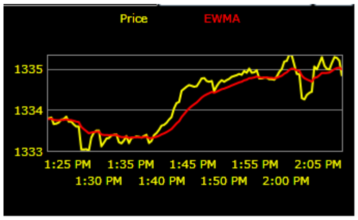
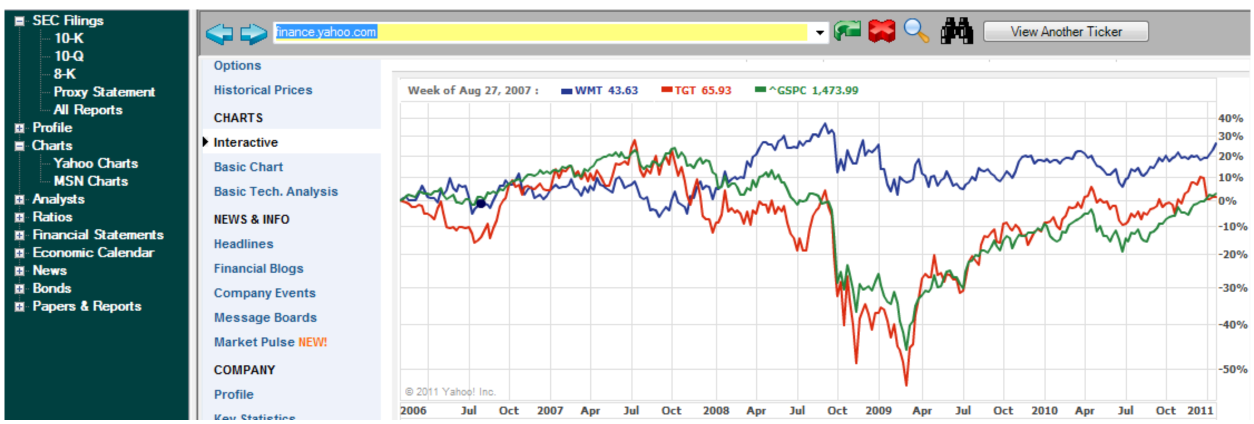


How Business Strategy Drives Stock Price Behavior

Over the past 5-years the stock price behavior of Wal-Mart (WMT) versus Target (TGT) has been a Tale of Two Stocks. WMT was relatively unaffected by general market movements whereas TGT was not. Both stocks have similar business models but different business strategies. That is, business strategy matters and financial statement analysis will let us understand why.

Consider the stock price behavior of Wal-Mart (WMT) and Target (TGT) compared to the S&P500 index over the past five years, where WMT is plotted in blue, TGT in red and the index in green, created using the "Interactive Chart" on Yahoo finance:



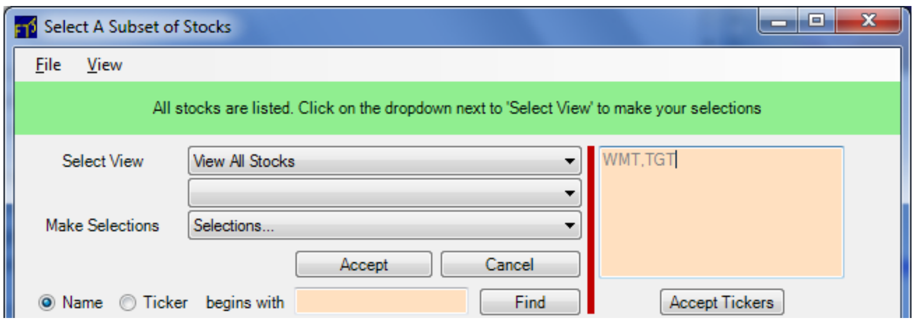
In 2008, the US economy went through a recession and a serious stock market decline. But you can see that even though each company has a similar business model, the stock price of TGT was much more closely correlated to the S&P 500 index than WMT. In this case study, we will apply financial statement analysis (FSA) to gain insight into why this may be the case.

We will first analyze Wal-Mart and Target from managements' perspective and then from the markets' perspective. In particular, we will highlight how business strategy and implementation drive the ratios that can be extracted from financial statements and use this to see if we can shed some light on the stock price behavior.

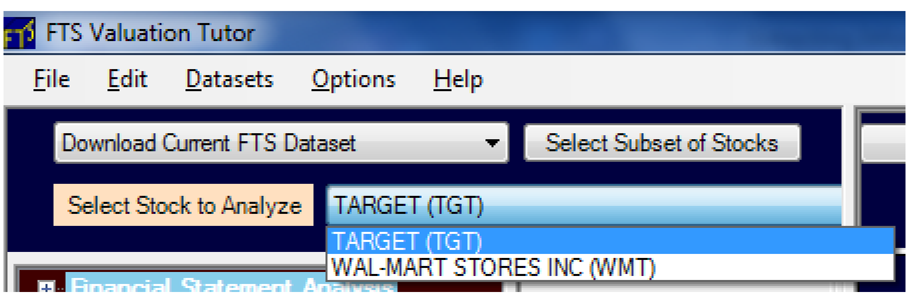
You probably have a relatively good intuitive understanding of how Wal-Mart and Target make money. These two competitors share very similar business models. What is less obvious is that there are subtle differences in their business strategies which affect their ratios and the interpretation of these ratios.

Step 1: Identifying differences in business strategy

After downloading the Current FTS Dataset, click "Select Subset of Stocks" and in the window that appears, enter the tickers WMT, and TGT followed by Enter (click "Accept Tickers"):



This lets you focus on the two stocks of interest:

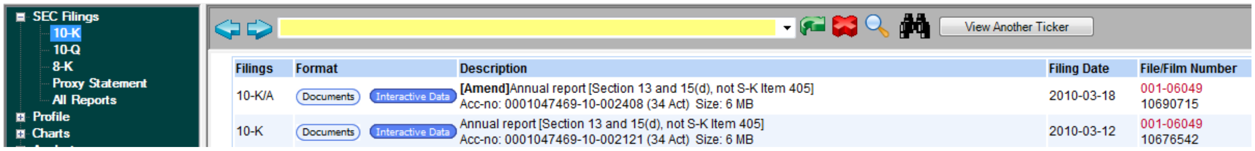


Step 2: Extracting strategy information from the 10-K.

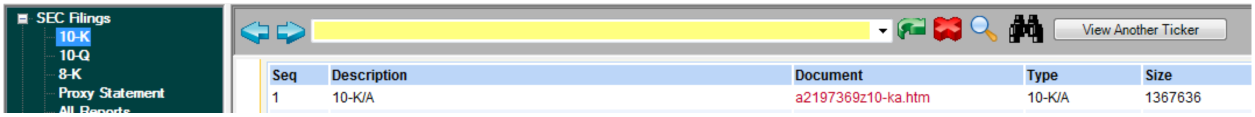
In Chapter 1 of the textbook, Porter's description of a firm's business model and business strategy was defined relative to the value chain in terms of activities performed by the firm. In this description, what is relevant here in the comparison of WMT and TGT is Porter's definition of business strategy in terms of "performing similar activities in different ways."

We can obtain insight into a firm's strategy from Item 1 of the 10-K once you understand how to relate this to the Business Model and Business Strategy. For the case of TGT and WMT this is fairly transparent.

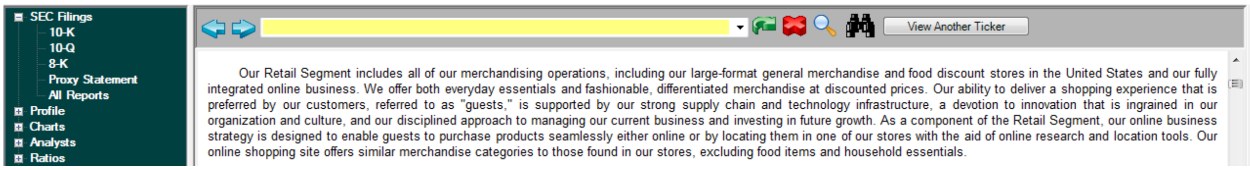
In Valuation Tutor once you have selected say TGT as the Stock to Analyze (as in the above screen), the lower part is immediately linked to the SEC 10-K and 10-Q reports. Bring up the 10-K (or actually amended 10-Ka) for TGT by clicking on Documents:



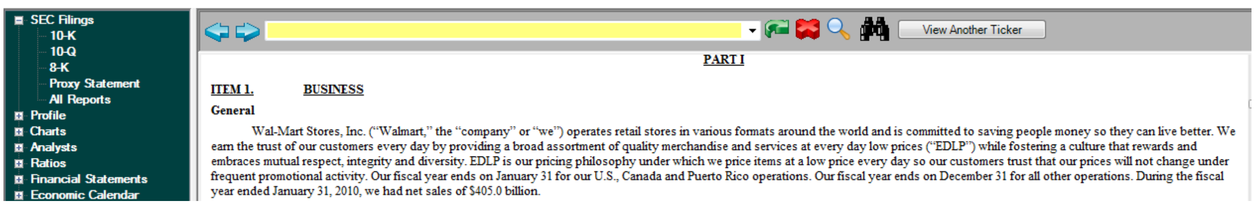
Click on the red hyperlink and scroll down to get:



Scroll to **Item 1 Business** in the 10-K for TGT:



Similarly, for WMT, repeat this after selecting Wal-Mart as the stock to analyze:

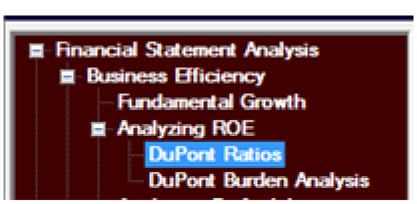


In the extended Value Chain clearly the activity "Procurement" is important to both Wal-Mart and Target. But from the 10-K you can see that they choose to place different levels of emphasis on different activities. Wal-Mart places very strong emphasis on Procurement with their main message being "every day low prices" (EDLP) whereas Target places strong emphasis on the "Customer" as well as "Procurement" activities, with treating customers as "guests" and also discounted pricing.

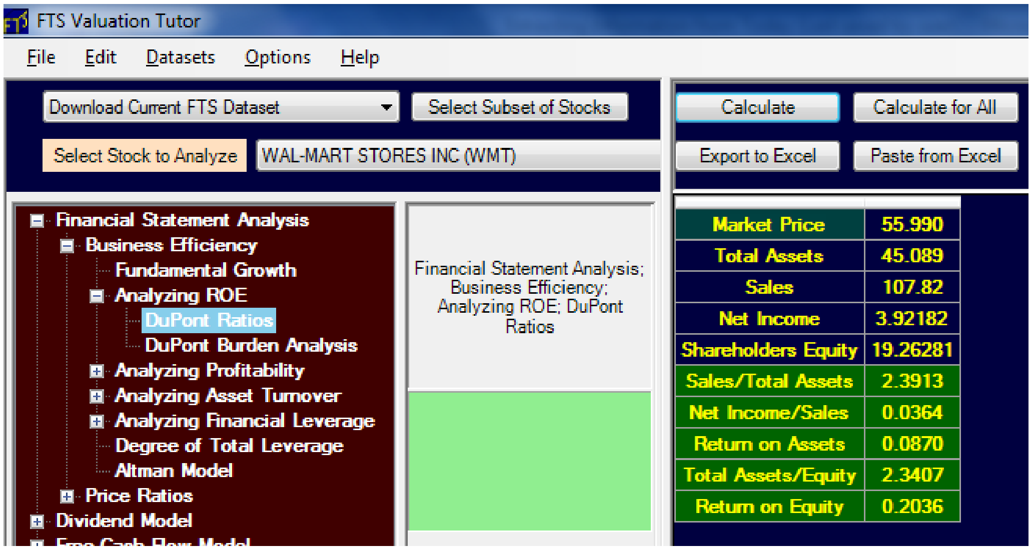
Step 3: Given the business strategy of each company, what would we expect to see in terms of some of the business ratios?

From Item 1, we should expect to see Wal-Mart as very sales driven, lower margins, and high levels of efficiency. With Target, on the other hand, we would expect to see higher margins, be less sales driven and have ratios that are a little less efficient. Let's see if the ratios reflect this. We start in the usual way, with a DuPont analysis.

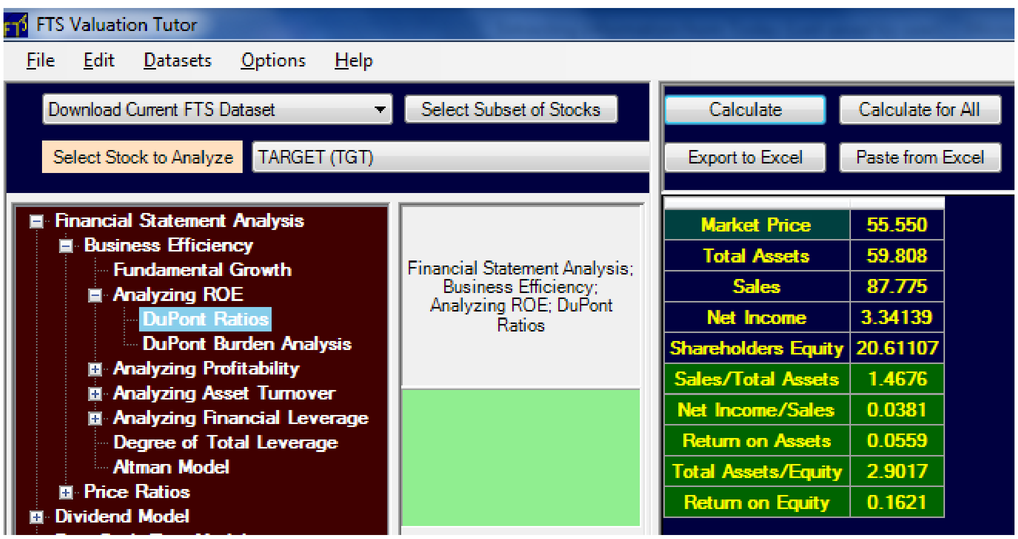
This is accessed from the tree at the left of Valuation Tutor:



For Wal-Mart click on Calculate to get:



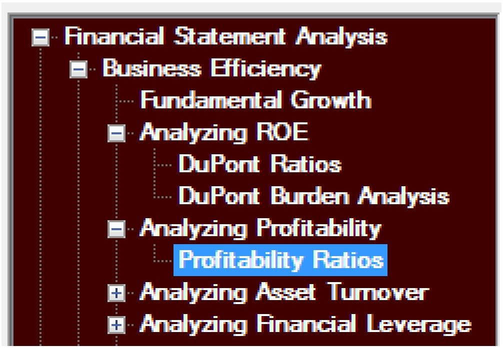
Similarly, for Target:



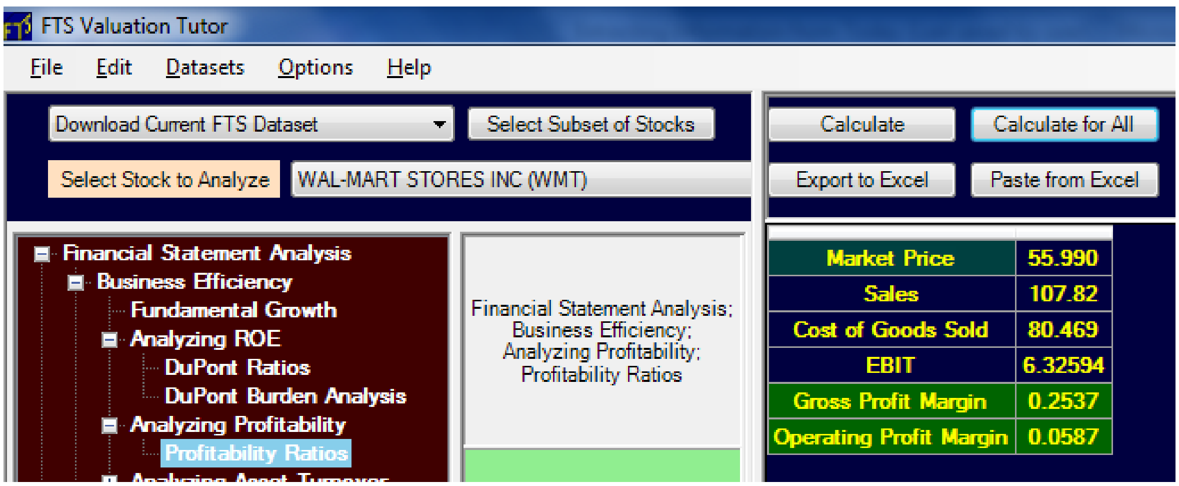
It is clear that Wal-Mart is certainly performing well in terms of the Sales/Total Assets and Target is performing a little better in terms of Net Income/Sales. This is consistent with their different business strategies. Overall, Wal-Mart's Return on Equity is superior to Target's.

Step 4: Lets drill down a little into the profitability differences

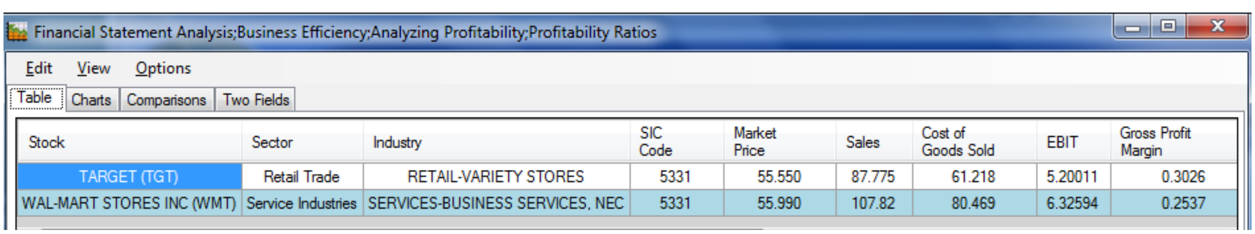
Net Income is the bottom line, but really we would expect to see the differences between these two strategies emerge from operations. So select "Analyzing Profitability" to see whether this difference is reflected in the profit margins and in the efficiency of operations:



We are particularly interested in Gross Profit Margin, defined as (Sales less COGS) /Sales. Now you may not want to jump between screens (especially if you are studying more than one competitor!) so you can always click on "Calculate for All" so it does the analysis for all stocks in your subset. This can even be used to analyze the entire S&P500 index if you wanted to.



Click on Calculate for All to get:

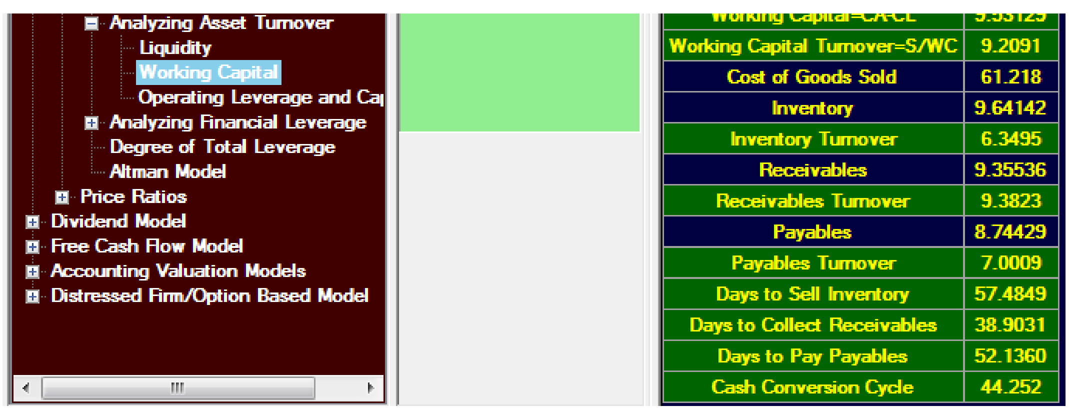


Stock	Sector	Industry	SIC Code	Market Price	Sales	Cost of Goods Sold	EBIT	Gross Profit Margin
TARGET (TGT)	Retail Trade	RETAIL-VARIETY STORES	5331	55.550	87.775	61.218	5.20011	0.3026
WAL-MART STORES INC (WMT)	Service Industries	SERVICES-BUSINESS SERVICES, NEC	5331	55.990	107.82	80.469	6.32594	0.2537

The shows you that Target is indeed operating at a higher gross profit margin than Wal-Mart, as we would expect.

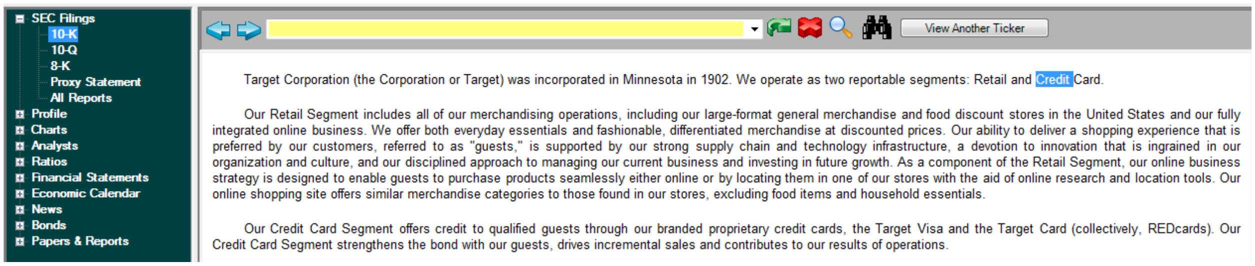
Step 5: Let's look at the working capital efficiency between the two competitors.

And for Target:



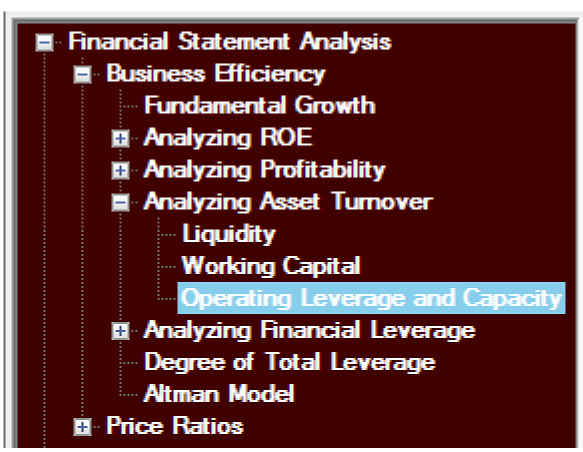
You can see that there is a significant Cash Conversion Cycle Difference. Clearly, there is a very large difference between Wal-Mart's and Target's working capital management. As background, the components of the Cash Conversion Cycle are Days to Sell Inventory, Days to Collect Receivables and Days to Pay Payables. The Cash Conversion Cycle sums Inventory and Receivable days and subtracts payables days.

Consistent with the two business strategies (EDLP versus "Shopping Experience") the days to sell inventory is significantly lower for Wal-Mart than Target. Both Wal-Mart and Target delay paying payables (Target pushes well beyond the usual 30-day credit provided by suppliers). However, the major difference lies in Days to Collect Receivables (38.9 days for Target versus 3.7 for Wal-Mart!). An explanation of this difference is provided by looking back to the 10-K and in particular Item 1. Target has organized itself along two reportable segments: Retail and Credit Card. It is clear from this item that extending credit to their customers is perceived as an important part of Target's business strategy and thus these ratios are being managed in very different ways. The cost is the longer cash conversion cycle



Step 6: Now let us assess the investment decision for these two companies.

In the previous step we assessed the efficiency of their working capital management but now we would like to assess the sensitivity of TGT and WMT to changes in Sales Revenue. For example, which would we expect to be more sensitive to the business cycle? If both business models are similar, then again this question will be sensitive to differences in their business strategy as well as how efficiently they are implementing their respective business models. To address these issues we will start by conducting some activity analysis. Activity analysis is introduced in Chapter 2 of Valuation Tutor and it is a powerful tool for answering dynamic questions such as: how sensitive are Earnings to Sales?



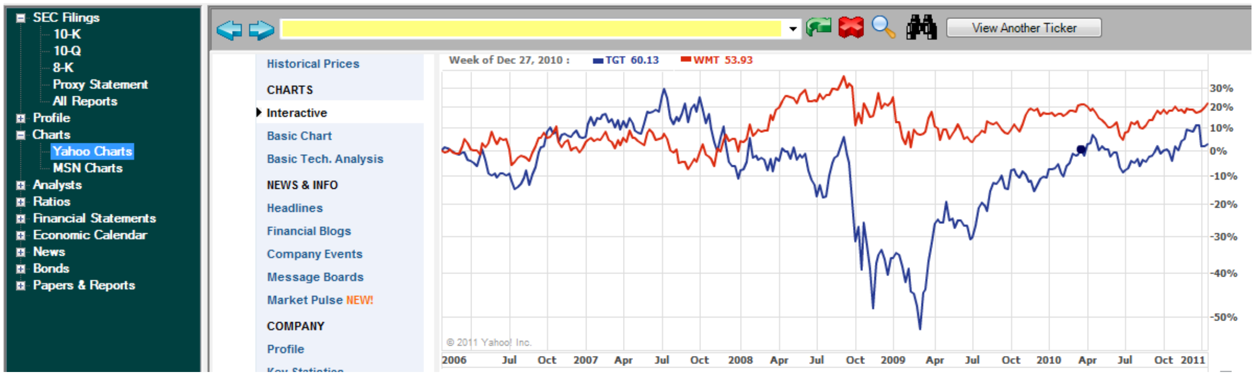
For Wal-Mart this results in the following calculator:

In the above screen, the financial information is recast from the standard full costing form of the consolidated income statement into a "variable costing format." The variable costing format allows the cost volume profit behavior to be preserved. It does require some professional or statistical analysis to assess the cost behavior. In particular, for Wal-Mart what proportion of the COGS is variable and similarly for the Selling, General and Administration costs (SG&A)?

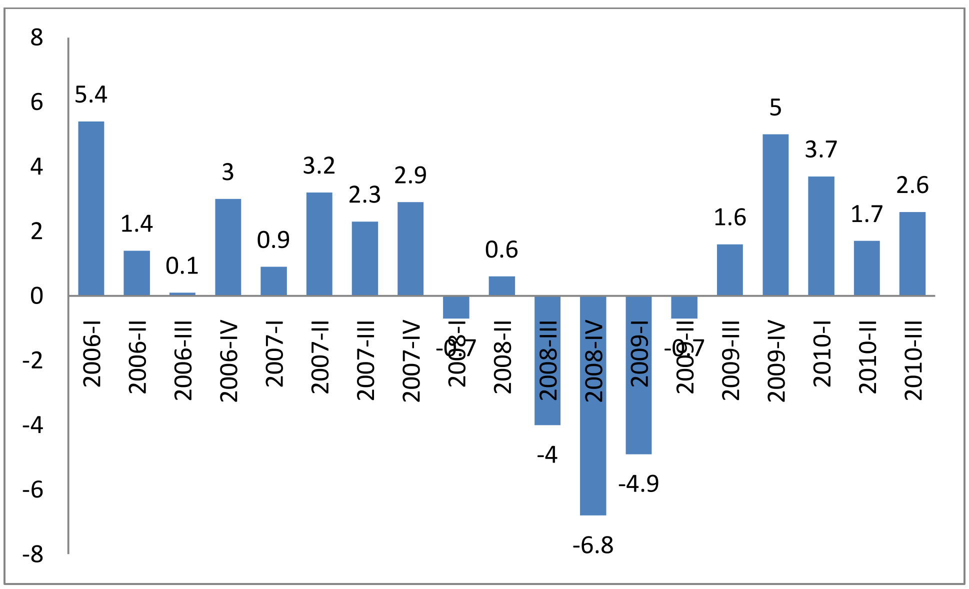
The first question we can answer from "professional judgment" because basically the business model requires buying and reselling inventory – so the vast majority of this will be variable especially relative to their fixed assets. A simplifying assumption is 100% but you can override this with your own estimates by double clicking in the calculator cell, deleting the contents and replacing with your estimates. Selling General and Administration requires some additional analysis to refine the estimates. For example, a high low technique can be used or a regression can be run; these are illustrated in the textbook. For now, accepting the above numbers, you can see that the Degree of Operating Leverage for WMT comes out to be 1.567 and for Target it is 3.101.

Operating Income (EBIT)	5.2001
Contribution Margin Ratio	0.1837
B/E Sales Revenue = Total Fixed Costs/CMR	59.4673
B/E Margin	0.6775
Degree of Operating Leverage	3.1008

What does this mean? It means *that Target's operating profit is nearly twice as sensitive to sales revenue growth/decline as is Wal-Mart's*. This is an important implication of the business strategy as reflected in the financial statements. It means that if sales are expected to fall, as for example during a period of economic downturn, we would expect Target's stock price to react more sharply than Wal-Mart's. This is confirmed by price graphs illustrating the recent history of stock prices:



For convenience, the following chart shows US GDP growth by quarter over the same period.



You can clearly see the deep recession of 2008 in the chart and compare it to the stock price movements in the previous chart.

Our finding so far is that TGT's degree of operating leverage, which measures change in EBIT due to changes in sales, is almost twice that of WMT. The next step is to see whether financial leverage heightens the sensitivity of net income to sales revenue:

For Target the last three numbers are:

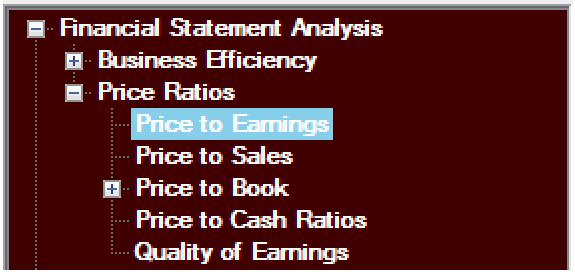
Degree of Operating Leverage	3.1008
Degree of Financial Leverage	1.2621
Degree of Total Leverage	3.9134

You can see that Target carries a little more financial leverage than does Wal-Mart and so again its net income will be more sensitive to changing sales (recall that financial leverage measures the change in net income due to a change in operating income). This further confirms that if expected sales increase or decrease as the economy expands or contracts, we expect Target stock price to be more sensitive to the business cycle than Wal-Mart. This is reflected in the stock price charts.

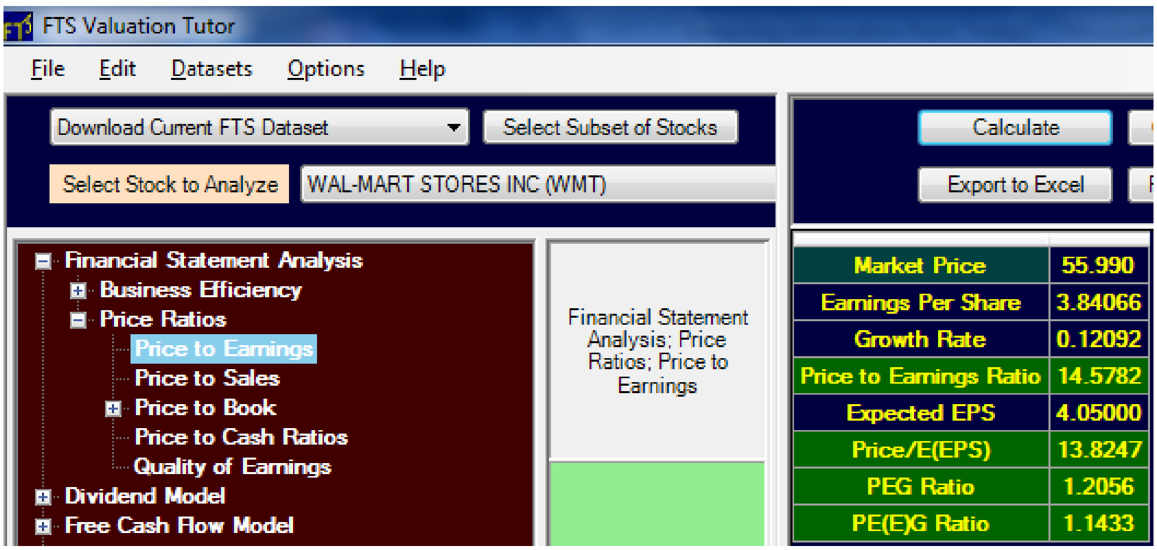
Next, let us look at how the market assesses the relative performance of the two companies. We start with the P/E ratio: does the market "value" the earnings of TGT more highly than those of WMT? Based on the analysis so far, we should expect that if they have similar sales growth, then TGT should have a higher P/E ratio since it converts sales into earnings at a higher rate. This conclusion depends on the growth rate.

Step 7: How does the Market Evaluate Wal-Mart's and Target's Performance?

The starting point is the bottom line --- Price to Earnings' Ratios:



And the P/E ratio calculator is:



Similarly for Target this is:

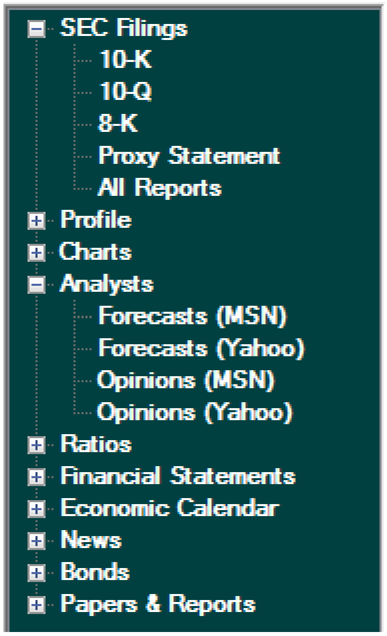
Market Price	55.550
Earnings Per Share	3.30851
Growth Rate	0.13394
Price to Earnings Ratio	16.7900
Expected EPS	3.90000
Price/E(EPS)	14.2436
PEG Ratio	1.2535
PE(E)G Ratio	1.0634

As you can see, Target has the higher price to earnings ratio. The P/E to Growth ratio divides the P/E Ratio by Growth (referred to as the PEG Ratio) to make the ratios comparable after adjusting for earnings growth. Again Target is still higher than Wal-Mart on these grounds. The last line in the calculator examines whether the differences can be explained from expected earnings. The PE(E)G Ratio compares the Price to Expected Earnings ratio for the two stocks. Here we see a reversal take place, in that relative to expected earnings, now Target appears to offer better value.

Thus based upon the Price to Earnings ratios a critical variable for evaluating Target and Wal-Mart is growth plus next period's expected earnings.

Step 8: What are the Current Analyst Forecasts for Wal-Mart and Target?

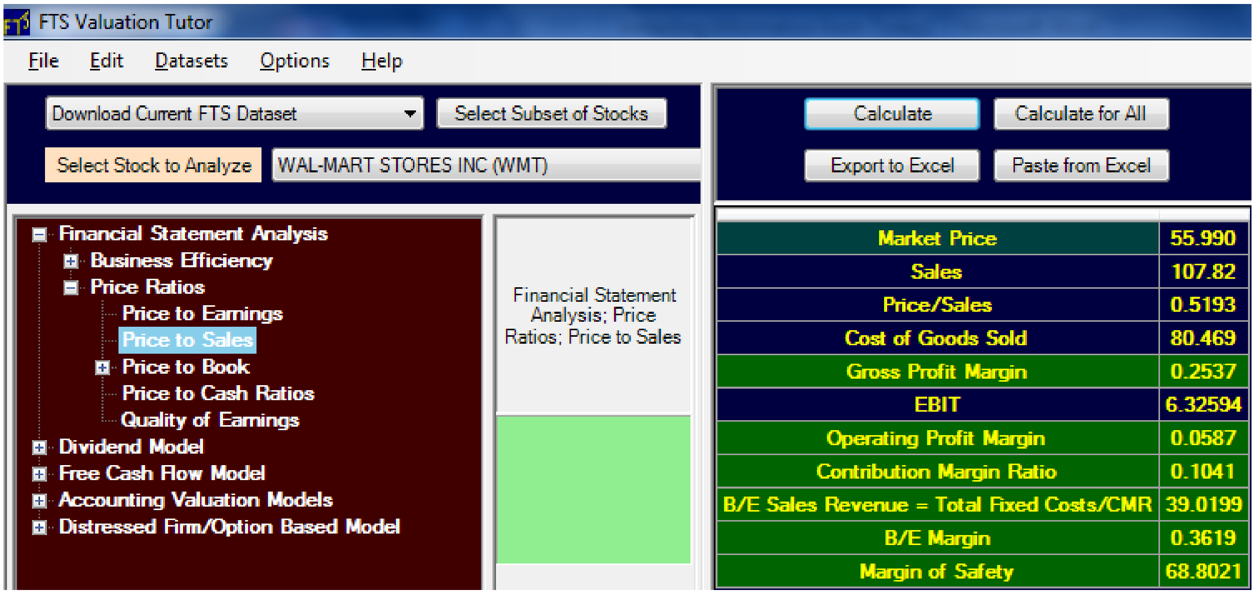
By selecting either WMT or TGT as the selected stock, Valuation Tutor's information system provides a rich set of links to publicly available information about growth and earnings:



Under "Analysts," you will find several publicly available earnings forecast. These also include forecasts sales revenue forecasts the Current Quarter, Next Quarter, Current Year and Next Year. Chapter 3 of the text provides details on how to make your own predictions from Sales forecasts and Activity Analysis. We will leave this part to you to complete: compare the effects of changing the growth forecasts and expected earnings growth based on the high and low and consensus forecasts.

Step 9: How does the Market Evaluate Wal-Mart's and Target's Sales?

Recall from activity analysis that Target's net income is more sensitive to Sales than is Wal-Mart's. So we expect that this will be reflected in the Price/Sales ratio, which would confirm the market is "pricing" this in the correct direction:



Market Price	55.990
Sales	107.82
Price/Sales	0.5193
Cost of Goods Sold	80.469
Gross Profit Margin	0.2537
EBIT	6.32594
Operating Profit Margin	0.0587
Contribution Margin Ratio	0.1041
B/E Sales Revenue = Total Fixed Costs/CMR	39.0199
B/E Margin	0.3619
Margin of Safety	68.8021

Similarly, for Target this is:

Market Price	55.550
Sales	87.775
Price/Sales	0.6329
Cost of Goods Sold	61.218
Gross Profit Margin	0.3026
EBIT	5.20011
Operating Profit Margin	0.0592
Contribution Margin Ratio	0.1837
B/E Sales Revenue = Total Fixed Costs/CMR	59.4673
B/E Margin	0.6775
Margin of Safety	28.3073

It is clear the market is sensitive to the differences in Activity Analysis as the Price to Sales ratio for Target is higher than is the Price/Sales Ratio for Wal-Mart.

Finally, we move to risk. Based on the leverage ratios, we expect TGT to be riskier than WMT is the sense that the same volatility in sales leads to higher volatility in earnings for TGT than WMT. When we talk about earnings, another factor to consider is earnings quality If quality of earnings was at issue then we would look at price to cash flow ratios but for WMT and TGT the quality of earnings does not appear to be at issue.

We look at risk in two ways. First, the inverse of the price to book ratio is one of the Fama and French risk factors (Book to Price Ratio). They work with the inverse for statistical reasons because Price remains positive and so the ranking are preserved regardless of whether the book value per share is positive or negative. Second, we look at the cost of equity capital for the two firms; we expect TGT to have a higher beta and a higher cost of equity capital.

From the Price to Book Ratios it is clear that Wal-Mart is less risky than Target for this Fama and French factor; a higher Price/Book means a lower Book/Price.

Wal-Mart: Price to Book Ratio

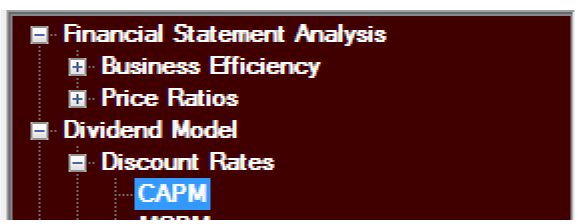
Market Price	55.990
Book Value of Equity	18.68700
Price/Book	2.9962
Degree of Operating Leverage	1.5671
Degree of Financial Leverage	1.0824
Degree of Total Leverage	1.6963

Target:

Market Price	55.550
Book Value of Equity	20.61107
Price/Book	2.6952
Degree of Operating Leverage	3.1008
Degree of Financial Leverage	1.2621
Degree of Total Leverage	3.9134

Step 10: What is the Difference between Wal-Mart and Target's Cost of Equity Capital?

In this step we will adopt a CAPM (Capital Asset Pricing Model) approach to estimating the cost of equity capital.



For Wal-Mart the cost of equity capital is:

Market Price	55.990
Risk Free Rate	0.03890
Beta	0.35000
Equity Premium	0.05100
CAPM Discount Rate	0.05675

And for Target this is:

Market Price	55.550
Risk Free Rate	0.03890
Beta	0.98000
Equity Premium	0.05100
CAPM Discount Rate	0.08888

That is, consistent with the earlier observation that Target is assessed to be riskier along the Book to Price Ratio dimension Target is also assessed to be riskier in terms of market risk as measured by beta (WMT = 0.35 versus TGT = 0.98). Recall from the earlier price slide (repeated below with the S&P500 Index added) it was obvious that Wal-Mart exhibits a lot less general market risk and Target moves much closer with the general market.

Summary

We started by asking whether financial statement analysis could shed insight into the relative stock price behavior of TGT and WMT. The business strategies led us to focus on the leverage ratios. We then saw that the market seems to be pricing the differences in the business strategy in the correct direction.

Note: The calculations in this study were based on the company filings as of the time of this writing. The conclusion and discussion is meant only to show how to use Valuation Tutor to conduct analysis. It is not investment advice.