SRIRAM WHEELS - VALUATION OF A PRIVATE FIRM

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SRIRAM WHEELS is a service provider firm in Raipur. The company provides **car booking** for local and long travels, for tourism and corporate issues. SRIRAM WHEELS emerged in 2010 with an investment of Rs 3 Million, Rs 1.5 Million from Alex the single owner, and RS 1.5 Million from a Bank loan. Quickly, it appears that the firm doesn't meet the growing demand with its fleet of six cars. Indeed, the growth of big industries, tourism and employment in Raipur has triggered a surge in traffic demand.

Consequently, SRIRAM WHEELS was seeking funds for **an expansion** in 2014. Alex found possible investments: Rs 2 Million from Stock share with Mathyu, and Rs 2 Million from another Bank loan with an interest rate of 10% per year. The company plans to double its fleet for a cost of Rs 3.75 Million. In the meantime, the number of drivers will increase from 7 to 14.

Alex requested his friend Krish to help him overcome the difficulties of **valuing the private firm's** new expansion. These difficulties are specially related to the estimated future cash flows and the estimated discounting rate. SRIRAM WHEELS will have to deal with its specific business model, the high inflation rate in India and the features of its market.

I) How the discounted cash flow (DCF) method is useful for private firm valuation?

Private firm such as SRIRAM WHEELS doesn't properly disclose financial information and statement. Consequently, financial situation of private firm is **difficult to estimate** and forecast. Computing future cash flows and discounting rate require using available data with the adequate valuation method.

The discounted cash flow (DCF) method allows private firm to **estimate future free cash flows** by projecting the firm's revenue and expenses for the explicit period. In this case, the firm forecasted the income statement for a period of 6 years from 2014 to 2019. Then, discounting rate of cash flows is assessed with a market approach.

II) What is the relevant discounting rate for private firm valuation under DCF method?

Under the DCF method, we compute two different types of cash flows: free cash flow to equity (FCFE) and free cash flow to the firm (FCFF). Private firm usually use the **FCFF method**, and therefore **weighted average cost of capital (WACC)** as the relevant discounting rate. Free cash flow to the firm is the most widely used model, it is simple to compute and considers the wealth creation generated by the assets.

To obtain the WACC, the firm calculates the cost of equity using the capital asset pricing model (CAPM). The CAPM's beta is estimated by taking the average beta of comparable companies in the market.

III) What is the value of SRIRAM WHEELS?

Forecasted EBITDA for the explicit period:

	2014	2015	2016	2017	2018	2019
Revenue	5.75	6.32	6.96	7.65	8.42	9.07
Expenses	5.57	6.04	6.55	7.12	7.74	8.34
Earnings Before Taxes	**0.18**	**0.29**	**0.40**	**0.53**	**0.68**	**0.72**
Interest	0.35	0.35	0.35	0.35	0.35	0.35
EBIT	**0.53**	**0.64**	**0.75**	**0.88**	**1.03**	**1.07**
Depreciation	0.52	0.52	0.52	0.52	0.52	0.52
Depreciation Furniture	0.03	0.03	0.03	0.03	0.03	0.03
EBITDA	**1.07**	**1.18**	**1.30**	**1.43**	**1.57**	**1.61**

To obtain EBITDA, we must compute Earnings Before Taxes deducting total expenses to total revenue. Then, we add Interest expenses to get the Earnings Before Interest and Taxes (EBIT). Finally, we **append Depreciation** to EBIT to obtain Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA). We can notice that revenue and expenses increase according to the **inflation of 10%**, even if depreciation are not concerned by this increase.

Forecasted Free Cash Flow to the Firm:

	2014	2015	2016	2017	2018	2019
EBITDA	1.07	1.18	1.30	1.43	1.57	1.61
Change in NWCR	0.00	0.00	0.00	0.00	0.00	0.00
Theoretical corporate tax	0.16	0.19	0.23	0.27	0.31	0.32
Investment	3.75	0.00	0.00	0.00	0.00	0.00
FCFF	**-2.84**	**0.99**	**1.07**	**1.16**	**1.26**	**1.29**

Giving the EBITDA level, we can calculate the Free Cash Flows to the Firm (FCFF) by deducting Change in Net Working Capital Requirement, Theoretical corporate tax and Investment. **Theoretical corporate tax is 30% of EBIT** while the company plans to **invest Rs 3.75 Million** in new vehicles for its new expansion. Finally, there is **not signal of a change in NWCR** regarding this project.

Forecasted cost of equity:

Risk free rate	8.00%
Average Beta Value	0.67
Expected return of the market	19.00%
Cost of Equity (CAPM)	**0.15**

To obtain the cost of equity and thus the WACC, we must use the **Capital Asset Pricing Model (CAPM).** Consequently, we take the risk-free rate and the expected return of the market. We estimate the firm's beta by considering the **market average beta**, because of the difficulties to assess the risk associated to this kind of private company.

*Cost of equity = Risk-free rate + Average Beta * (Expected rate of return - Risk-free rate)*

Forecasted weighted average cost of capital (WACC):

Cost of equity	0.15
Cost of debt	0.07
Total equity	3.50
Total debt	3.50
WACC	**0.11**

The company has a **debt to equity ratio of 1** which is slightly less than the standard of the industry. We got the cost of equity with the CAPM model and the **cost of debt is the interest rate minus the Theoretical corporate tax**. Therefore, we can compute the WACC as the relevant discounting rate of FCFF under the DCF method. The formula is:

*WACC = Cost of equity * (Total equity / Total equity + Total debt) + Cost of debt * (Total debt / Total equity + Total debt)*

Forecasted discounted FCFF:

	2014	2015	2016	2017	2018	2019
FCFF	-2.84	0.99	1.07	1.16	1.26	1.29
WACC	0.11	0.11	0.11	0.11	0.11	0.11
Discounted FCFF	**-2.55**	**0.80**	**0.78**	**0.76**	**0.74**	**0.68**

Giving the WACC level, we can now **discount FCFF for each year** of the explicit period.

Discounted FCFF (Year 1) = FCFF (Year 1) / (1+WACC) ^1 = -2.55

Forecasted Terminal Value:

FCFF 2019	1.29
Growth rate	7.70%
FCFF 2020	**1.39**
WACC	0.11
TV	**39.91**
Discounted TV	21.13

To achieve the valuation of SRIRAM WHEELS, we must compute terminal value at 2019. Consequently, **we need the 2020's FCFF and the WACC**. To get 2020's FCFF and thus the terminal value, we must use the **growth rate** of the cash flows after the sixth year which is 7.70%. With these indications, we must obtain the terminal value and the discounted terminal value applying the formulas below:

TV (2019) = FCFF 2020 / (WACC - Growth rate)

Discounted TV = TV (2019) / (1 + WACC) ^6

Forecasted Value:

Value	**22.33**
Value of debt	3.50
Value of equity	18.83

Finally, we can achieve **SRIRAM WHEELS's value** by adding discounted terminal value to discounted FCFF. SRIRAM WHEELS's value is **Rs 22.33 Million**. We can also get the value of equity by deducting the value of debt which is Rs 3.5 Million. **Its value of equity is Rs 18.83 Million**.

This valuation process should allow Alex to have a better understanding of the expansion's attractiveness and the future of its business.