Adjustments Related to Post-Retirement Benefits

- Pension Accounting leads to another situation where financing costs get recorded as an operating expense.
- Pension expense is included in operating expenses and generally includes four components:
  - Service Cost and Amortization of Prior Service Cost
  - Interest Cost
  - Expected Return on Plan Assets
  - Amortization of Loss
- The first component is an estimate of this period’s compensation expense related to pensions. The other three components are non-operating expenses related to the performance of the plan assets and should be removed from operating income.

Example: Pension Expenses at DuPont

- DuPont’s expenses related to pensions and other post-retirement benefits in three different years are described below:

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th></th>
<th>2007</th>
<th></th>
<th>2005</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pension</td>
<td>Other</td>
<td>Pension</td>
<td>Other</td>
<td>Pension</td>
<td>Other</td>
</tr>
<tr>
<td>Service Cost</td>
<td>249</td>
<td>33</td>
<td>383</td>
<td>34</td>
<td>349</td>
<td>33</td>
</tr>
<tr>
<td>Amortization of Prior Service Cost</td>
<td>16</td>
<td>(121)</td>
<td>18</td>
<td>(156)</td>
<td>37</td>
<td>(155)</td>
</tr>
<tr>
<td>Interest Cost</td>
<td>1,253</td>
<td>212</td>
<td>1,228</td>
<td>242</td>
<td>1,160</td>
<td>261</td>
</tr>
<tr>
<td>Expected Return on Plan Assets</td>
<td>(1,475)</td>
<td>-</td>
<td>(1,800)</td>
<td>-</td>
<td>(1,416)</td>
<td>-</td>
</tr>
<tr>
<td>Amortization of Loss</td>
<td>613</td>
<td>60</td>
<td>117</td>
<td>72</td>
<td>302</td>
<td>79</td>
</tr>
<tr>
<td>Total</td>
<td>656</td>
<td>184</td>
<td>(54)</td>
<td>192</td>
<td>432</td>
<td>218</td>
</tr>
</tbody>
</table>

- Note that the large expected return forecast in 2007 actually results in a pension gain rather than an expense.
- To adjust operating income, we add back the total pension/retirement expense and instead subtract only the service cost component. Net income will be unaffected by this adjustment.
Partial page from DuPont's 2011 10K lists operating income of $4,173 million. Assuming both the marginal and effective tax rates equal 36%, operating income would be adjusted as follows:

\[
\text{Adjusted Operating Earnings} = \text{Operating Earnings} + (\text{Total Pension Expense} - \text{Pension Service Cost})
\]
\[
= 4173 + ((656 + 184) - (249 + 16 + 33 - 121)) = 4173 + (840 - 177) = 4,836m
\]

\[
\text{Adjusted Aftertax Operating Earnings} = (\text{Operating Earnings})(1 - T) + (\text{Total Pension Expense} - \text{Pension Service Cost})(1 - T_n)
\]
\[
= 4173(1 -.36) + (840 - 177)(1 -.36) = 2607.72 + 424.32 = 3,395.04m
\]

---

**Example: Pension Expenses at DuPont**

- DuPont’s 2011 10K lists operating income of $4,173 million.
- Assuming both the marginal and effective tax rates equal 36%, operating income would be adjusted as follows:

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\text{Adjusted Operating Earnings} = \text{Operating Earnings} + (\text{Total Pension Expense} - \text{Pension Service Cost})
\]
\[
= 4173 + ((656 + 184) - (249 + 16 + 33 - 121)) = 4173 + (840 - 177) = 4,836m
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\[
\text{Adjusted Aftertax Operating Earnings} = (\text{Operating Earnings})(1 - T) + (\text{Total Pension Expense} - \text{Pension Service Cost})(1 - T_n)
\]
\[
= 4173(1 -.36) + (840 - 177)(1 -.36) = 2607.72 + 424.32 = 3,395.04m
\]

---

**Pension Assets and Liabilities**

- Over- or under-funded benefit plans create assets and liabilities that must be accounted for at the end of the valuation.
- Until 2005, the funding status of retirement plans was recorded on the balance sheet as a long-term average so that the amount reported did not accurately reflect pension surpluses or liabilities.
- Rule changes beginning in 2006 require that the balance sheet report actual funding status.
- Example: Pension Funding Status at DuPont in various years

<table>
<thead>
<tr>
<th>Pension/Retirement Funding Status</th>
<th>2011</th>
<th>2007</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit Obligation</td>
<td>27,083</td>
<td>22,206</td>
<td>22,935</td>
</tr>
<tr>
<td>Fair Value of Plan Assets</td>
<td>17,794</td>
<td>22,618</td>
<td>19,792</td>
</tr>
<tr>
<td>Funded Status</td>
<td>9,289</td>
<td>412</td>
<td>3,143</td>
</tr>
<tr>
<td>Net Amount Recognized</td>
<td>9,289</td>
<td>412</td>
<td>2,341</td>
</tr>
</tbody>
</table>

---
Pension Assets and Liabilities

- To properly estimate firm value, we should treat overfunded pensions as a non-operating asset that is added to the cash flow value of the firm.
  - We should add the after-tax value of overfunded pension assets.

- To properly estimate equity value, we should subtract the value of underfunded pensions.
  - Again, we should subtract the after-tax value of under-funded pension liabilities. This reflects that firms do not pay taxes on funds they use to fund pensions and other post-retirement benefits plans.

- Prior to 2006, we must examine the notes to the financial statements to determine the actual funding status of these plans.