Divisional Performance
Organisational Structures

• Functional
• Divisional
Setting up divisions

• Cost centre
• Profit centre
• Investment centre
ROI

- This is a form of ROCE
- Compares PBIT with operational assets used to generate it
- Usually applies to investment or profit centres
- Is calculated as follows:

\[
\text{PBIT} = \frac{\text{Operations Management Capital Employed}}{\text{Assets Used}}
\]
WHY ROI IS WIDELY USED

• Ties in directly with the accounting process; and Financial reporting is the most important means of communication with investors
• Very convenient method of measuring divisional performance
• Performance of investment centres of different size can be fairly compared
MEASUREMENT PROBLEMS - NCAs

- ROI normally uses net assets as a denominator
- Without asset replacement it means ROI will progressively increase without corresponding increase in earnings (WHY - DISCUSS IN CLASS)
- This may encourage short-termism
- Different ages and depreciation method for different divisions may make it difficult to compare divisional performance using ROI
- Inflation & Technological change could have an impact on the net assets – this can have negative impact on comparison of divisional performance
- On the other hand using gross assets poses challenges because it ignores age factor which has implications on repair costs
• Then comes the problem of assets definition
• Discuss issues to do with assets recognition vis-a-vis Research and Development costs
• For decision making purposes, some otherwise expensible assets could thus be capitalised
TARGET RETURN FOR A GROUP OF COMPANIES

- Often a group sets a target return

IMPLICATIONS ON DIVISIONAL DECISIONS

- Any new investment should earn $ \geq $ Targeted Group Return

- No NCA earning $ \geq $ Return of its disposal value should be disposed

- Undertake investments with potential earnings $ > $ Targeted Group Return
PROBLEMS WITH THIS POLICY

- Investments are appraised by DCF and actual performance by ROI (WHAT IS WRONG WITH THAT? – CLASS DISCUSSION)
- Target return disregards Risk of each investment – (AGAIN- WHAT IS WRONG WITH THAT?)
DIVISIONAL PERFORMANCE AND ROI

• Consider the following when using ROI:

  - Good for comparison between investment of different size
  - Convenient for measuring performance (easy to calculate)
  - Not good for firms using target return (makes no allowance to risk)
  - May be misleading where profits remain unchanged from the same assets
  - Challenges as a result of difficulties in valuation and classification of assets
  - It may introduce short-termism and uptake of unbearable risk
  - May lead to sub-optimal decisions (ignoring projects with ROI>RR<Divisional ROI)
  - Lack of goal congruency (long term company benefit vs short term divisional gain)
DIVISIONAL PERFORMANCE: RESIDUAL INCOME (RI)

- A measure of the centre`s profits after deducting a notional or imputed interest cost
- Imputed cost could be WACC
- Risk of each investment could be factored in
- The higher the risk the higher would be the imputed cost
- An example should help us
DIVISIONAL PERFORMANCE AND RI

- Consider the following when using RI:

<table>
<thead>
<tr>
<th>Leads to decision likely to benefit whole company (investments whose earnings &gt; RR are taken and vice versa)</th>
<th>Does not relate size of the centre's income to the size of the investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>More flexible than ROI (application of different RR to investments with different characteristics)</td>
<td>The usual challenges with determining the net assets/capital employed</td>
</tr>
<tr>
<td>Being an absolute measure, it cannot be used to make comparisons between investment centres</td>
<td></td>
</tr>
</tbody>
</table>

EXAMPLE

- T is a division of M. The data below relates to T
- Net assets $20m
- Annual profit $5m
- Required Return 15% /annum

M is considering the following proposals

Proposal 1: To invest a further $2m in fixed assets with an expected return of $0.30m

Proposal 2: To dispose NCA at their carrying amount of $5.5m; and these assets were earning $0.8/annum. The sale proceeds would be credited to M.

a. Calculate the current ROI and RI of T
b. Advise on what should be done in the best interests of M
PROS AND CONS OF RI COMPARED TO ROI

Pros:
• More flexible because investments with different levels of risk attract different RR
• Easy to apply because investments earning above cost of capital are undertaken and vice-versa

Cons
• Does not facilitate comparisons between investment centres- does not relate to size of centre`s income to size of investment
• Difficult to ascertain the capital employed
Example

- Alpha Division, which is part of the Delta Group, is considering an investment opportunity to which the following estimated information relates:
  - (1) An initial investment of $45m in equipment at the beginning of year 1 will be depreciated on a straight-line basis over a three-year period with a nil residual value at the end of year 3.
  - (2) Net operating cash inflows in each of years 1 to 3 will be $12.5m, $18.5m and $27m respectively.
  - (3) The management accountant of Alpha Division has estimated that the NPV of the investment would be $1.937m using a cost of capital of 10%.
  - (4) A bonus scheme which is based on short-term performance evaluation is in operation in all divisions within the Delta Group.

Req - Calculate the residual income of the proposed investment
ECONOMIC VALUE ADDED

• An absolute performance measure; similar to RI in that its arrived at after subtracting imputed interest
• Calculated as follows:
  • EVA = NOPAT - CAPITAL CHARGE
  • Capital Charge = WACC X Net assets
• EVA is based on Economic Profit derived by making series of adjustments to accounting profits
• Imputed interest is based on replacement value of assets in calculating EVA unlike RI which uses net assets as in the books
EVA CONTINUED......

- EVA premised on notion that the primary objective of the firm is shareholder wealth maximisation (WHY?)
  - Conventional accounting profit ignores cost of equity
- EVA includes some expenses incurred to build the future earning capacity of the firm
- Costs such as R & D; advertising
- These costs are added as back to NOPAT to arrive at EVA
- Once off unusual items of income or expenditure are ignored when calculating EVA
- Adjustments for non-cash items such as provision for doubtful debts are eliminated
- It is important to note that NOPAT should be excluded as this forms part of the capital charge
- When adding back interest; always remember to include the tax benefit of that interest since it is tax deductible
## TYPICAL ADJUSTMENTS IN CALCULATING EVA

<table>
<thead>
<tr>
<th>TYPE OF ITEM</th>
<th>TREATMENT WHEN CALCULATING EVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value building Expenditure</td>
<td>Add back to NOPAT and Net Assets</td>
</tr>
<tr>
<td>Depreciation</td>
<td>Add back to profits &amp; adjust assets accordingly if EVA depreciation is given in the exam question</td>
</tr>
<tr>
<td>Provisions</td>
<td>Add back to net assets and any such increase recognised in SPL should be added back to NOPAT</td>
</tr>
<tr>
<td>Other non-cash expenses (such as goodwill armotisation)</td>
<td>Add back to NOPAT and net assets</td>
</tr>
<tr>
<td>Operating lease charges</td>
<td>Add back to NOPAT and net assets and base depreciation on value after that (If EVA depreciation is not given)</td>
</tr>
</tbody>
</table>
EXAMPLE: EVA

• P a division of M has operating profits and assets as follows:

<table>
<thead>
<tr>
<th>Gross profit</th>
<th>156</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: Non cash items</td>
<td>(8)</td>
</tr>
<tr>
<td>Armotisation on Goodwill</td>
<td>(5)</td>
</tr>
<tr>
<td>Interest @10%</td>
<td>(15)</td>
</tr>
<tr>
<td>PBT</td>
<td>128</td>
</tr>
<tr>
<td>Tax @ 30%</td>
<td>(38)</td>
</tr>
<tr>
<td>Net Profit</td>
<td>90</td>
</tr>
<tr>
<td>Total Equity</td>
<td>350</td>
</tr>
<tr>
<td>Long Term Debt</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>500</td>
</tr>
</tbody>
</table>

• M has a target capital structure of 25% dept and 75% equity. Cost of equity is estimated at 15%. Capital employed at start of period was 450. The division had operating lease payments of 20 throughout the period. Goodwill armotised in previous years amounted to 40.

• CALCULATE EVA for P
USING EVA AS A PERFORMANCE MEASURE

• A positive EVA means an organisation is creating wealth for its shareholders

• Directors should be encouraged to:
  ➢ Invest in divisions where return exceed the RR
  ➢ Harvest assets where return is less than RR and pay dividends or invest in viable divisions

 предостережение: STUDENTS SHOULD READ ON THE EVALUATION OF EVA TO WRAP UP THE SECTION
### EVA: SOLUTION

<table>
<thead>
<tr>
<th>Net Profit</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Add Back:</strong></td>
<td></td>
</tr>
<tr>
<td>Non cash expenses</td>
<td>8</td>
</tr>
<tr>
<td>Armotisation of Goodwill</td>
<td>5</td>
</tr>
<tr>
<td>Interest (15 x 0.7)</td>
<td>10.5</td>
</tr>
<tr>
<td><strong>NOPAT</strong></td>
<td>113.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Assets:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital employed at start</td>
<td>450</td>
</tr>
<tr>
<td>Non Capitalised Leases</td>
<td>20</td>
</tr>
<tr>
<td>Goodwill Armotised</td>
<td>40</td>
</tr>
</tbody>
</table>

**WACC** = \([75\% \times 0.15 + 25\% \times (10\% \times 0.7)] = 0.13\)

**EVA** = \(\text{NOPAT} - \text{CAPITAL CHARGE}\)

**EVA** = 113.5 − (510 \times 13\%) = 47.2
Example

<table>
<thead>
<tr>
<th>20X6 ($M)</th>
<th>20X7 ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before tax</td>
<td>96</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>(29)</td>
</tr>
<tr>
<td>Profit for the period</td>
<td>67</td>
</tr>
</tbody>
</table>

1. Capital employed at the end of 20X5 amounted to $279m, in 20X6 $340 and 20X7 $395.
2. The Gamma Group had non-capitalised leases valued at $16m in each of the years 20X5 to 20X7 which were not subject to amortisation.
3. Amortisation of goodwill amounted to $5m per year in both 20X6 and 20X7. The amount of goodwill written off against reserves on acquisitions in years prior to 20X6 amounted to $45m.
4. The Group's pre-tax cost of debt was estimated to be 10%.
5. The Group's cost of equity was estimated to be 16% in 20X6 and 18% in 20X7.
6. The target capital structure is 50% equity, 50% debt.
7. The rate of taxation is 30% in both 20X6 and 20X7.
8. Economic depreciation amounted to $40m in 20X6 and $45m in 20X7. These amounts were equal to the depreciation used for tax purposes and depreciation charged in the income statements.
9. Interest payable amounted to $6m per year in both 20X6 and 20X7.
10. Other non-cash expenses amounted to $12m per year in both 20X6 and 20X7.

Required

(i) Stating clearly any assumptions that you make, estimate the Economic Value Added (EVA™) of the Gamma Group for both 20X6 and 20X7 and comment briefly on the performance of the Group. (8 marks)

(ii) Briefly discuss THREE disadvantages of using EVA™ in the measurement of financial performance. (3 marks)