

Free Cash Flow to the Firm Valuation

Objective: The purpose of this project is to reinforce the concepts that you have been exposed to through readings, lectures, and mini-cases. In essence, you will learn how the following concepts are used in the context of valuing the equity of an actual firm:

- cost of debt
- present value of operating leases and imputed interest on this “debt”
- built-up beta and cost of equity (discount rate for cash flows to stockholders)
- weighted average cost of capital (discount rate to firm's cash flows)
- margin analysis
- free cash flow to the firm (FCFF) and the terminal value of the firm
- economic profit (EVA)

The data for this project can be downloaded from my website. The file is called GCI2002.xls. The data is current as of September 12, 2001.

The Company: Gannett Inc. (<http://www.gannett.com>), is the largest newspaper publisher in the United States with approximately 99 U.S. daily newspapers having a combined daily paid circulation of 7.8 million. Its flagship newspaper, USA TODAY, is the nation's largest-selling daily newspaper, with a circulation of approximately 2.3 million. In addition to publishing newspapers, it



operates 22 TV broadcasting stations that reach 17% of U.S. homes and is engaged in marketing, commercial printing, a newswire service, data services and news programming. The firm also has a presence on the Internet with over 60 websites. In addition to this, Gannett has operations in the United Kingdom (Newsquest is one of UK's largest publishers), Belgium, Germany, Italy and Hong Kong.



The publishing division contributes 81% of total EBITDA with the additional 19% coming from the company's 22 TV broadcasting stations. The firm's ticker symbol is GCI. Gannett's stock performance is closely tied to the general economy since over 75% of GCI's revenues are dependent on advertising revenues.

Competitors: Cox Enterprises (private firm), Dow Jones (DJ), Knight Ridder (KRI), New York Times (NYT), The News Corp (NWS), Tribune (TRB), and Washington Post (WPO).

Assignment/Tasks: Download the file GCI2002.xls and then given the assumptions on the last page of this mini-case, perform the following tasks using this spreadsheet

1. Cost of debt (10 points): Calculate the pre-tax cost of debt and the after-tax cost of debt using the Altman EM Z-Score model. Assume that GCI's debt has a 10-year maturity. As such, you should use the 10-year Treasury bond for the risk free rate in your calculations. You are using the Altman model to infer a bond rating since the last bond rating for Gannett was on unsecured debt that matured in 2000. Since the economy has weakened since 2000 and Gannett's revenues are closely tied to the economy (classified ad, etc), this may or may not affect GCI's debt rating.
2. PV of Operating Leases and Imputed Interest (10 points): Calculate the present value of the operating leases for Year 2002 through Year 2006 using the pre-tax cost of debt that you calculated in question #1 above as the discount rate. You are using the **pre-tax** cost of debt since operating leases are a form of financing and as such represent **before-tax** cash flow to debtholders. In addition to this, calculate the imputed interest on these operating leases for Year 2002 through Year 2006.
3. Total value of debt and total value of equity (5 points): Calculate the total value of debt for the last twelve months (LTM) assuming that the book value of debt is equal to the market value of debt. Be sure to include the present value of operating leases (at the *beginning* of year 2002) as debt¹. Next, calculate the total market value of equity. Finally, compute the market value of total capital as well as the weights for debt and equity.
4. Built-up Beta (10 points): Compute the built-up beta as well as the historical beta for Gannett. Use the book value of debt and the market value of equity in calculating the debt-to-equity ratio for the comparable firms. Round your answer to two decimal places.
5. Cost of equity and weighted average cost of capital (10 points): Calculate the cost of equity using the built-up beta for GCI and alternatively using Gannett's historical beta. Next, calculate the two after-tax weighted average cost of capital using the alternative costs of equity.
6. Margin analysis (10 points): Do a margin analysis for Gannett using the Margin Analysis worksheet in your GCI2002 workbook. This analysis is a prelude to forecasting the cash flows.

¹Although we have one quarter remaining in Year 2001, we will ignore this quarter in calculating the present value of operating leases for the trailing/last twelve months (TTM/LTM) and instead use the PV of Operating Leases associated with the beginning of Year 2002 as our PV of Operating Leases (LTM).

7. Free cash flow to the firm, target stock price and sensitivity analysis (40 points): Use the worksheet labeled “7. Justified Price & Sensitivity” to calculate the FCFF, the value of the firm, and the target stock price for Gannett. The worksheet assumes that stable/normal growth occurs in year 5. In calculating the terminal value (enterprise value) at the beginning of year 5, use the TEV/EBITDA multiple applied to EBITDA in year 5². How does your target stock price compare to that of Salomon Smith Barney’s target price (as of September 6, 2001) of \$85 for GCI³? Next, do a sensitivity analysis using the data table command in Excel by completing the 2 two-way tables in the worksheet. These sensitivity tables show how the target (justified) price per share for GCI changes with a change in the assumption regarding the growth rate for revenues, the WACC, and the TEV/EBITDA multiple.

8. Economic Value Added (EVA) (5 points): Calculate the economic profit using the book value of equity and the book value of debt. Is Gannett’s management adding value to the firm?

Please turn in a hard copy of your solutions together with your disk showing all your spreadsheet calculations. This is an individual project. As such, anyone caught cheating will be given an F on this assignment.

²Remember that the beginning of year 5 is equivalent to the end of year 4.

³Salomon Smith Barney’s price target of \$85 as of September 6, 2001 is based on a target valuation of 11 times Year 2002’s EBITDA. A relative valuation analysis of comparable firms which I will show in the solution to this mini-case supports this TEV/EBITDA multiple.

Valuation Assumptions:

Item	Assumption
TTM or LTM (Trailing twelve months)	Use the last twelve months of data (LTM)/last 4 quarters of data in the 10Q. Remember that only “flow” items are added for the last 4 quarters while only the most current quarter is used for “stock” items.
Expected growth rate in sales per year ⁴	5%
Expected growth rate in depreciation and amortization	5%; Use LTM for Depreciation and amortization in year 0
Margin analysis a.k.a. Percentage of Sales	
Cost of goods sold (COGS)/Net sales	50% (per year)
Selling, gen. & admin. expense(SGA)/Net sales	15.5% (per year)
Marginal tax rate (τ)	39.5%
Capital Expenditures ⁵	CapEx/Revenues remains constant at 5.7% over the forecast period. Capital expenditures in year 5 is assumed to be equal to whatever depreciation and amortization is in year 5.
Non-cash Working capital (NWC)	NWC is defined as Non-cash current assets minus non-debt current liabilities. NWC/Net Sales remains constant at 1.5% over the forecast period.
Total Enterprise Value(TEV)/EBITDA	11x (remains constant) ⁶
Free Cash Flow to the Firm	FCFF = EBIT(1- τ) + Imputed Interest on Operating Leases + Depreciation – CapEx – Change in Non-cash Working Capital
Market risk premium ($R_M - r_F$)	5.5%
Forecast period	5 years with stable growth starting in Year 5
Firm's Bond Rating	Use Altman's EM model
Maturity of Long Term Debt	10 years
Market Value of Debt	Assume that the Market Value of Debt = Book Value of Debt ⁷ ; Total debt includes the PV of Operating Leases.
Value of Equity Options (in 000s)	75,928

⁴Analysts at several Wall Street firms expect sales growth to be 6% in the first year and 4% in the second year of their two-year forecast. As such, we take the average of these two years.

⁵Capital Expenditures are increases (decreases) in property, plant, and equipment. It is found in the statement of cash flows under Cash Flow Provided by Investing Activity.

⁶This is based on a relative valuation analysis of comparable firms.

⁷This isn't the case from an theoretical perspective although many analysts make this assumption.