



WACC Components in Bloomberg

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Introduction to Bloomberg:

Bloomberg is a financial software that analysts use to find real-time data on a company. It is often used to screen for, value, and compare companies. In this tutorial, we will use it to find the components of the WACC for a given company.

Introduction to WACC:

A firm's weighted average cost of capital (or WACC) is a discount rate that takes into account the cost of debt and equity for the company as well as the tax shield effects of interest and the capital structure. Therefore, it is used as the cost of capital in financial models that find a company's present value for all capital providers (not just equity holders). The WACC equation is:

$$WACC = [Cost\ of\ equity * weight\ of\ equity] + [Cost\ of\ Debt * Weight\ of\ debt * (1 - Tax\ rate)]$$

To find the cost of equity (a part of the WACC equation), use the CAPM formula:

$$Cost\ of\ Equity = Risk - Free\ Rate + (Beta * Market\ Risk\ Premium)$$

This tutorial will walk you through how to use Bloomberg to find the elements of the WACC equation for a given company. Then, it will show you how to use these figures to calculate the WACC. All data listed in screenshots and in the tutorial is as of March 25, 2022. Use this table of contents to jump to sections that may be helpful for you:

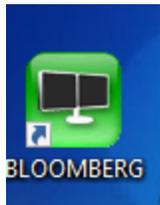
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To learn more about Bloomberg, check out the other Cutler Center tutorials related to Bloomberg using this [link](#).

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Part 1 - Launching Bloomberg:

To launch Bloomberg, you must come into the Cutler Center and sit at one of the computers with a colored keyboard like the one pictured here. These are Bloomberg terminals.

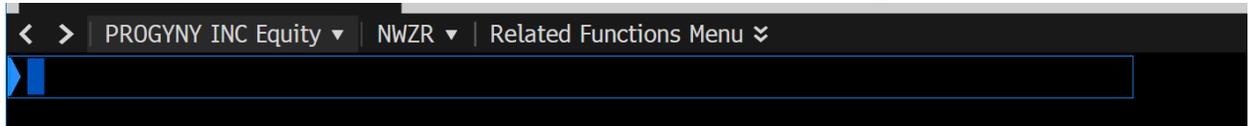


Turn on the computer and log in using your Babson credentials. Find this icon on the desktop. If you do not see this icon, you may not be on a Bloomberg terminal. Click this icon to launch Bloomberg. Once it loads, press enter / go.

If you have a login, type it in here. If you do not, click on the "Create a New Login" button below the "Contact Us" button and follow the steps.

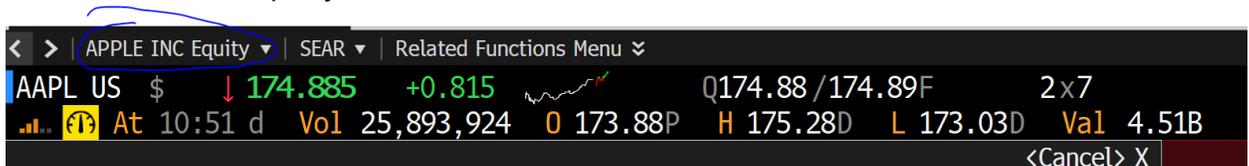


Once you are logged in to Bloomberg, several windows will open. In the window labeled "New Tab," you can search various functions. We will be using this window.



At the top of the screen, there is a blinking cursor. This is your search bar. You can type in companies and functions here. Start by typing in a company to focus on. For this tutorial, we will focus on Apple. You can either type in Apple and choose the correct company from the options or type in the ticker (AAPL) and press "GO."

Once you have searched for Apple, it will appear on the top left just above your search bar. This means that everything that you search will be in terms of Apple until you search for a new company.



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Part 2 - WACC Function:

There is a function dedicated to the WACC on Bloomberg. Simply use the same search bar that you used to search for Apple and search for “WACC.” After hitting “GO,” this page will populate:



This screen contains all the information necessary to understand where the WACC comes from and the WACC itself (in this case 9.3%). This is a quick way to obtain the WACC for any company through Bloomberg.

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Part 3 - Components of Cost of Equity:

Some professors, however, may require you to find the components of WACC using different Bloomberg functions. To find the cost of equity using Bloomberg, you can simply use the cost of equity from the WACC screen (above). You can also find the components of the cost of equity using the following functions:

Beta

To find Apple's beta, simply search "BETA" in the search bar. The following screen will populate:

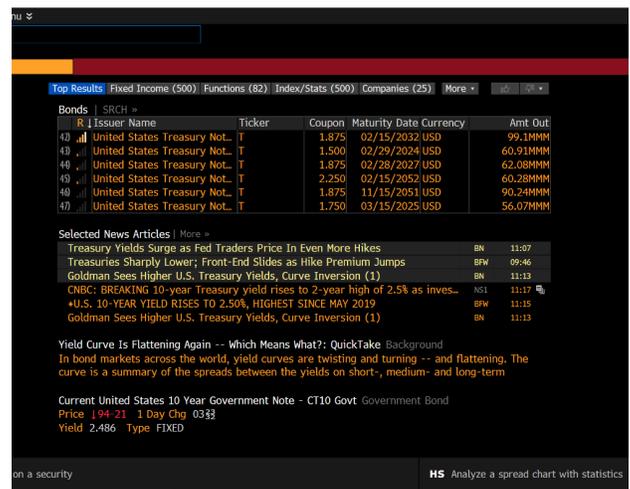


The beta on this screen is circled on the right side of the screenshot. Bloomberg provides a raw beta and an adjusted beta, depending on your preference. It also shows how the beta was calculated with the graph in the middle so you can better understand the number. In this case, the raw beta is 1.057.

Risk-Free Rate

The risk-free rate is not specific to Apple, but rather it is consistent across the market. 10 or 30 year US Treasury bonds are often used as the risk-free rate. To find the yields for these bonds, simply type "US Treasury Bond" into the search bar. The following screen will populate.

From this screen, you can find the 10 or 30 year bond yields and use it as your risk free rate. The 10-year rate on this screen has a yield of 2.486%.



Market Risk Premium

Similar to the risk-free rate, the market risk premium is also consistent across the market. Often, companies or professors will have a standard market risk premium to use, but you can find Bloomberg's estimate by typing "Market Risk Premium" in the search bar. The resulting page will give further information on the market risk premium as well as Bloomberg's estimate (circled in blue), which is 5.41%.

low yields as a result of this assumed reliability. Equity market returns are based on expected returns on a broad benchmark index such as the Standard & Poor's 500 index of the Dow Jones industrial average. Real equity returns fluctuate with operational performance of the underlying business, and the market pricing for these securities reflects this fact. Historical return rates have fluctuated as the economy matures and endures cycles, but conventional knowledge has generally estimated long-term potential of approximately 8% annually. As of 2016, some economists were calling for a reduction in this assumed rate, though opinions on the topic diverged. Investors demand a premium on their equity investment return relative to lower risk alternatives because their capital is more jeopardized, which leads to the equity risk premium.

Calculation and Application

The market risk premium can be calculated by subtracting the risk-free rate from the expected equity market return, providing a quantitative measure of the extra return demanded by market participants for increased risk. Once calculated, the equity risk premium can be used in important calculations such as CAPM. Between 1926 and 2014, the S&P 500 exhibited a 10.5% compounding annual rate of return, while the 30-day Treasury bill compounded at 5.1%. This indicates a market risk premium of 5.4%, based on these parameters.

The required rate of return for an individual asset can be calculated by multiplying the asset's beta coefficient by the market coefficient, then adding back the risk-free rate. This is often used as the discount rate in discounted cash flow, a popular valuation model.

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Part 4 - Components of Cost of Debt:

Like the cost of equity, the cost of debt can also be found on the WACC page using Bloomberg. However, if your professor requires you to calculate the cost of debt for your company or you want to understand where this number is coming from, you can use the following function:

Type “SECF” into the Bloomberg search bar. This stands for “security finder.” Just like with the “WACC” and “BETA” functions, Bloomberg will search for this in for Apple.

Once the screen loads, choose the category “fixed income” from the dropdown menu in the top left corner. The screen will then populate with this information (right).

This screen has over 1000 securities. To filter it further, click the orange rectangle under “name” in the top left of the screen. Type in “Apple Inc.” This will filter it to Apple’s securities. You can also type in the ticker as “AAPL.” Press enter. The following screen will populate:

This page shows all of the fixed income securities that Apple currently has outstanding and their value. You can export this to Excel using the “Export” button at the top of the screen. You can then find a weighted average of the yield on these bonds.

Doing this analysis will lead to a cost of debt of about 2.65%.

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Part 5 - Components of Capital Structure and Tax Rate:

The best place to find capital structure information on Bloomberg is the WACC page from part 2, which contains a capital structure section dedicated to the relative weights of equity, debt, and preferred stock. If you would like to find it a different way, however, use the following functions:



With Apple still as the company highlighted in the top left corner of the screen type “FA” into the search bar. This stands for Financial Analysis, and a screen will populate with many financial figures for Apple.

| In Millions of USD | 2018 Y | 2019 Y | 2020 Y~ | 2021 Y | Current/LTM | 2022 Y Est | 2023 Y Est |
|-----------------------|-------------|------------|-------------|-------------|-------------|------------|------------|
| 12 Months Ending | 09/29/2018 | 09/28/2019 | 09/26/2020 | 09/25/2021 | 12/25/2021 | 09/30/2022 | 09/30/2023 |
| Market Capitalization | 1,073,390.5 | 972,268.9 | 1,906,150.9 | 2,413,423.4 | 2,896,864.0 | | |
| - Cash & Equivalents | 237,100.0 | 205,898.0 | 191,830.0 | 190,516.0 | 202,596.0 | | |
| + Preferred & Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| + Total Debt | 114,483.0 | 108,047.0 | 122,278.0 | 136,522.0 | 122,798.0 | | |
| Enterprise Value | 950,773.5 | 874,417.9 | 1,836,598.9 | 2,359,429.4 | 2,817,066.0 | | |
| Revenue, Adj | 265,595.0 | 260,174.0 | 274,515.0 | 365,817.0 | 378,323.0 | 396,399.5 | 418,878.9 |
| Growth %, YoY | 16.2 | -2.0 | 5.5 | 33.3 | 28.6 | 8.4 | 5.7 |
| Gross Profit, Adj | 101,839.0 | 98,392.0 | 104,956.0 | 152,836.0 | 162,751.0 | 171,113.8 | 180,624.8 |
| Margin % | 38.3 | 37.8 | 38.2 | 41.8 | 43.0 | 43.2 | 43.1 |
| EBITDA, Adj | 81,565.0 | 76,477.0 | 78,844.0 | 121,933.0 | 128,218.0 | 132,613.6 | 137,080.1 |
| Margin % | 30.7 | 29.4 | 28.7 | 33.3 | 33.9 | 33.5 | 32.7 |
| Net Income, Adj | 59,337.7 | 55,280.5 | 57,346.2 | 94,455.6 | 100,423.9 | 100,981.7 | 105,088.2 |
| Margin % | 22.3 | 21.2 | 20.9 | 25.8 | 26.5 | 25.5 | 25.1 |
| EPS, Adj | 2.97 | 2.97 | 3.28 | 5.60 | 6.03 | 6.16 | 6.56 |
| Growth %, YoY | 30.2 | 0.2 | 10.2 | 70.8 | 63.6 | 10.0 | 6.6 |
| Cash from Operations | 77,434.0 | 69,391.0 | 80,674.0 | 104,038.0 | 112,241.0 | | |
| Capital Expenditures | -13,313.0 | -10,495.0 | -7,309.0 | -11,085.0 | -10,388.0 | -11,417.8 | -12,457.5 |
| Free Cash Flow | 64,121.0 | 58,896.0 | 73,365.0 | 92,953.0 | 101,853.0 | 109,106.3 | 117,590.3 |

Click on the “Custom” tab (circled in the picture above). An empty form will populate the screen. Add figures to the form by typing them in the “Enter Field” orange rectangle in the top right corner of the screen. Enter the following two terms:

- Current Market Cap
- Short and Long Term Debt

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Your form should now look like this:

| In Millions of USD except Per Share | Y | 2017 Y | 2018 Y | 2019 Y | 2020 Y~ | 2021 Y | Current |
|-------------------------------------|----|------------|-------------|------------|-------------|-------------|-------------|
| 12 Months Ending | .6 | 09/30/2017 | 09/29/2018 | 09/28/2019 | 09/26/2020 | 09/25/2021 | 03/29/2022 |
| Current Market Cap | .4 | 796,064.9 | 1,090,307.5 | 988,887.0 | 1,920,272.7 | 2,428,612.0 | 2,889,357.0 |
| Short and Long Term Debt | .0 | 115,680.0 | 114,483.0 | 108,047.0 | 122,278.0 | 136,522.0 | 122,798.0 |

Use the current figures (circled in blue above) to calculate the weight of debt and equity for Apple.

$$\text{Weight of equity} = 2,889,357 / (2,889,357 + 122,798) = 95.93\%$$

$$\text{Weight of debt} = 122,798 / (2,889,357 + 122,798) = 4.07\%$$

These weights match what was reported on the WACC screen.

You also need to know the effective tax rate to calculate the WACC. To find this, use the same FA screen. If you have switched screens, type FA into the search bar to get back to financial analysis. Then click on the ratios tab (5). Find the “effective tax rate.” The current effective tax rate is 13.30%.

| In Millions of USD except Per Share | Y | 2016 Y | 2017 Y | 2018 Y | 2019 Y | 2020 Y~ | 2021 Y |
|-------------------------------------|----|------------|------------|------------|------------|------------|------------|
| 12 Months Ending | .5 | 09/24/2016 | 09/30/2017 | 09/29/2018 | 09/28/2019 | 09/26/2020 | 09/25/2021 |
| Effective Tax Rate | .7 | 25.56 | 24.56 | 18.34 | 15.94 | 14.43 | 13.30 |

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Part 6 - Tying it all Together:

From our above analysis, we have obtained the following figures for Apple:

- Beta: 1.057
- Risk-free rate: 2.486%
- Market risk premium: 5.41%
- Cost of debt: 2.65%
- Weight of debt: 4.07%
- Weight of equity: 95.93%
- Effective tax rate: 13.30%

From these figures, we can find Apple's weighted average cost of capital. First, we will find the cost of equity using the CAPM formula:

$$\text{Cost of Equity} = \text{Risk Free Rate} + (\text{Beta} * \text{Market Risk Premium})$$

$$\text{Cost of equity} = 2.486\% + (1.057 * 5.41\%)$$

$$\text{Cost of equity} = 8.20\%$$

You might notice that this is different from the cost of equity shown on the WACC screen of Bloomberg, but this difference likely comes from a difference in the market risk premium and/or risk-free rate used.

We can now solve for the WACC:

$$\text{WACC} = [\text{Cost of equity} * \text{weight of equity}] + [\text{Cost of Debt} * \text{Weight of debt} * (1 - \text{Tax rate})]$$

$$\text{WACC} = [9.6\% * 95.93\%] + [2.65\% * 4.07\% * (1 - 13.3\%)]$$

$$\text{WACC} = 9.21\% + .09\%$$

$$\text{WACC} = 9.3\%$$

Note that we used the Bloomberg cost of equity for consistency. Using the above calculation, we found the WACC of Apple that is consistent with the WACC function from Bloomberg using other Bloomberg functions.