



Mergers, Acquisitions and Corporate Restructurings (Financial Modeling for Corporate Valuation Using Excel)

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Financial Model Structure

ASSUMPTIONS/INPUTS

- Constant for all years or changing annually
- Organized per sections

MODEL/FORMULAS

- Formulas only – As simple as possible. If necessary can be developed in more than one line.
- If the model is complex you may use different worksheets for specific topics
- No circular references except for the “plug-in” to balance all financial statements
- Use intermediary calculation if necessary and control of errors whenever is possible
- Financial Statements are part of the model in DCF valuation

OUTPUTS

- Valuation: DCF; Relative Valuation
- Risk Analysis: Sensitivity analysis; Scenario Analysis; Tornado Analysis; Monte Carlo Simulations
- Graphs

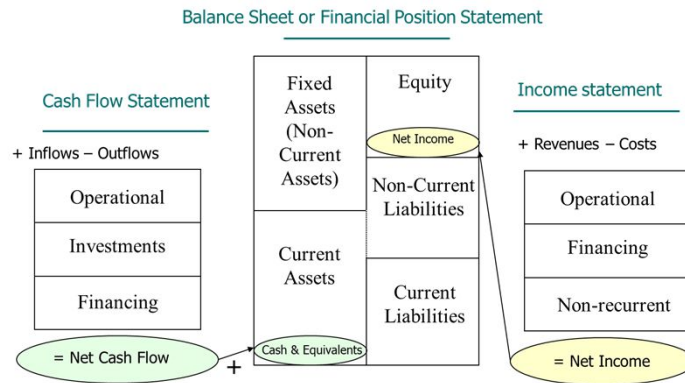
DISCUSSION/ANALYSIS

- Relationship between inputs and outputs make sense
- What are the takeaways from this analysis

Report

- Write the report following the standards (IVS; EVS; CFA; CFI; Your company)

The links between the 3 financial statements



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FINANCIAL STATEMENTS		2012	2013	2014	2015	2016	2017
Income Statement							
Revenue	102,007	118,086	131,345	142,341	150,772	158,311	
Cost of Goods Sold (COGS)	39,023	48,004	43,123	52,854	56,770	58,576	
Gross Profit	62,984	70,082	82,222	89,687	94,002	99,735	
Expenses							
Salaries and Benefits	25,427	22,658	23,872	23,002	25,245	26,313	
Rent and Overhead	10,363	10,125	10,067	11,020	11,412	10,000	
Depreciation & Amortization	19,500	19,150	17,205	16,544	16,080	15,008	
Interest	2,500	2,500	1,500	1,500	1,500	1,500	
Total Expenses	57,790	54,433	52,664	52,066	54,237	53,421	
Earnings Before Tax	3,534	16,649	29,558	37,622	39,825	46,314	
Taxes	1,120	4,859	8,483	10,908	11,536	12,969	
Net Earnings	2,414	11,791	21,075	26,713	28,287	33,346	
Balance Sheet							
Assets							
Cash	167,371	181,210	183,715	211,063	239,550	272,530	
Accounts Receivable	5,100	5,304	8,567	7,117	7,539	7,807	
Inventory	7,805	9,801	9,825	10,531	11,342	11,715	
Property & Equipment	45,590	42,350	40,145	39,802	37,521	37,513	
Total Assets	226,376	239,065	240,252	267,319	295,951	329,564	
Liabilities							
Accounts Payable	3,302	4,800	4,912	5,265	5,671	5,538	
Debt	50,000	50,000	30,000	30,000	30,000	30,000	
Total Liabilities	53,302	54,800	34,912	35,265	35,671	35,538	
Shareholder's Equity							
Equity Capital	170,000	170,000	170,000	170,000	170,000	170,000	
Retained Earnings	2,474	14,265	35,340	62,053	90,280	123,627	
Shareholder's Equity	172,474	184,265	205,340	232,053	260,280	293,627	
Total Liabilities & Shareholder's Equity	226,376	239,065	240,252	267,319	295,951	329,564	
Cash Flow Statement							
Operating Cash Flow							
Net Earnings	2,414	11,791	21,075	26,713	28,227	33,346	
Plus: Depreciation & Amortization	19,500	19,150	17,205	16,544	16,080	15,008	
Less: Changes in Working Capital	9,003	1,702	775	903	827	375	
Cash from Operations	12,911	28,239	37,505	42,354	43,480	47,980	
Investing Cash Flow							
Investments in Property & Equipment	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	
Cash from Investing	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)	
Financing Cash Flow							
Issuance (repayment) of debt	-	-	(20,000)	-	-	-	
Issuance (repayment) of equity	170,000	-	-	-	-	-	
Cash from Financing	170,000	-	(20,000)	-	-	-	
Net Increase (decrease) in Cash	167,371	181,210	183,715	211,063	239,550	272,530	
Opening Cash Balance	-	167,371	181,210	183,715	211,063	239,550	
Closing Cash Balance	167,371	181,210	183,715	211,063	239,550	272,530	

Source: CFA website

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See Excel model developed in class

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Most frequent errors observed in financial models

- Formulas that include not only identification of cells but also hard numbers. Numbers must be used as inputs in the assumptions section, only;
- Formulas or inputs with no dependents;
- Formulas that are not consistent for the whole line;
- Temporal indexation incorrect between financial statements or between worksheets;
- More than one insertion of the same input in different sections;
- Circular references that were not made on purpose for the “plug-in” financial needs or financial requirements;
- Financial statements are not matching:
 - “Assets” and “Equity and Liabilities” should match
 - Annual variance of “Cash and Equivalents” in the Balance Sheet should match with “Net cash flow of the year” in the Cash Flow Statement
 - “Net Profit” or “Net Profit Retained” in the Income Statement should match with the Balance Sheet

Best practice in financial modeling

- Keep it simple!
- Create specific sections (or worksheets if the model is complex) for assumptions/inputs, calculations and outputs
- Use specific sections (or worksheets if the model is complex) to develop specific components
- Use a clear and consistent format all over the model development
- Use simple formulas. If complex, use more than one cell.
- Use one formula only in each line or column
- If you are using worksheets, use the same column for the same year
- The flow of calculations must be logical. The model must be developed from the top to the bottom, and years from left to right.
- No numbers in the formulas (except if you need 12 months or 365 days)
- Do not hide lines or columns
- “Names” must be limited to those tables/figures that are to be used in the report
- Avoid to use links with external files
- Avoid circular references except for the “plug” (excess of cash or financing requirements)