CRISIL Ltd.

Discounted Cash Flow Approach to Valuation

Corporate Valuation Assignment – III

GMAY08 – IB100

11/12/2008

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

VALUATION APPROACH:

We have valued CRISIL using the Dividend Discount Model:

- Constant growth rate
- 2-phased growth rates
- 3-phased growth rates

Table 1: Valuation Metrics [1]

	Dec-07	Dec-06	Dec-05	Mar-05	Mar-04
Dividend Per Share	18.06	10.14	6.58	7.96	6.29
Earnings Per Share	91.68	50.29	25.44	31.26	23.41
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%

Dividend Discount – Constant Growth Model

It is expected that CRISIL will growth by at least 20% for the next 5-6 years taking into consideration the growing business model.

Years	Growth	Dividend	Cash Flow	Disc. Price
0		18.06	18.06	Rs. 1,586.08
1	0.20	21.64	39.70	Rs. 1,582.81
2	0.20	25.93	65.63	Rs. 1,543.11
3	0.20	31.08	96.71	Rs. 1,477.48
4	0.20	37.24	133.95	Rs. 1,380.76
5	0.20	44.62	1,246.81	Rs. 1,246.81
6	0.20	53.55		
P5 = D6/(ke-g)	**1,068.24**			

To calculate the intrinsic value of CRISIL in the Dividend Discount Model, we have calculated the Ke (cost of equity) using the CAPM model.

- **Rm (Average Nifty returns over the past 9 years) = 19.35%**
- **Rfr (Risk free rate of return – 10 yr T-Bill rate) = 7.94%**
- **Beta [1] = 0.78**
- **Ke = Rfr + Beta*(Rm-Rfr) = 16.84%**

We have discounted the future dividends and the expected price with the expected rate of return of 16.84% to Year 0 and this gives us a share price value of Rs. 1,589.

Notes:

(1) Beta has been sourced from Bloomberg

Dividend Discount – 2 Phased Growth Model

Over here, we have estimated the future growth of CRISIL in 2 phases.

Assumptions:

- An initial growth rate of 20% for the first 5 years as explained earlier

- After that, we have a stable growth rate of 6% which is in line with the expected growth of India's GDP

- We have estimated Ke using:

    o Rm=13% (Market rate of return will reduce over a period of time)

    o Beta = 0.9

    o Rfr = 7.94%

    o **Ke = 12.49%**

Table 3: 2-Phased Growth Model

	Dec-07	Dec-06	Dec-05	Mar-05	Mar-04
Existing Payout Ratio	19.70%	20.16%	25.86%	25.46%	26.87%
ROE	24.70%	20.84%	12.90%	18.03%	15.51%
High Growth Rate	19.83%				
Stable period assumed growth rate	6.00%				
Current Beta	0.78				
Expected Beta	0.90				
Ke for high growth phase	16.84%				
Ke for stable growth phase	12.49%				
ROE in stable period	12.49%				
Stable period rentention ratio	48.02%				
Current DPS	18.06	10.14			
Current EPS	91.68	50.29			
Estimated EPS in 2013	240.12				
Estimated Dividend in 2013	124.81				

	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12	Dec-13
Estimated Dividend	21.64	25.93	31.08	37.24	44.62	124.81
PV of Dividends from 2013					1,921.90	
Estimated Cash Flows	21.64	25.93	31.08	37.24	1,966.53	
PV of future cash flows	979.98					
Instrinsic Value	**979.98**					

Dividend Discount – 3 Phased Growth Model

- An initial growth rate of 20% for the first 5 years

- Then a declining growth rate of 11% each year until next 5 years

- After that, we have a stable growth rate of 6%

	EPS	Exp Growth	Payout Ratio	Ke		DPS
Dec-07	91.68	0.20	19.70%	16.84%		18.06
Dec-08	109.86	0.20	19.70%	16.84%		21.64
Dec-09	131.65	0.20	19.70%	16.84%		25.93
Dec-10	157.76	0.20	19.70%	16.84%		31.08
Dec-11	189.04	0.20	19.70%	16.84%		37.24
Dec-12	226.53	0.20	19.70%	16.84%		44.62
PV of Dividends in High Growth Phase						**98.88**
Dec-13	251.45	0.11	21.10%	13.94%		53.05
Dec-14	279.11	0.11	21.10%	13.94%		58.88
Dec-15	309.81	0.11	21.10%	13.94%		65.36
Dec-16	343.89	0.11	21.10%	13.94%		72.55
Dec-17	381.72	0.11	21.10%	13.94%		80.53
PV of Dividends in Decling Growth Phase						Rs. 221.07
Dec-18	404.62	0.06	51.98%	12.49%		210.31
PV of Dividend in Stable Growth Phase						Rs. 186.95
	Terminal Price					**506.89**

Conclusion:

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

The value which we have derived using all the 3 different dividend discount models seems to be inconsistent with the Market Price of Rs. 3,627 as of 31st Dec 2007.

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.

Taking into consideration the above arguments, we have considered a constant growth rate of 13% for the next 5 years.

Hence, we suggest that CRISIL should be valued using different valuation methods such as:

- Relative valuation using the P/E multiple of peers
- FCFF based valuation
- Asset based valuation

Notes:

(2) TTM P/E multiple for ICRA and Moody's; TTM EPS for CRISIL has been sourced from Reuters website.