CHAPTER 5– RESIDUAL INCOME VALUATION

Residual income is net income – equity charge (shareholder’s opportunity cost in generating net income).

The income statement does not deduct
- Dividends
- Other charges to equity capital

There are two approaches to calculate residual income
- Refer to page 210-213

Equity charge = Equity capital × cost of equity capital
Debt charge = debt × after tax cost of debt
Total capital charge = debt charge + equity charge
- Do example 5.1 page 211 – 212, work through page 210-213
• When income is > its cost to generate it, then residual income is positive and there is creation of value.
• When income is < its cost to generate it, then residual income is negative and there is destroying of value
• All else equal higher (lower) residual income should be associated with higher (lower) valuations
• A company that generates positive economic profit (residual income) should have a market value in excess of the accounting book value
• \( MVA = \text{Market value of company} - \text{Total capital} \)
• \( EVA = \text{NOPAT} - (C\% \times TC) \) refer to page 214
THE RESIDUAL INCOME MODEL

– Intrinsic value = current book value + present value of expected residual income. Refer to page 215-218, do example 5-2 & 5-3

– Residual income model (1)

\[ V_0 = B_0 + \sum_{t=1}^{\infty} \frac{RI_t}{(1+r)^t} \]

\[ = B_0 + \sum_{t=1}^{\infty} \frac{E_t - rB_{t-1}}{(1+r)^t} \]

– The residual income model has a relationship with other valuation models e.g. DDM

– Clean surplus relationship states among earnings, dividends and book value as;

\[ B_t = B_{t-1} + E_t - D_t \]
– Clean surplus accounting – the condition that income
  
  » Reflects all changes
  » In book value of equity
  » Other than ownership transactions

– Residual income model (2) refer to page 219-222, example 5-4
  \[ V_0 = B_0 + \sum_{t=1}^{\infty} \frac{(ROE_t - r) \times B_{t-1}}{(1+r)^t} \]

– Fundamental determinates of residual income, refer to pg223-224

– Single-stage residual income model (1)
  • Example 5-6 page 224

– Single-stage residual income model (2)
  • Example 5-7 page 225
• Multistage residual income valuations
  – Estimating a terminal value is based on continuing residual income at the end of that time horizon
  – Continuing residual income is residual income after forecast horizon.
  – Following assumptions concerning continuing residual income
    • Residual income continues indefinitely at a positive level.
    • Residual income is zero from the terminal year forward.
    • Residual income declines to zero as ROE reverts to the cost of equity through time.
    • Residual income reflects the reversion of ROE to some mean level.
  – Refer to page 225-230
• Strengths and weakness of the residual income model
  – Refer to pages 232-233
• Broad guidelines for using a residual income model
  – A residual model is most appropriate when,
  – A residual model is least appropriate when
  – Refer to pages 233-234
• Read through pages 234-249
• Read through SUMMARY on pages 250-251

• ADDITIONAL QUESTIONS
  – Question 1,5-10, 13-14, 17