

Appendix 2. Residual Income Model

Model Features
<ul style="list-style-type: none"> • Identification of Book Values in the Income Statement and Balance Sheet (Net Operating Assets and Operating Income); • Forecast of Earnings given the feasibility of the business and the current values; • Calculation of the continuing value of the business and discount to present value, along with residual operating income; • $Firm\ Value_t = NOA_t + \frac{ROI_1}{(1+wacc)} + \frac{ROI_2}{(1+wacc)^2} + \dots + \frac{CV_{T+1}}{(1+wacc)^T};$ <p style="margin-left: 40px;">where ROI_t is the Residual Operating income in period t, CV is the Continuing Value, r is the discount rate (WACC in 2014) and g is the growth rate¹;</p> • $Stock\ Price = \frac{Firm\ Value - Net\ Operating\ Liabilities}{Outstanding\ Shares};$ • Forecasting period: from 2015 to 2020; • $Operating\ Income\ after\ Tax = OI_{from\ sales} + OI_{other} + Tax_{other\ income} + Gain(Loss)_{other\ items};$ • $Comprehensive\ Income = OI_{after\ Tax} - Net\ Financial\ Expense.$

¹ Assumed to be the GDP for United States in 2014

1. Optimistic Scenario

Revenue growth	25% in 2015, increasing at a rate of 5% until 2017 and decreasing to 25% in the last period.
Cost of Revenues	Starting at 90% of Operating Revenue, decreasing at a rate of 5% until 2020.
Other Sales and Marketing	17% of Operating Revenue, decreasing at 4% until 2018 and remaining constant afterwards (until 2020).
Other Operating Income	Assumed to be 6% of Operating Revenue in 2015, increasing at 4% until 2018, decreasing afterwards until 14% (2020).
Gain/Loss in other Items	Loss in the first two years, increasing rate of 4% per year (of Operating Revenue).
Days Required to Collect Receivables	Starting with 2000 days in 2015, decreasing considerably until 2020 (500 days).
Days Inventories Held	Starting with 30 days in 2015 and decreasing to 10 days in 2020.

Power, Plant and Equipment	Constant rate of 160% (of Operating Revenues), aligned with the company's goal of Asset retention.
Intangible Assets	Constant rate of 27.5% of Operating Revenue.
Other Operating Assets	Constant rate of 30% of Operating Revenue.

1. Moderate Scenario

Revenue growth	30% of Op. Revenue until 2016, 25% until 2019 and 20% in 2020.
Cost of Revenues	Starting at 85% of Op. Revenue in 2015, decreasing at a constant rate of 5% per year.
Other Sales and Marketing	Starting at 19% of Op. Revenue in 2015, decreasing at a constant 2% per year.
Other Operating Income	Starting at a negative 2% of Op. Revenue in 2015, increasing at 4% per year except for 2017 (remains constant at 6%).
Gain/Loss in other Items	Starting at a negative 2% of Op. Revenue in 2015, increasing at 4% per year except for 2017 (remains constant at 6%).

Days Required to Collect Receivables	3000 days in 2015/16, remaining at a constant 2750 days in the following years.
Days Inventories Held	Constant 55 days in every period.
Power, Plant and Equipment	90% of Op. Revenues in 2015/16, remaining at 100% in every subsequent period.
Intangible Assets	2.5% of Op. Revenue every period.
Other Operating Assets	5% of Op. Revenue every period.

2. Pessimistic Scenario

Revenue growth	10% of Op. Revenue in 2015/16, decreasing to 0% in 2017/18 and -5% in 2019/20.
Cost of Revenues	90% of Op. Revenue between 2015 and 2017, decreasing to 85% in 2018/19 and 75% in the following years.
Other Sales and Marketing	21% of Op. Revenue in 2015/16, remaining at 19% in the subsequent years.
Other Operating Income	-10% of Op. Revenue in 2015/16, -6% in 2017/18 and -2% in 2019/20.
Gain/Loss in other Items	-10% in every period.

Days Required to Collect Receivables	3000 days in 2015/16, remaining at 2750 days in the subsequent years.
Days Inventories Held	55 days in every period.
Power, Plant and Equipment	90% in 2015/16 and 100% in the subsequent periods.
Intangible Assets	2.5% in every period.
Other Operating Assets	5% in every period.

Advantages and Downsides of the Model

Advantages	Downsides
Focus on Profitability of investment and growth in investment	It requires a deep understanding of accounting principles
Includes value that is already recognized in the balance sheet (Net Operating Assets)	Reliability on Accounting numbers can be suspect (quality of financial disclosure plays a role)
Protection from paying excessively for earning through the incorporation of a required level of return (WACC)	

Summary of the Scenarios Annalysed

In a pessimistic state, revenue growth would remain low and unchanged for the first 2 years, and decreasing in the following years to negative territory; expenses to generate revenues would remain high (90% of revenues) throughout the analysis period, as well as receivables collection days. Under the second and moderate scenario, operating revenue would increase slightly in the first two years, remaining constant in the following three years while decreasing slightly in the last year; cost to generate revenues would exhibit a downward trend (decreasing at a rate of 5% per year) and the days required to collect receivables would also be trending downwards. Finally, under an optimistic scenario, where revenues would increase at a rate of 5% in the first three years, remaining constant for two more years and decreasing in the last year; costs to generate revenues would decrease at a rate of 5% and other sales and marketing would also decrease at a rate of 4 to 3% per year until achieving a constant level; other operating income would steadily increase; assets would remain at high levels on the balance sheet and days to collect receivables would decrease substantially, while other operating liabilities would decrease from 5 to 2.5% per year.