

Calculating Free Cash Flow to the Firm (FCFF)

Objective: The objective of this assignment is to apply the concept of Total Cash Flow that you learned in Chapter 10: Making Capital Investment Decisions (RWJ) to a real world company. This assignment should be done after you have finished the assigned homework problems for Chapter 10.

Company: Krispy Kreme Donuts (Ticker: KKD, <http://www.krispykreme.com/>). There's a lot of "dough" in Krispy Kreme Doughnuts even though its business is full of holes. Founded in 1937, Krispy Kreme has more than 185 shops in 31 states with 115 (62%) of its locations owned or affiliated with the company. In addition to its signature doughnuts, it also sells pastries, fruit pies, and honey buns. As part of its unique business model, the Company's stores function as both retail outlets and highly automated, high-volume producers of its doughnut products that can they can sell through multiple sales channels. For example, Krispy Kreme sells its products to grocery and convenience stores (Kroger stores account for 10% of sales). It also sells ingredients and equipment to its franchisees.



Competitors: Allied Domecq (ALDCY), New World Coffee (NWC), and Starbucks (SBUX)

Assignment: Download the KKD data from my website and use the downloaded spreadsheet (KKD2002) to answer the following questions (all work should be done on this spreadsheet):

1. Imputed Interest on Operating Leases (25 points): Calculate the imputed interest on operating leases for Krispy Kreme for the trailing twelve months (TTM) ending April 29, 2001. To calculate the imputed interest, first discount the operating lease expense (also known as rental expense) by using the pre-tax cost of debt as the discount rate. Since the rental payments after 2006 (the line item labeled "Thereafter") is the cumulation of all future lease commitments e.g. $\text{Rent Thereafter} = \text{Rent}_{2007} + \text{Rent}_{2008} + \dots + \text{Rent}_{20xx}$, we will use the average lease commitment over the first five years (from Year 2002 to Year 2006) as an approximate annuity in converting the final cumulated amount into annual amounts.



Example: Suppose that a firm has lease commitments of \$294 in Year 1, \$291 in Year 2, \$263 in Year 3, \$245 in Year 4, \$236 in Year 5 and a total of \$2,701 Thereafter. The average rent over this period is \$266 $((294+291+264+245+236)/5)$. Dividing this average rent into the cumulative amount of \$2,701 yields a 10 year annuity $(2701/266 = 10.15)$ or 10 years rounded to an integer. This annuity can be considered to have

annual lease payments of \$270 a year for 10 years ($\$2,701/10 = \270) starting in year 6. Consequently, the annual lease payment is approximately \$270 for year 6 through year 15.

Rationale for why we are doing this: Operating lease expenses are really financial expenses, although accounting standards allow these rental expenses to be treated as operating expenses. Thus, we will convert operating leases into debt and adjust the operating income accordingly, by adding back the imputed interest expense on this debt.

2. Operating Cash Flow (35 points): Calculate the operating cash flow for the last twelve months (LTM) or trailing twelve months (TTM). *Intuition:* In the real world, analysts use the most current financial information on a firm. As such, they frequently add together information on the last twelve months (e.g. quarterly sales, expenses, and other “flow” information) if several quarters have past since a firm issued their annual report/10K.



3. Non-cash Working Capital and Change in non-cash Working Capital (15 points): Calculate the non-cash working capital for the current period (4/29/2001). Also calculate the NWC for the prior period (4/30/2000). Calculate the change in non-cash working capital by subtracting $NWC_{4/29/01} - NWC_{4/30/00}$. If a line item has an “NA”, set the “NA” equal to zero for purposes of our calculations. Note: In contrast to the income statement, items in the balance sheet are “stock” variables.

4. Free Cash Flow to the Firm (25 points): Calculate the free cash flow to the firm using the results in questions 2 and 3 above and your calculations for capital expenditures for the trailing twelve months. Is the FCFF that you computed typical for a firm such as Krispy Kreme for its current stage of its economic lifecycle?

Please turn in a hard-copy of your work together with a disk containing your spreadsheets. No late work will be accepted. Please put your name on your disk. This is an individual effort. Any student caught cheating will be given an F on this project.

Assumptions: Use in calculating the Free Cash Flow to the Firm

Line Item	Calculation/Assumption
Pre-tax Cost of Debt	As of April 2001, Krispy Kreme's had a synthetic bond rating of AAA based on its interest coverage ratio (latest 10Q). As such, it's pre-tax cost of debt is $.0497 + .0081 = .0578$ or 5.78%
Imputed Interest on Operating Lease	Imputed Interest = PV of Operating Lease * Pre-tax Cost of Debt
Present Value of an Annuity Factor (10 year Annuity)	Use the PV worksheet function in Excel. The syntax for this function is $PV(\text{rate}, \text{nper}, \text{pmt}, \text{fv}, \text{type})$. For example, if the discount rate is 6.25% for 10 years and the payment per year is 100000 then $PV(.0625, 10, -100000) = 727369$ and the PV of an Annuity Factor is 7.27369 ($727,369 \div 100000$).
Operating Cash Flow	EBITDA <u>+ Imputed Interest on Operating leases</u> Adjusted EBITDA <u>- Taxes</u> Operating Cash Flow (OCF)
Non-cash Working Capital (NWC)	Non-cash Current Assets - Non-debt Current Liabilities ¹ . Cash includes cash equivalents e.g., cash + marketable securities.
Change in Non-cash Working Capital (ΔNWC)	NWC in period T – NWC in period T-1. $\Delta\text{NWC} = \text{NWC}_T - \text{NWC}_{T-1}$. Here T = 7/28/200 and T-1 = 7/30/1999.
Capital Expenditures (CapEx)	CapEx in each period is the amount spent per quarter. This is a "flow" item just like items in the income statement.
Free Cash Flow to the Firm	Operating Cash Flow - ΔNWC – Capital Expenditures (please refer to pages 296-297 of your text.)

¹This definition of working capital differs from that in your textbook. RWJ define net working capital total current assets – total current liabilities. The current portion of LT debt is excluded in our definition since we will consider it as part of the overall financing and thus we exclude it in NWC to avoid double counting. We also eliminate cash from our definition since we are estimating the effect of changes on cash flows. See Damodaran's Corporate Finance text for a fuller elaboration on this subject.

