Free Cash flow to Firm – Corporate Valuation – Individual Assignment VIII

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In this paper, we value the equity stock of Convergys Corporation, USA through the Free Cash Flow to Firm (FCFF) method of Corporate Valuation. FCFF is an important measure for stake holders of the company as it reflects the cash left over after the payment of all operating investment and cash expenses. It is the hard cash that is available for distribution to all stake holders and especially the common stock holders

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All data presented in this report is from secondary research on the internet. The analysis presented is original and not replicated from any other source

CONVERGYS CORPORATION

Sector: Technology

Industry: IT Outsourcing and Services

Current Market Price: $5.75

GROWTH RATE ESTIMATION BASED ON REVENUES AND EARNINGS PER SHARE

Table 1 **(All figures in $Million)**

Year	Revenues	% Change	Operating Income	% Change	Net Income	% Change	EPS (Basic)	% Change
2000	2,196.60		320.6		189.2		1.13	
2001	2,320.60	5.65%	276.6	-13.72%	138.8	-26.64%	0.82	-27.43%
2002	2,286.20	-1.48%	253.3	-8.42%	145.9	5.12%	0.9	9.76%
2003	2,288.80	0.11%	292.4	15.44%	171.6	17.61%	1.18	31.11%
2004	2,487.70	8.69%	185.5	-36.56%	111.5	-35.02%	0.79	-33.05%
2005	2,582.10	3.79%	223.6	20.54%	122.6	9.96%	0.88	11.39%
2006	2,789.80	8.04%	252.9	13.10%	166.2	35.56%	1.2	36.36%
2007	2,844.30	1.95%	244.8	-3.20%	169.5	1.99%	1.26	5.00%
AM		***3.82%***		***-1.83%***		***1.22%***		***4.73%***
GM		***3.28%***		***-3.32%***		***-1.36%***		***1.37%***
Std Deviation		***3.88%***		***20.06%***		***24.60%***		***26.55%***

Source: Annual Reports of the company (www.convergys.com)

LOG AND LOG LINEAR MODEL

Table 2:

Year	EPS (Basic)	% Change	LN(EPS)
2000	1.13		0.122
2001	0.82	-27.43%	-0.198
2002	0.9	9.76%	-0.105
2003	1.18	31.11%	0.166
2004	0.79	-33.05%	-0.236
2005	0.88	11.39%	-0.128
2006	1.2	36.36%	0.182
2007	1.26	5.00%	0.231

Source: Annual Reports of the company (www.convergys.com), Ashwath Damodaran on Investment Valuation

There are two methods of estimating the growth rate through this method.

1. Co-eff of linear regression between EPS and Time variable/ Average EPS
2. Regress ln(EPS) against the time variable.

Co-eff of linear regression between EPS and Time variable/ Average EPS = **2.75%**

While regressing the LN (EPS) against the time variable coefficient on the time variable here can be viewed as a measure of compounded percent growth in earnings per share which equaled **2.62%.**

ESTIMATING GROWTH ON THE BASIS OF WHAT RESEARCH ANALYSTS PREDICT

I reviewed the consensus forecasts available on Thompson Reuters and www.nasdaq.com to study the expected growth rate of the company. Following were the results:

	# of estimates	Mean	High	Low	*Growth Rate of Mean value vis-à-vis 2007*
Revenues	18	2900.38	2849.47	2947.4	***2%***
EPS	18	1.33	1.35	1.28	***5.56%***

While, the growth rate is expected to range from 2.62% to 3.82% p.a as per the historical growth rate estimation method. Fundamental analysis of the company estimates a growth rate of 11.43%. However, we may not consider this method of estimation of future growth of the company because it does not issue any dividend and there is no forecast of any distribution of dividend. The company is assumed to grow as per the ROE or ROCE which may not be a fair estimation. Also, the company has a negative reinvestment rate in the business which may dilute the validity of this model. Hence, only the EPS and revenue growth figures from the analyst forecast were taken within the scope of study. ***All forecasts suggest that the company is in a stable growth phase and is expected to grow at a rate in the range of 3% - 5% in the future ie: in the rate of long term expected inflation to GDP growth rate of the USA economy. This growth is expected to last till maturity. Not much change in the capital structure should be expected from the company as well in the future.***

It is due to the aforementioned reasoning that I would consider a 1 stage FCFF model for computation of intrinsic value of the company.

BASIS FOR ESTIMATING DISCOUNTING FACTOR

DISCOUNTING FACTOR = WACC – G

Cost of Equity was computed using 3 methods as summarized below

	CAPM	Country Risk Premium	Competitors Beta Method
Beta	**0.910**	**0.910**	**0.97**
RFR	**3.66%**	**3.66%**	**3.66%**
RM – RFR	**3.78%**	4.79%	3.78%
KE	**7.100%**	**8.02%**	**8.32%**

Source: Thompson Reuters, Annual Reports of the company, www.finance.yahoo.com

Source: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

METHOD FOR COMPUTATION OF COMPETITORS BETA

COMPETITORS BETA METHOD	
Amdocs Ltd.	**1.02**
IBM	**1.08**
Sykes Enterprise	**1**

Accenture Ltd.	0.94
APAC Customer Services Inc.	0.8
Average Levered Beta	0.97
Average Unlevered Beta	0.81
Levering Beta for Convergys	0.97

Source: Thompson Reuters

Assumptions and Formulae

Under this method I have taken the average of Convergys closest five competitors, Unlevered the average beta and relevered it with the capital structure of Convergys

BL = BU*(D+E)/E

All of the above methods indicate that the KE would be in the range of 7.10% - 8.32%. **For our purposes we would chose to rely on the KE computed as per CAPM.**

Computation of Cost of Debt (Kd)

Pretax Kd = Interest expense / Average Interest Bearing Liabilities

	2007	2006	Average
Debt	427.5	679.8	553.65
Interest Expense 2007			17.5
KD			**3.16%**

Source: Thompson Reuters, Annual Reports of the company, www.finance.yahoo.com

Assumptions and Formulae used in Computation

35% is the Marginal Tax rate in the United States of America as the average effective tax rate for 2004 – 2007 is around

WACC = Ke*E/V + Kd*D/V = 6.26%

Assumptions and Formulae used in Computation

The company does not have any of its fixed income instruments traded on an exchange. In absence of the same, I have considered the Book Value of debt as the Market Value while computing the Debt/ Equity Ratio

TO CALCULATE FCFF

FCFF = Operating Income (1 – Tax rate) – (Capex – Depreciation) – Δ Non-Cash Working Capital

To Calculate FCFF	***Forecasted***	**Historical**		
	2008	**2007**	**2006**	**2005**
Revenues	2937.59	2844.30	2789.80	2582.10
Operating Income	248.23	244.80	252.90	223.60
Amortization	19.68	115.40	130.10	126.10
Depreciation	134.59	14.50	12.60	21.20
Δ Non Cash Working Capital	110.75	153.20	24.80	38.00
Capital Expenditure	139.12	1.40	-23.00	-7.70
FCFF	***65.75***			

	Forecast
	2008
Intrinsic Value = [FCFF*(1+g)]/(WACC-g)	**2278.65**

Assumptions and Formulae used in estimation of all future cash flows

1. Revenues are expected to grow @ 3.28% [GM as computed in table 1]
2. Operating income has been forecasted as the average percentage of operating income to revenues for the @ 8.45%
3. Gross fixed Assets have been estimated to grow as a percentage of sales @49%
4. Amortization is estimated to grow as percentage of sales @ 0.67%
5. Depreciation is forecasted by taking the average of depreciation/ gross fixed assets @ 9.35% of gross fixed assets.
6. Non Cash working capital is estimated by taking it as an average of its percentage of sales for the period 2004-2007. Change in non cash working capital / Sales averaged @ 3.77% for the period 2005 – 2007. The variance of the same was much lesser than that as a percentage of gross fixed assets which averaged around 8.11% during the same period of study.
7. The D/V ratio of the company is along the lines of the sector. Hence, we assumed it to be constant for the future as well (Source: www.reuters.com)
8. Capital Expenditure = Gross Fixed Assets 1 - Gross fixed Assets 0
9. **The company does not have any amortization expenses on account of Research and Development Expenditure**

10. **Non Cash working capital is considered for our analysis as cash as a percentage of current assets over the period 2004 – 2007 is 17% which is reasonably high. This means that the company is holding cash.**

TO CALCULATE VALUE OF EQUITY STOCK BY CONVERTING OPERATING ASSET VALUE TO EQUITY VALUE

VALUE OF EQUITY STOCK= [FCFF discounted at Cost of Capital + CASH AND MARKETABLE SECURITIES + VALUE OF MINORITY HOLDINGS + VALUE OF IDLE ASSETS – VALUE OF MINORITY INTERESTS – PRESENT VALUE OF LEASING OBLIGATION – UNFUNDED PENSION OBLIGATION – EXPECTED LITIGATION PAYOUT]/ No. of shares

	2008 F	**2007**	**2006**	**2005**	**2004**
Cash and Cash equivalents	166.141	120.3	235.9	196	58.4
Interest Bearing Debt	346.83	259.9	343.5	432.2	351.7
Pension Obligation	204.45	215.6	214.7	202.3	185.2
PV of leases	226				
FCFF 2008F					***1777.58***
Value of Equity					***1,166.45***
Value of Equity Stock					***9.56***

Source: Annual Reports of the company

Assumptions and Formulae

1. Cash and Cash equivalents include marketable securities. It is estimated to grow at a rate which is a percentage of sales for the period 2004 -2007
2. Interest Bearing Debt is estimated to be the average of 2004 – 2007
3. Pension Obligations estimated to grow at a CAGR of 2004 -2007

Conclusion

The current stock price of the company is $5.75 (www.reuters.com). The value of equity is $9.56 as per the FCFF model. While, the later is closer to the actual value, it is still 66% above the actual. This is primarily because all analysis was done based on data available upto 2007. The global financial crisis has hit the IT industry heavily in the year. On review of the consensus forecasts available on Thompson Reuters I noted that the growth rate of the company has undergone 16 downward revisions.