cash Flow from Operating Activities/Net Income)

Each of these ratios captures a unique characteristic of a company's financial perfomance. While the first three ratios are very familiar, the cash flow yield is most likely unfamiliar. Our research found that cash flow yield is very important indicator a company's performance. All healthy companies start with a cash flow yield > 1.0 because the calculation of cash flows from operating activities starts with net income plus depreciation and amortization. If operating working capital is managed well then CFOA will be > 1.0. Thus, a well managed company should have at least one dollar of cash flow from operating activities for every dollar of net income. Other than startups, companies that have a cash flow yield < 1.0 usually have processes around inventory,

[2] You may ask where are expenses, investing activities and financing activities? We don't ignore them in our teaching. However, the research does not identify these items separately as a statistically significant charateristic of high performing companies.

receivables and other working capital items that need improvement. On the other hand if cash flow yield is high (more than 3.0), it usually means that the company has a very low net income (profit margin).

Our research indicates that the cash flow yield and asset trunover are best supplemented with the operating turnover ratios:

- Recevables turnover (Revenues/Average Accounts Receivable)
- Inventory turnover (Cost of Goods Sold/Average inventories)
- Payables turnover (Cost of Good Sold/Accounts Payable)

The four key ratios, supplemented by these turnover ratios, cover the complete spectrum of financial objectives that companies seek to achieve.

Figure 1 shows the relationships of these financial objectives to the performance drivers and performance measures. *Performance drivers* are ratios that are uncorrelated with each other yet statistically significantly different for HPCs and non HPCs. *Performance measures* are statistically significant between HPCs and non HPCs but not statistically independent from performance drivers and each other that is, not associated with a single performance objective. For example, return on assets contains some of the same components as return on equity. The two are highly correlated.

Figure 1
Relationship of Financial Objectives, Performance Drivers, and Performance Measures

Financial Objectives → **Performance Drivers** → **Performance Measures**

Financial Objective	**Performance Drivers**	**Performance Measures**
Total asset management	Asset turnover	Growth in revenues
Profitability	Profit margin	Return on assets
Financial risk	Debt to equity	Return on equity
Liquidity	Cash flow yield	Cash flow returns
		Free Cash flows
Operating asset management	Turnover ratios	Cash cycle

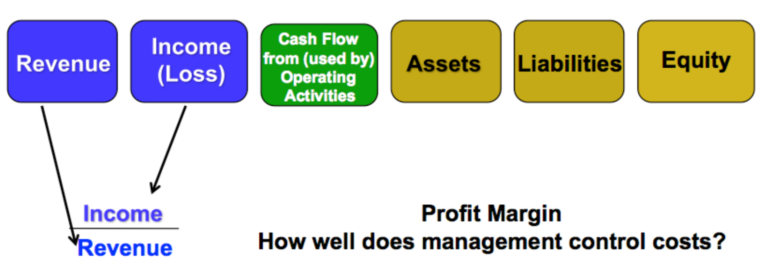
Some instructors emphasize free cash flows because it is probably the most popular cash flow performance measure used among financial analysts. However, this measure has some serious flaws as a measure of performance. First, there is no accepted definition of free cash flows. Different analysts include in free cash flow calculations whatever they want to include. Second, free cash flows are not a ratio; they represent an absolute amount. Thus, relative size is not taken into account. Comparison to benchmarks and to other companies is almost impossible. Third, it is not even clear that large free cash flows are good or that small or negative ones are bad. Large free cash flows may mean the company is not investing sufficiently. Negative free cash flow may mean the company is making large capital expenditures that are expected to produce increased future cash flows. No benchmark exists to compare or judge free cash flows. Finally, the only truly "free" cash flows are cash flows from operations because management is "free" to use them in a variety of ways:

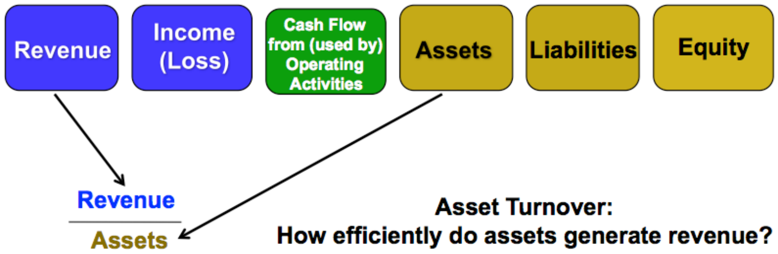
- To invest for future cash flows: net capital expenditures or acquisitions
- To save for future use: Investments in securities
- To reduce financial risk: paying down short-term or long-tern debt
- To reduce the size of the business: pay dividends or buyback stock

Summary

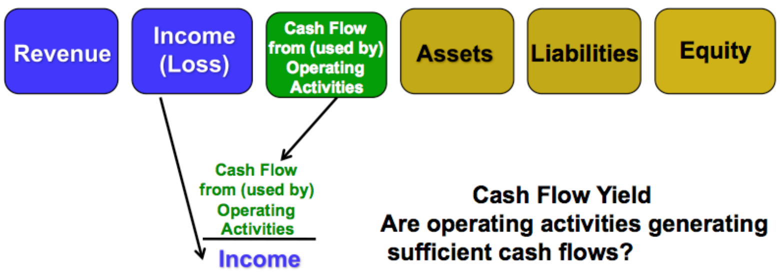
There are a multitiude of possible financial ratios that could be taught to introductory accounting students. Our experience teaching the six key numbers and four key ratios that convey big picture value creation (or destruction) has been met with success in our classes. The illustrations below show how easy they are to protray and how they show the importance of understanding the financial statements. Students quickly learn that if any one of these 4 ratios is not trending in the right direction, then more analysis would be required. But if these 4 ratios are all trending favorably then furhter analysis is not needed.

6 key numbers and 4 key ratios of high performance companies

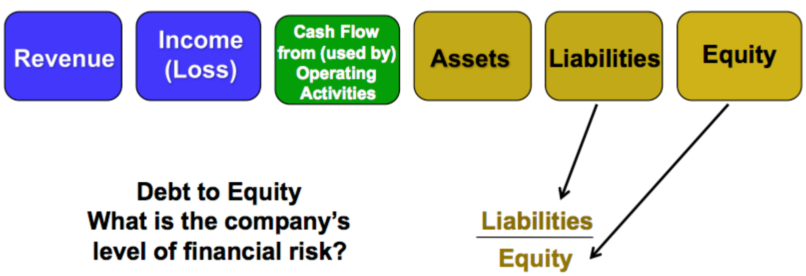




Asset Turnover:
How efficiently do assets generate revenue?



Cash Flow Yield
Are operating activities generating sufficient cash flows?



Debt to Equity
What is the company's level of financial risk?