CRISIL Ltd.

Firm Valuation Approach
FCF Approach

Corporate Valuation Assignment – VIII

GMAY08 – IB100
11/20/2008

KEY CHARACTERISTICS OF CRISIL:

- **Stage:** Growth phase
- **Size:** Medium
- **Dividend Payout:** Extremely Low (High retention ratio)
- **DPS:** Average DPS is only Rs. 9.81 per share
- **Dividend Yield:** Less than 1%
- **Debt/Equity Ratio:** Not applicable (as it is a debt free company)
- **Risk profile:** Neutral
- **EPS:** EPS has been increasing at a CAGR of 31.39% over the last 5 years
- **Management:** CRISIL has ventured into different businesses over the past 10 years and has been able to diversify its business mix which is a good indicator. Apart from its core competencies in Ratings and Research business, the company is venturing into different arenas related to consulting and corporate advisory services. It is leveraging the competencies of its parent company Standard and Poor's to generate more business as well

Key Growth Drivers for CRISIL:

- Strong prospects in the ratings, research and advisory business
- New Initiatives: Credit Information company
- Strong cash position
- No financial leverage
- High Retention ratio and low dividend payout ratio
- Increase in EPS
- Increasing ROE /ROCE

Industry growth [1]:

- Credit rating business in India is set to grow because of 3 growth drivers:
    - Strong CapEx cycle in the economy to increase debt raising activity
    - Development of corporate bond market which is untapped
    - Regulatory requirements for Basel II norms
    - Growing insurance industry

I. Estimating Growth Period – 3 phase

As calculated in assignment II & III and also based on the above growth factors, we consider that CRISIL will have:

- **An initial high-growth rate of for the first 4-5 years**
- **Then a declining growth rate each year until next 5 years**
- **After that, we have a constant stable growth rate**

Notes:

(1) Source: Analyst Report by Emkay Research dated Nov 2008

But as we know that Dividend Discount Model is applicable to mature companies with very high payout ratios and with a fairly huge size.

As discussed earlier the characteristics of CRISIL, it is a growing company with high growth rates in earnings. Also, we should not ignore the increasing retention ratio and the reducing dividend payout ratio. Also, the dividend yield is insignificant. Also, the Price-to-earnings ratio has been reducing on a y-o-y basis. Additionally, CRISIL has a virtual monopoly in the ratings business in India. Also its research business (Irevna) contributes more than 45% to the revenue mix which resembles a good diversification of the business portfolio.

While calculating the Growth rates in DDM, we considered Growth = ROE * Retention Ratio

	Dec-07	Dec-06	Dec-05	Mar-05	Mar-04
Earnings Per Share	91.68	50.29	25.44	31.26	23.41
Growth % (y-o-y)	*82.32%*	*97.63%*	*-18.61%*	*33.58%*	
Growth % (CAGR)	*40.68%*	*29.04%*	*4.26%*	*33.58%*	
Price per share	3,627.90	2,250.00	1,549.35	683.30	480.00
Dividend Yield	0.00	0.00	0.00	0.01	0.01
ROE	24.70%	20.84%	12.90%	18.03%	15.51%
Dividend Payout Ratio	0.20	0.20	0.26	0.25	0.27
Retention Ratio (RR)	0.80	0.80	0.74	0.75	0.73
Growth (ROE*RR)	19.83%	16.64%	9.56%	13.44%	11.34%

However, while calculating the growth in FCFF [2] we need to calculate the following:

1) **Reinvestment Rate = Net Capex + Change in NWC/ EBIT*(1-t)**

Items	Dec-07
Operating Income	1,04,78,00,000
Tax expenses	20,80,27,968
Effective Tax Rate	19.85%
Operating Income*(1-Tax rate)	83,97,72,032
Depreciation	13,34,00,000
Capex	11,25,00,841
Change in Non-Cash WC	47,47,00,000
Reinvestment Rate	0.54

2) **After tax ROC = EBIT*(1-t)/Average Capital employed**

Operating Income*(1-Tax rate)	83,97,72,032
Average Capital Employed	2,15,60,00,000
Non-Cash ROE	0.39

Growth = Reinvestment Rate * ROC	21.05%

Notes:

(2) Textbook Reference: Damodaran on Valuation.

II. Cost of Capital Approach: Reasons for taking the estimated discounting Rates

In this method, we need to calculate the WACC to obtain the Free Cash Flows to the Firm (FCFF).

The reason to use this method, as WACC takes into consideration the Cost of Equity (ke) as well as Cost of Debt (Kd) and there are tax benefits as well as certain financial risks associated with debt.

However, as we know CRISIL is a debt-free company since inception and will continue to remain the same as per management guidance. The management is more biased towards retaining the earnings keeping the retention ratio as high as 80% and equity reinvestment ratio to approx. 64%. This shows the intention of the management to plough back its own profits in order to grow as well as increase the value of its equity shareholders.

Hence, the WACC for CRISIL is the same as Cost of Equity (ke).

Under the FCFF approach, we have valued the firm as a whole as against the equity (FCFE) of the firm. To find the growth rate, we have calculated the reinvestment rate and after tax ROCE.

As mentioned earlier, the cost of capital is the same as cost of equity for CRISIL as there is no debt, we have calculated the cost of equity (ke) at all the3 different stages of growth period.

Because as CRISIL approaches a stable growth period, the characteristics of CRISIL will change and so will the risk factors affecting it. Thus, the beta moves towards a range of 0.8 to 1.2

Hence, using CAPM model, we have calculated the Ke taking into consideration changing beta as the growth declines.

Assumptions:

- Rm[(3)] = 5-year weekly returns of NIFTY
- Rfr for risk premium[(4)] = 5-year weekly data of 10-year Indian government bond
- Rfr[(5)] = 10 years government bond due 2018 which is 8.24%
- Current Beta = (Covariance of Returns of CRISIL with Nifty Returns)/Variance of Nifty Returns

High Growth Period

Rm	19.35%
Beta	0.63
Rfr	8.24%
ke	15.24%

Declining growth period

Rm	19.35%
Beta	0.78
Rfr	8.24%
ke	16.91%

Stable growth period

Rm	19.35%
Beta	0.85
Rfr	8.24%
ke	17.69%

Notes:

(3) We have downloaded the 5-year weekly prices of NIFTY from Yahoo Finance website and then calculated the returns of the same.

(4) Source: www.rbi.org

(5) 10 year government bond rate due 2018 is 8.24% sourced from RBI website

III. Basis for Estimating Future FCFE

As we calculated the expected growth rate of 21.05% using ROC and Reinvestment rate in part I, we have projected the future FCFF.

	EBIT	EBIT*(1-t)	Exp Growth	Reinvestment Rate	FCFF	Ke	Present Value
Dec-07	1,04,78,00,000	83,97,72,032.00	21.0%	54.04%		15.13%	
Dec-08	1,26,83,43,841	1,01,65,29,571	21.0%	54.04%	46,72,11,474.43	15.13%	40,58,09,474.49
Dec-09	1,53,53,08,359	1,23,04,91,526	21.0%	54.04%	56,55,51,437.34	15.13%	42,66,67,413.07
Dec-10	1,85,84,64,308	1,48,94,88,784	21.0%	54.04%	68,45,90,267.53	15.13%	44,85,97,415.34
Dec-11	2,24,96,39,014	1,80,30,00,502	21.0%	54.04%	82,86,84,719.82	15.13%	47,16,54,583.61
Dec-12	2,72,31,49,253	2,18,25,01,032	21.0%	54.04%	1,00,31,08,570.83	15.13%	49,58,96,852.35
Dec-13	3,21,46,30,759	2,57,64,04,853	18.0%	50.69%	1,27,05,26,226.84	16.91%	49,76,22,250.84
Dec-14	3,69,83,77,284	2,96,41,09,379	15.0%	47.33%	1,56,10,90,149.39	16.91%	52,29,94,152.36
Dec-15	4,14,39,68,005	3,32,12,33,472	12.0%	43.98%	1,86,05,18,797.79	16.91%	53,31,57,600.59
Dec-16	4,51,89,25,687	3,62,17,47,859	9.0%	40.63%	2,15,02,82,603.94	16.91%	52,70,71,795.22
Dec-17	4,79,22,42,807	3,84,08,01,183	6.0%	37.28%	2,40,91,00,314.36	16.91%	50,51,05,168.48
Dec-18	5,07,97,77,375	3,80,98,33,031	6.0%	33.92%	2,51,74,00,349.23	17.69%	41,97,07,758.61
	PV of FCFF during the high growth phase						**4,83,45,76,706.36**
	Expected FCFF in Year 11						2,51,74,00,349
	Terminal Value						21,54,05,44,704
	Value of operating assets						8,42,58,74,268
	Cash and Marketable securities						17,92,00,000
	No. of shares						72,25,000
	Equity value per share						1,191

Note: all figures in INR except no. of shares

Key points:

- FCFF = EBIT*(1-t)*(1-Reinvestment rate)
- Tax rate = Effective tax rate of 19.85%
- We have increased the tax rate to 25% in year 11 to calculate the terminal value

IV. Basis for converting Operating Assets to Firm Value

a. We have added back cash and marketable securities
b. As there is no debt, we have not reduced long term debt
c. As there is no minority interest, we have not reduced the same

V. Comments

a. The computed equity value per share is INR 1,191
b. The current market price is INR 2,520 as of Nov 18, 2008 *(Source: moneycontrol.com)*
c. The stock is current trading at a P/E multiple of 14x *(Source: moneycontrol.com)*
d. The expected growth calculated as per ROCE*Reinvestment rate comes to 21.05% whereas the growth rate calculated as per historical growth in EPS is around 40%. Moreover, analyst estimates are also in line with the growth of 40%
e. As calculated in assignment V, we had estimated CRISIL to grow at a rate of 32%-35% for the next 4-5 years
f. Also, as calculated in assignment VII as per the FCFE method, the computed equity value was 1,716 as compared to today's value of INR 1,191
g. Additionally, as CRISIL is a debt-free company, it is better to value CRISIL using FCFE method rather than FCFF