Equity Valuation using FactSet

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I. Company Information

a. Company Data

1. After opening FactSet Workstation, select the Company/Security tab in the navigation panel.

![Company/Security tab](image)

2. Select the magnifying glass to open the Identifier Lookup. Skip the following steps if you know the ticker of the company by typing it into the search bar.

![Identifier Lookup](image)

3. In the Identifier Lookup, type the ticker or name of the company you are interested in into the filter by keyword box in the top left. In the categories section, select equities. These equities can be domestic listings or ADRs. Choose the security you are interested in by highlighting it, selecting Add ID and clicking OK.

![Identifier Lookup](image)
1. Highlight the security

2. Click on the Add ID

3. Select OK
Now you have access to information about the company organized into vertical tabs. To get an overview of the company, refer to the Snapshot section under the Reports tab, where you can find general information such as a business description, industry metrics, and key statistics.

b. Beta

In the Performance table, FactSet provides a 52-week unadjusted beta. This beta is calculated using regression analysis of the company’s daily stock price returns against a market proxy (S&P 500) over a 52-week period.

Beta gives you information about the volatility of a stock compared to the overall market, therefore it is a measure of systematic risk. A beta higher than 1.0 indicates the stock is more volatile than the overall market, and a beta lower than 1.0 indicates the stock is less volatile than the overall market.

Additional beta measures can be found in price summary within the Prices tab in the Volatility table.
Comparing beta measures over different time periods can provide you with insight on if the stock has become more or less volatile than the market over time. The beta input you choose should reflect your views about the future expected volatility of the company.

Adjusted beta is a forward-looking measure that uses the historical beta as an input. The formula for adjusted beta assumes that a security’s beta moves toward the market average (1.00) over time.

$$\text{Adjusted Beta} = \text{Raw Beta} \times (0.67) + 1.00 \times (0.33)$$

c. Financials

Next, you can find the company’s historical financial statements in the Financials tab. In the settings, there are options such as adding growth rates and margins to the table.
Additionally, you can chart line items to observe trends. For example, if we wanted to analyze Apple’s sales growth rate, highlight the line and click on the bar chart icon. This will open a Charting tab that contains a bar chart for the selected line item.

Next, you can download and export all the financial statements by clicking Download in the top right. Selecting Download All Statements under the report selection will export everything to Excel.
If you would like to trace the origins of a specific numeric input within the financial statements, click on it and a window will open showing you the exact origin from the 10K or 10Q filing where the input comes from.
Also, the Financials tab contains a breakdown of revenue segments in the Segment History section. Apple reports its revenues based on the product categories seen below.

This allows us to observe trends in Apple’s revenue composition. In this scenario, you would investigate how the iPhone and Services segments have become a larger portion of total revenue. Next, you could think how segment trends may evolve in the future, and how shifting trends could impact the company’s profitability. For example, if a certain growing segment is more profitable than others, that implies a favorable improvement in margins. Companies do not always disclose segment margins, but if they do, these inputs are critical in the valuation process. If they do disclose specific percentages, or general trends, it would often be in earnings releases or earnings calls.

Ratio Analysis contains a historical overview of profitability, valuation, operating and leverage ratios. This information is useful when identifying how a company ranks on the above characteristics. For example, based on the profitability measures, we can observe a slight deterioration in Apple’s profit margins in 2016 and 2017, which was most likely caused by an increase in research and development spending coupled with slower revenue growth.
The following step in your company analysis process involves parsing through the filings to get a better understanding of the business. This helps you learn about the risks, trends, and opportunities associated with the company. The filings also contain financial information and accounting details in the footnotes.

You can access SEC filings from News, Research and Filings section under the Reports tab. You can also access the most recent Press Releases from the same tab, where you can find synthesized information for upcoming and past filings before the official filing document has been made public.

In the Earnings section, you will find all interim and annual filings, ready to be exported in PDF or Word format. Additionally, you can listen to transcript recordings.

Types of Filings

- **10K** – annual financial statements that follow a set structure of presentation; contains important information such as latest share count on the cover, financial statements, management discussion and analysis, and footnotes.
- **10Q** – interim financial quarter performance and highlights; less detailed footnotes and analysis than 10Ks; 10Q forms are unaudited and filed within 40-45 days of quarter end.

- **8K** – required in the case of a materially significant event that affects a company’s financial position or share price; earnings press releases (PR) are often filed as 8K’s; such earnings releases usually become public before the official 10Q or 10K filing; the nature of PR may contain more information on GAAP to non-GAAP reconciliations and future guidance; 8K’s are also filed in the case of acquisitions, substantial asset sales or restructurings.

- **Form 14A (Proxy)** – represents a notification to shareholders about matters to be brought before meetings; usually contains latest share count (better source than 10Q’s or 10K’s when it’s a more recent filing); contains a great amount of detail around acquisitions as it solicits shareholder approval.

There are additional types of filings, but the above are some of the most used by analysts when performing company valuation.

You can also find initiation and research reports in the *Initiating Coverage* and *Investment Research*. Initiation reports often contain more extensive analysis on a company’s business and financials, but they can also be outdated.

### Debt Schedule Information

The *Credit Analysis* tab provides detailed information on a company’s debt, including debt structure and schedule information, balances of short- and long-term debt, interest expense, maturity and ratings.

In the *DCS Overview* section, you can find a quick summary of ST and LT debt balances from the most recent filings, as well as interest expense, leverage ratios and credit rating.

The Altman Z-score is a combined measure of credit strength that estimates a company’s likelihood of bankruptcy. The score is based on five financial ratios that measure profitability, leverage, liquidity, solvency, and asset turnover. A score above 2 is usually considered healthy.

Again, in the *DCS Overview* section, you can find information on maturity dates by clicking on the bar chart or grey table icon to change between a graphical or table format.
In the **Estimates** tab you can access analysts’ growth projections, guidance, and surprise history. Consensus ratings, number of analysts covering the stock, and high-level projections information are found in the **All Estimates** section. For well-covered companies you may find projections broken down by reporting segments.

In March ’23, 20/31 (65%) analysts downgraded their EPS estimates. The solid line represents the mean/consensus.

In the **Guidance History** section, you can observe historical trends and surprise levels on company provided guidance.
f. Pricing Data

When trying to get historical price data for a specific period, go to the Price History section under the Price tab. You can select data for single or multiple securities, and get different types of price statistics (Price, % Change, Open, High, Low, Dividend Yield, Short Interest, and Return and Volume data).

Short interest represents the number of shares that have been sold short and are not yet covered and closed out. The short interest can be expressed either in absolute number of shares, or as a percentage of total average daily volume.

You can export custom period pricing data in Excel by clicking on the download button to the right of the screen:

In the Return Analysis section, you can compare a company’s price performance against an index or peers, by clicking on Comps, entering the respective peer and index tickers, and clicking OK.

We can observe that Apple outperformed the S&P500, Samsung and HTC year-to-date below.
g. DCF Inputs

i. Risk Free Rate

You may find information on Treasury securities of different maturities in the Markets tab on the toolbar.

A proxy for the risk-free rate is the 10Y US Treasury yield, in this case 3.951%.

ii. Weighted Average Cost of Capital
The following table represents all inputs needed to calculate a company’s WACC:

<table>
<thead>
<tr>
<th>Input</th>
<th>Formula / Where to find it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>Company/Security tab → Prices tab → Price Summary section; can also compute on your own by regressing the stock price against a market proxy.</td>
</tr>
<tr>
<td>Risk-Free Rate</td>
<td>Markets tab → US Treasury Summary tab</td>
</tr>
<tr>
<td>Weight of Debt</td>
<td>Calculate using inputs from the Credit Analysis tab → DCS Overview section and market value of equity</td>
</tr>
<tr>
<td>Weight of Equity</td>
<td>Calculate using inputs from the Credit Analysis tab → DCS Overview section and market value of equity</td>
</tr>
<tr>
<td>Cost of Equity</td>
<td>( R_f + \beta_a \times \text{Equity Risk Premium} )</td>
</tr>
<tr>
<td>Cost of Debt (after-tax)</td>
<td>( K_d \times (1 - t) )</td>
</tr>
</tbody>
</table>

### iii. Equity Risk Premium

The equity risk premium is the expected return on stocks, net of the risk-free rate in an economy. This excess return compensates investors for taking on the relatively higher risk of equity investments compared to risk-free securities. Consequently, riskier securities demand a higher premium.

We can consider the concept of equity risk premium in two directions:
- Historical equity risk premium
- Implied equity risk premium

The historical equity risk premium is a backward-looking measure and can be estimated by observing stock market and government bond performance over a defined period. The time frame and method of calculation will affect the estimates.

We can calculate the ERP using the formula:

\[
\text{ERP} = \beta_a (R_m - R_f),
\]

Where:
- \( \beta_a \) is the asset beta
- \( R_m \) is the return of the overall market
- \( R_f \) is the risk-free rate

The implied equity risk premium is a forward-looking measure and can change depending on your period of analysis. We can estimate it using a discounted cash flow approach and current stock index levels to calculate the future risk premium implied by the current stock price levels. This approach assumes that the current valuation levels are correct, or put in other words, markets are efficient.

You may find both estimates on Damodaran Online. After opening the website, go to the Data section.
Then choose **Current Data**.

You can access a spreadsheet with calculated Historical ERP by clicking on download.

In the downloaded spreadsheet you can adjust for short-term (ST) and long-term (LT) estimates. Damodaran uses 3-month treasury notes as a proxy for the short-term risk-free rate, and 10-year US Treasury bonds for the long-term risk-free rate. After inputting LT for the risk-free rate, scroll down to the bottom of the spreadsheet to see the historical premia for different periods.
Which average is best?
Arithmetic averages assume security prices follow a random walk; returns are normally distributed and independent.

Geometric averages account for compounding. They are often used for measurement of long-term market risk premium and buy-and-hold strategies.

In your choice, consider the maturity chosen for the risk-free rate proxy, as well as the horizon of the investment. Short (long) term risk free rates are best matched with short (long) term risk free premia. Be consistent in your choices.

To look at the implied ERP, click download next to the data description field. The following spreadsheet will open.
The implied ERP is calculated using current index levels, expected dividends on stock, and expected earnings growth rates. On the actual downloaded spreadsheet, time periods may not be noted, but you can check them by clicking on the cell with the percentage number and trace the formula in the spreadsheet. More information and definition of each variable can be found here.

II. Comparable Companies Information

In the Overviews tab, go to the Comps section.
You may add or remove comps. To remove a company, click remove next to the name in the Selected Financials table. To add a company, enter the ticker into the search box to the right above the table.

The default snapshot shows valuation metrics, but you can adjust the output by clicking on the boxes above the tables.

You can add metrics by creating custom tables, choosing the custom drop-down menu. A window will open, allowing you to choose from different categories of data (Profitability, Price performance, Growth, Valuation).

III. Industry Information

The Industry tab is the place to find industry metrics and valuation levels to inform yourself about the performance and outlook of a specific sector. In the Apple example, we would be looking at the Telecommunications Equipment industry.
In the Snapshot section, you will see characteristics, market performance of the sector and key players. You may also find information on sales and earnings outlooks, analyst recommendations and revisions, and historical multiples trends. The Industry tab contains a wide variety of sector-level financial metrics, valuation ratios, peer price performance, estimates, and even M&A trends.

IV. Macroeconomic Information

Lastly, you can get GDP, inflation, short-and-long-term generic government bond yields, and additional economic and fiscal information in the Economics tab.

For CPI, GDP, unemployment, and interest rates go to the Country/Region section, type the country into the search bar in the top left, and select the Economic Synopsis report.
### United States

**Economics Summary**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Feb-23</th>
<th>Mar-23</th>
<th>Apr-23</th>
<th>May-23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail &amp; Food Sales (Year-over-year)</td>
<td>9.0%</td>
<td>5.6%</td>
<td>4.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Consumer Confidence (GfK, ©GfK)</td>
<td>102.9</td>
<td>106.0</td>
<td>108.5</td>
<td>110.4</td>
</tr>
<tr>
<td>ISM Manufacturing Report (%)</td>
<td>47.7</td>
<td>47.4</td>
<td>46.4</td>
<td>45.8</td>
</tr>
<tr>
<td>Leading Economic Indicator (%)</td>
<td>2.8</td>
<td>2.8</td>
<td>3.0</td>
<td>1.9</td>
</tr>
</tbody>
</table>

**Economic Outlook**

<table>
<thead>
<tr>
<th>Category</th>
<th>2Q 23</th>
<th>3Q 23</th>
<th>4Q 23</th>
<th>1Q 24</th>
<th>2Q 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP (YoY, SAAR)</td>
<td>0.6%</td>
<td>2.2%</td>
<td>2.7%</td>
<td>2.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Trade Balance (Bill. Ch.)</td>
<td>-1.305</td>
<td>-1.260</td>
<td>-1.238</td>
<td>-1.236</td>
<td>-1.267</td>
</tr>
<tr>
<td>Inflation</td>
<td>8.7%</td>
<td>5.5%</td>
<td>4.2%</td>
<td>4.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Unemployment Rate (%)</td>
<td>3.6%</td>
<td>3.5%</td>
<td>3.5%</td>
<td>3.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Housing Starts (Thousand)</td>
<td>1.445</td>
<td>1.412</td>
<td>1.412</td>
<td>1.556</td>
<td>-</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>1.7%</td>
<td>3.5%</td>
<td>4.3%</td>
<td>4.5%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Source: FactSet Economics