

Exploring Value in Sunshine Agro Foods

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Learning Objective: Application of CAPM model to compute WACC, Hamada's equation, Cash flow analysis for project evaluation and assessment of value in use.

The project team of Sunshine Ltd. in co-ordination with the Finance Department has prepared projected Profit and Loss Account and projected Balance Sheet for a four-year period as presented in Tables 1 & 2 for its proposed project of processing agro food products.

The Company desired to evaluate the project. The Project Team comprising Ray, Rohini and Rittik were discussing various issues involved.

Ray: Finance Department has sent us projected Profit and Loss Account and Balance Sheet for a four –year forecast period. How to proceed further ?

Rohini: We need to derive cash flows of the project as project evaluation should be on the basis of cash flows.

Rittik: Let us decide the methodologies to be adopted. Scrap value is significant. A good number years of project's working life is ignored.

Ray: That is because of uncertain demand beyond the forecast period.

Rohini: We may consider earning capitalization. I mean capitalization of operating cash flow using appropriate WACC.

Ray: What does that mean? Should we consider same amount of operating cash flow that is projected for 2009 to continue ?

Rohini: That can be one idea.

Rittik: Why not to consider net realizable value of the second hand asset?

Rohini: Finance Department has sent an estimate. That will be 150% of depreciated book value as per accounting depreciation. Let us take higher of the two. That will be appropriate in the context of Accounting Standard – 28 as well.

Ray: But future is uncertain to adopt earning capitalization model.

Rohini: A very conservative view of continuation of constant earning stream would perhaps do.

Ray: Would you mean a perpetuity? That's not correct.

Ray & Rittik: OK . This issue we can debate later.

Rohini: Let us now decide the discount factor.

Ray: That is WACC any way.

Rohini: It has many variants. What should be the weights? Book value or market value of equity?

This case study is relevant for the students of Final course. You may send your responses to this Case Study by e-mail to ssuneja@icai.org with the subject line `Exploring Value in Sunshine Agro Foods' by the end of March, 2006. The best reply will be awarded a certificate and cash prize of rupees one thousand.

Ray: Equity is not yet listed. So market value is out of discussion.

Rohini: Expected market value can always be in the discussion. In our industry, average P/E is 15. That could be a guiding factor.

Rittik: We may avoid equity valuation. Simplified approach is book value based weight.

**Table 1 : Projected Profit and Loss Account
Sunshine Ltd.**

Projected Profit and Loss Account for the year ended on	Rs. In million			
	31.12.06	31.12.07	31.12.08	31.12.09
Sales	100.00	115.00	150.00	170.00
Change in Inventories	5.00	5.00	25.00	10.00
Income from Investments	0.00	7.60	14.00	24.00
<i>Revenue</i>	<i>105.00</i>	<i>127.60</i>	<i>189.00</i>	<i>204.00</i>
Expenses	45.00	50.25	61.54	68.36
Depreciation	15.00	15.00	15.00	15.00
PBIT	45.00	62.35	112.46	120.64
Interest	2.95	3.95	4.95	4.95
PBT	42.05	58.40	107.51	115.69
Tax	14.72	23.33	42.51	45.90
PAT	27.33	35.07	65.01	69.79
Appropriations:				
Opening Balance of P&L A/c	5.00	4.33	11.11	32.81
Transfer to Reserve	25.00	25.00	40.00	52.00
Dividend	3.00	3.00	3.00	3.00
Dividend Tax	0.00	0.30	0.30	0.30
Closing Balance of P&L A/c	4.33	11.11	32.81	47.30
Note:				
Computation of Taxable Profit				
PBT	42.05	58.40	107.51	115.69
Add Disallowed expenses	10.00	12.00	13.00	11.00
Less Depreciation as	25.00	18.75	14.06	10.55
Income-tax Rule				
Add Accounting	15.00	15.00	15.00	15.00
Depreciation				
	42.05	66.65	121.45	131.14

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Ray & Rohini: Agreed.

Rohini: But then WACC will be changing over the period as retained earning will have the effect of increasing equity component in the capital structure.

Rittik: We may use WACC computed at the beginning.

Ray: That will not be a fair approach.

Rittik: What is the quantum of change?

Ray : Its substantial. See Table 3.

Rohini: We should not ignore the change in capital structure. Of course, while computing WACC we should find weight of debenture and loan separately. Weight may be as given in Table 4.

Ray: Let us compute WACC for each year. *Hamada's equation* can be used for finding new beta whenever debt-equity ratio is changing. Beta as on 1.1.06 may be picked up from the comparable industry beta. [For beta analysis see data file at www.icaai.org)

Table 2 : Projected Balance Sheet				
Sunshine Ltd.				
Projected Balance Sheet as on	Rs. In million			
	31.12.06	31.12.07	31.12.08	31.12.09
Share Capital	10.00	10.00	10.00	10.00
General Reserve	80.00	105.00	145.00	197.00
Profit & Loss Account	4.33	11.11	32.81	47.30
Shareholders' Fund	94.33	126.11	187.81	254.30
10% Debentures	20.00	30.00	40.00	40.00
9.5% Working Capital Loan	10.00	10.00	10.00	10.00
Loan Fund	30.00	40.00	50.00	50.00
Total Sources	124.33	166.11	237.81	304.30
Gross Block	100.00	100.00	100.00	100.00
Accumulated Depreciation	15.00	30.00	45.00	60.00
Net Block	85.00	70.00	55.00	40.00
Investment				
In Associates	0.00	38.00	70.00	120.00
Current Assets, Loans & Advances				
Inventories	30.00	35.00	60.00	70.00
Debtors	20.00	37.00	62.00	90.00
Cash & Bank	2.33	2.00	6.11	2.60
Advance Tax	14.72	23.33	42.51	45.90
	67.05	97.33	170.62	208.50
Current Liabilities & Provisions				
Creditors	10.00	12.59	12.00	15.00
Tax provision	14.72	23.33	42.51	45.90
Proposed Dividend including Dividend Tax	3.00	3.30	3.30	3.30
	27.72	39.22	57.81	64.20
Net Current Assets	39.33	58.11	112.81	144.30
Total Applications	124.33	166.11	237.81	304.30

Table 3 : Changing Pattern of Capital Structure

	31.12.06	31.12.07	31.12.08	31.12.09
Shareholders' Fund (1)	94.33	126.11	187.81	254.30
Loan Fund (2)	30.00	40.00	50.00	50.00
Shareholders' Fund (3) = (1) + (2)	124.33	166.11	237.81	304.30
Weight of debt (4) = (2) / (3)	0.24	0.24	0.21	0.16
Weight of equity (5) = (1) / (3)	0.76	0.76	0.79	0.84
Debt – equity ratio (6) = (2)/(1)	0.32	0.32	0.27	0.20

Rittik & Rohini: Agreed.

Ray: We need to take care of additional working capital requirement.

Rohini: For that we should take into account only Inventories, Debtors, Cash & Bank and Creditors. Other items are not relevant.

Rittik: Advance tax, tax provision , proposed dividend – you mean to say these are not working capital items.

Rohini: We have already considered tax in operating cash flow. Dividend payment is not operating cash flow.

Rittik: We should consider release of working capital.

Rohini: In case we use earning capitalization approach for finding value of the project after fourth year , then we should presume that working capital remained locked in. Of course, by earning capitalization , I mean to say Operating Cash Flow of fourth year divided by WACC of the same period.

Rittik: Why don't you look at the cash flow growth. CAGR is about 31.55%. It should be:

$$\text{Value in Use} = \frac{OCE_4 (1 + g)}{WACC - g}$$

Since growth is abnormally high, atleast we should take GDP growth of 8% as the normal growth.

Ray: I told you about uncertain future which you are completely ignoring.

Rittik: Ah ! You are a very conservative guy.

Rohini: Rittik , the business is expected to decline after the projected time frame. No one will pay for growth. Better we take a negative growth at that stage. Product will be getting old and competition will intensify. Say, negative growth of 10%.

Ray: You are right.

Rittik: If we use net sale value?

Rohini: Then of course we should work out net sale value of fixed assets and release of working capital. Let us then find higher of the two. It is necessary to take care of capital gain tax on resale value of fixed asset. Capital gain tax may be taken at 20%. This is necessary as 150% of depreciated book value of fixed asset is Rs. 60 million that is higher than WDV as per tax

Table 4 : Weight of Various Components of Capital

	31.12.06	31.12.07	31.12.08	31.12.09
Shareholders' Fund	0.76	0.76	0.79	0.84
Debentures	0.16	0.18	0.17	0.13
Working Capital Loan	0.08	0.06	0.04	0.03

depreciation which is Rs. 31.64 million resulting in a capital gain and capital gain tax. Also value of investment outside the business is to be taken into account. Let us take that at 140% of the book value subject to zero capital gain tax.

Rohini: I find cash flow capitalization at appropriate WACC will be higher. It is Rs.645.75 million. Of course, I have my own assumption. My approach for value in use is very simple and I agree with the Rittik's method for its computation.

No agreement could be arrived at. They are puzzled. Discussion continued for a week debating upon what should be appropriate approach.

Who among you would help the trio? They need help in (1) preparing a table showing computation of net present value showing explaining them (a) computation of Ke, Kd and WACC, (b) net realizable value of project assets , (c) Value in use of the project at the end of fourth year and (d) working capital requirement , additional working capital and release of working capital, (2) IRR and (3) Pay Back period.

Data Source : For risk free rate , index value and share price of comparable company visit our website www.icaai.org student page. Check data file for this case study.

Hints : Application of CAPM model for obtaining cost of equity should be the best approach. As per CAPM model cost of equity is computed taking:

$$R_f + (R_m - R_f) \times \beta$$

R_f = Risk free rate, the source should be Zero coupon yield curve data available at National Stock Exchange website at www.nseindia.com

R_m = S&P Cnx Nifty 50 data should reflect market return. It is possible to download data of nifty from National Stock Exchange website at www.nseindia.com . Such data is available in csv format which one can process.

β = It is slope of the regression line. Compute from the data file.

Hamada's equation:

$$\beta_l = \beta_u \times [1 + (1 - \text{Tax Rate}) \times D/E]$$

β_l = Levered beta , β_u = Unlevered beta,

D/E = debt-equity ratio.

While applying this equation a 30% tax rate may be assumed.

