

WA3

DATA CASE

Your boss was impressed with your presentation regarding the irrelevance of capital structure from Chapter 14 but, as expected, has realized that market imperfections like taxes must be accounted for. You have now been asked to include taxes in your analysis. Your boss knows that interest is deductible and has decided that the stock price of Home Depot should increase if the firm increases its use of debt. Thus, your boss wants to propose a share repurchase program using the proceeds from a new debt issue and wants to present this plan to the CEO and perhaps to the Board of Directors.

Your boss would like you to examine the impact of two different scenarios, adding a modest level of debt and adding a higher level of debt. In particular, your boss would like to consider issuing \$1 billion in new debt or \$5 billion in new debt. In either case, Home Depot would use the proceeds to repurchase stock.

- ✓ 1. Using the financial statements for Home Depot that you downloaded in Chapter 14, determine the average corporate tax rate for Home Depot over the last four years by dividing Income Tax by Earnings before Tax for each of the last four years.
2. Begin by analyzing the scenario with \$1 billion in new debt. Assuming the firm plans to keep this new debt outstanding forever, determine the present value of the tax shield of the new debt. What additional assumptions did you need to make for this calculation?
3. Determine the new stock price if the \$1 billion in debt is used to repurchase stock.
 - a. Use the current market value of Home Depot's equity that you calculated in Chapter 14.
 - b. Determine the new market value of the equity if the repurchase occurs.
 - c. Determine the new number of shares and the stock price after the repurchase is announced.
4. What will Home Depot's D/E ratio based on book values be after it issues new debt and repurchases stock? What will its market value D/E ratio be?
5. Repeat Steps 2–4 for the scenario in which Home Depot issues \$5 billion in debt and repurchases stock.
6. Based on the stock price, does the debt increase and stock repurchase appear to be a good idea? Why or why not? What issues might the executives of Home Depot raise that aren't considered in your analysis?

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TA CASE

You work in the corporate finance division of The Home Depot and your boss has asked you to review the firm's capital structure. Specifically, your boss is considering changing the firm's debt level. Your boss remembers something from his MBA program about capital structure being irrelevant, but isn't quite sure what that means. You know that capital structure is irrelevant under the conditions of perfect markets and will demonstrate this point for your boss by showing that the weighted average cost of capital remains constant under various levels of debt. So, for now, suppose that capital markets are perfect as you prepare responses for your boss.

You would like to analyze relatively modest changes to Home Depot's capital structure. You would like to consider two scenarios: the firm issues \$1 billion in new debt to repurchase stock, and the firm issues \$1 billion in new stock to repurchase debt. Use Excel to answer the following questions using Eq. 14.5 and Eq. 14.6, and assuming a cost of unlevered equity (r_U) of 12 percent.

1. Obtain the financial information you need for Home Depot.
 - a. Go to www.nasdaq.com, click "Summary Quotes" on the left-hand side, and enter Home Depot's stock symbol (HD). Click "Go." From the Summary Quotes page, get the current stock price and number of shares outstanding.
 - b. Click "Company Financials" and the annual income statement should appear. Put the cursor in the middle of the statement, right-click your mouse, and select "Export to Microsoft Excel." (You will not need the income statement until Chapter 15, but collect all of the background data in one step.) Go back to the NASDAQ Web page and select the balance sheet. Export that to Excel as well and then cut and paste the balance sheet to the same worksheet as the income statement.
 - c. To get the cost of debt for Home Depot, go to NASD BondInfo (<http://cxa.marketwatch.com/finra/BondCenter/Default.aspx>). Select the corporate toggle, search by symbol and enter Home Depot's symbol. The next page will contain information for all of Home Depot's outstanding and recently matured bonds. Select the latest yield on an outstanding bond with the shortest remaining maturity (the maturity date is on the line describing each issue; sometimes the list also contains recently retired bonds, so make sure not to use one of those). For simplicity, since you are just trying to illustrate the main concepts for your boss, you may use the existing yield on the outstanding bond as r_D .
2. Compute the market D/E ratio for Home Depot. Approximate the market value of debt by the book value of net debt; include both Long-Term Debt and Short-Term Debt/Current Portion of Long-Term Debt from the balance sheet and subtract any cash holdings. Use the stock price and number of shares outstanding to calculate the market value of equity.
3. Compute the cost of levered equity (r_E) for Home Depot using their current market debt-to-equity ratio and Eq. 14.5.
4. Compute the current weighted average cost of capital (WACC) for Home Depot using Eq. 14.6 given their current debt-to-equity ratio.
5. Repeat Steps 3 and 4 for the two scenarios you would like to analyze, issuing \$1 billion in debt to repurchase stock, and issuing \$1 billion in stock to repurchase debt. (Although you realize that the cost of debt capital r_D may change with changes in leverage, for these modestly small changes you decide to assume that r_D remains constant. We will explore the relation between changing leverage and changing r_D more fully in Chapter 24.) What is the market D/E ratio in each of these cases?
6. Prepare a written explanation for your boss explaining the relationship between capital structure and the cost of capital in this exercise.
7. What implicit assumptions in this exercise generate the results found in Question 5? How might your results differ in the "real world"?