Accounting for Pensions

Chapter 20

Pre-Lecture Homework

For class, you should be prepared to discuss the answers to the following questions:
1. Identify the five components that comprise pension expense and be able to explain the nature of each component.
2. What is meant by “prior service cost” and when are PSCs recognized in pension expense?
3. What is meant by “unexpected gains and losses” and when are these gains and losses recognized in pension expense?

Nature of Pension Plans

A Pension Plan is an arrangement whereby an employer provides benefits (payments) to employees after they retire for services they provided while they were working.

Defined Contribution Plan
- Employer contribution determined by plan (fixed)
- Risk borne by employees
- Benefits based on plan value

Defined Benefit Plan
- Benefit determined by plan
- Employer contribution varies (determined by Actuaries)
- Risk borne by employer

NO Actuaries required: Employer obligation limited to annual “matching” (if any). Once that “match” is paid, the employer is off the hook!

Actuaries estimate the employer contribution by considering mortality rates, employee turnover, interest and earning rates, early retirement frequency, future salaries, etc.

Statement of Financial Accounting Standard No. 158, VERY RECENT, and many changes from old.
The accounting for defined contribution plans are simple: Credit liability for matching requirement, Debit 401K expense each period.

THE BALANCE OF THESE SLIDES RELATES TO THE COMPLEX WORLD OF:
1. Understanding the components of a defined benefit plan.
2. Accounting for activity related to a defined benefit plan.

The Company is also referred to as the “Sponsor”, a key term as the plan is SEPARATE from the Company. The deal works like this:
- Each period, employees earn a piece of compensation which they will not receive until they one day retire;
- GAAP seeks to match that cost to NOW when the “benefit” is being derived (Matching);
- Companies seek to be investing into the plans “assets” so that there is an accumulation of funds to pay those benefits in the future.

How do we figure out what the cost of compensation related to the plan is each period?
- Actuaries, and this primary ingredient is called “Service Cost”;
- If the liability was $1 today, would it be $1 twenty years from now? NO! Hence there is an “interest” component to the annual pension expense as well.
- What about the earnings on the assets held?
- Reduction to the annual pension expense.
- What if the PLAN’s net assets are insufficient relative to the total estimated future liability?
  - Sponsor has a liability on their books.
- What if the PLAN’s net assets exceed the total estimated future liability?
  - Sponsor has an asset on their books.
- Is this a long-term or short-term endeavor?
  - LONG term… Consequently there are “smoothing” techniques employed.

Components of Pension Expense

<table>
<thead>
<tr>
<th>Item</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service Costs</td>
</tr>
<tr>
<td>2</td>
<td>Interest on Liability</td>
</tr>
<tr>
<td>3</td>
<td>Estimated Return on Plan Assets</td>
</tr>
<tr>
<td>4</td>
<td>Amortization of Unamortized Prior Service Costs</td>
</tr>
<tr>
<td>5</td>
<td>Gain or Loss</td>
</tr>
</tbody>
</table>
Components of Change in Pension Asset/Liability

- Pension Expense
- Cash Payments
- Other Comprehensive Income/Loss

Using a Pension Work Sheet

Important to accounting for pensions under Statement No. 87 is the fact that several significant items of the pension plan are unrecognized in the accounts and in the financial statements. This includes:
- Projected benefit obligation (PBO)
- Pension plan assets
- Prior service costs
  - Amortize into Annual Pension expense
- Net gain or loss
  - IF they exceed a 10% threshold, then they amortize into Annual Pension Expense

BUT THE NET ASSET/LIABILITY IS ON THE SPONSOR BOOKS!!

Illustration - Work Sheet & Journal Entry

Rebekah Company provides the following information about its defined benefit pension plan for the year 2005:

- Service cost: $90,000
- Contribution to the plan: 105,000
- Prior service cost amortization: 10,000
- Actual and expected return on plan assets: 64,000
- Benefits paid: 40,000
- Accrued pension cost liability at Jan. 1, 2005: 10,000
- Plan assets at Jan. 1, 2005: 640,000
- Projected benefit obligation at Jan. 1, 2005: 800,000
- Unrecognized prior service cost at Jan. 1, 2005: 150,000
- Interest/discount (settlement rate): 10%

Instructions:
Prepare the journal entry to record pension expense for the year ending December 31, 2005.

Reporting in F/S

<table>
<thead>
<tr>
<th>Service cost</th>
<th>100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to plan</td>
<td>105,000</td>
</tr>
<tr>
<td>Prior service cost amortization</td>
<td>10,000</td>
</tr>
<tr>
<td>Actual/expected return on plan assets</td>
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<tr>
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<td>40,000</td>
</tr>
<tr>
<td>Accrued pension cost liability at Jan. 1, 2005</td>
<td>10,000</td>
</tr>
<tr>
<td>Plan assets at Jan. 1, 2005</td>
<td>640,000</td>
</tr>
<tr>
<td>Projected benefit obligation at Jan. 1, 2005</td>
<td>800,000</td>
</tr>
<tr>
<td>Unrecognized prior service cost at Jan. 1, 2005</td>
<td>150,000</td>
</tr>
<tr>
<td>Interest/discount (settlement rate)</td>
<td>10%</td>
</tr>
</tbody>
</table>

COMPUTE PENSION EXPENSE

Service cost 100,000
FAS: amortization 10,000
Actual/expected return 64,000
Interest cost 6,000
Pension expense 116,000
**Amortization of Unrecognized PSC**

**Question:** Should an expense and related liability for these prior service costs (PSC) be fully reported at the time a plan is initiated or amended?

**ANSWER:** SORT OF!

Under new rules, the liability gets lumped into the "Pension asset/ liability" and the expense sits in OCI and amortizes over future service life.

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**Illustration - Amortization of Prior Service Costs**

**E21-5** Janet Valente Company has five employees participating in its defined benefit pension plan. Expected years of future service for these employees at the beginning of 1999 are as follows:

<table>
<thead>
<tr>
<th>Employee</th>
<th>Years of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed</td>
<td>3</td>
</tr>
<tr>
<td>Paul</td>
<td>4</td>
</tr>
<tr>
<td>Mary</td>
<td>6</td>
</tr>
<tr>
<td>Dave</td>
<td>6</td>
</tr>
<tr>
<td>Carol</td>
<td>6</td>
</tr>
</tbody>
</table>

On January 1, 1999, the company amended its pension plan increasing its projected benefit obligation by $60,000.

**Instructions**

Compute the amount of prior service cost amortization for the years 1999 through 2004 using the years-of-service method.

**Cost per service-year:**

$60,000 / 25 = $2,400

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**E21-5 Computation of Service-Years**

<table>
<thead>
<tr>
<th>Year</th>
<th>Ed</th>
<th>Paul</th>
<th>Mary</th>
<th>Dave</th>
<th>Total</th>
<th>Cost</th>
<th>Amortization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5 x 2,400 = 12,000</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5 x 2,400 = 12,000</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4 x 2,400 = 9,600</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3 x 2,400 = 7,200</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3 x 2,400 = 7,200</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3 x 2,400 = 7,200</td>
<td></td>
</tr>
</tbody>
</table>

**Cost per service-year:**

$60,000 / 25 = $2,400

**Future Years of Service**

<table>
<thead>
<tr>
<th>Ed</th>
<th>Paul</th>
<th>Mary</th>
<th>Dave</th>
<th>Carol</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>25</td>
</tr>
</tbody>
</table>

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**E21-5 continued**

**What is the unamortized prior service cost at the end of 2001?**

15 x 2,400 = 36,000 amortization. We started at $60,000 therefore would be 60,000 - 36,000 = 24,000

**How would the amortization of PSC find its way to the income statement of the Company?**

As a component of the pension expense annually until fully amortized.
COMPLICATION: SMOOTHING!

What vehicle have we seen the FASB employ when they want the best of both worlds (one way on income statement, another way on the balance sheet)?

OCI / AOCI

COMES INTO PLAY HERE FOR TWO THINGS:

1. Prior Service Cost (PSC): When there is an amendment to the plan which impacts the amount owed to employees.
   - Charge cost in year of the change creating the PSC to OCI. You will see that each year the Sponsor's asset/liability is a plug and consequently the asset or liability adjusts for this.
   - Amortize the OCI into the P&L (through the annual pension expense) over the remaining service life.

2. Gains & Losses: We recognize the annual return on plan assets as the EXPECTED return. Actual results may vary. Also changes in assumptions used by actuaries can have an impact on the PBO. Both these differences go to OCI.
   - ONLY amortizes if exceeds threshold (10% of greater of Plan assets or PBO at beginning of year)
   - If exceeds threshold the OCI amortizes to pension expense over the remaining service life.

Illustration - Work Sheet & Journal Entry

E20-7 The following defined pension data of Doreen Corp. apply to the year 2005:

- Projected benefit obligation, 1/1/05 (Before amendment) $560,000
- Plan assets, 1/1/05 546,200
- Prepaid / accrued pension cost (credit) 1/1/05 13,800
- On January 1, 2005, Doreen Corp., through plan amendment, grants prior service benefits having a present value of 100,000
- Settlement rate 9%
- Annual pension service cost 58,000
- Contributions (funding) 55,000
- Actual/ Expected return on plan assets 52,280
- Benefits paid to retirees 40,000
- Prior service cost amortization for 2005 17,000

Instructions Prepare the journal entry to record pension expense for 2005.

E20-7 COMPUTATION

Template Year 1

<table>
<thead>
<tr>
<th>General Journal Entries</th>
<th>Memo Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Projected Benefit</td>
</tr>
<tr>
<td>BOY</td>
<td>£13,800</td>
</tr>
<tr>
<td>Prior service cost</td>
<td>100,000</td>
</tr>
<tr>
<td>BOY adjusted</td>
<td></td>
</tr>
<tr>
<td>Amortize prior service cost</td>
<td>17,000</td>
</tr>
<tr>
<td>Annual service cost</td>
<td>58,000</td>
</tr>
<tr>
<td>Interest Cost</td>
<td>59,400</td>
</tr>
<tr>
<td>Actual return</td>
<td>(52,280)</td>
</tr>
<tr>
<td>Unexpected loss</td>
<td>(59,000)</td>
</tr>
<tr>
<td>Benefits paid</td>
<td>40,000</td>
</tr>
<tr>
<td>Prepaid/ accrued (PLUG)</td>
<td>82,120</td>
</tr>
<tr>
<td>ENDING PEN/S. ASST/LIAB</td>
<td>(110,120)</td>
</tr>
<tr>
<td><strong>ANNUAL JOURNAL ENTRY:</strong></td>
<td></td>
</tr>
<tr>
<td>Pension expense</td>
<td>82,120</td>
</tr>
<tr>
<td>Cash</td>
<td>82,120</td>
</tr>
<tr>
<td>OCI</td>
<td>83,000</td>
</tr>
<tr>
<td>Pension Liability</td>
<td>110,120</td>
</tr>
</tbody>
</table>

Reporting in F/S

<table>
<thead>
<tr>
<th>Balance Sheet</th>
<th>Income Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>2000</td>
</tr>
<tr>
<td>Cash</td>
<td>(55,000)</td>
</tr>
<tr>
<td>Liabilities</td>
<td></td>
</tr>
<tr>
<td>Accrued cost</td>
<td>(123,920)</td>
</tr>
<tr>
<td>Equity</td>
<td></td>
</tr>
<tr>
<td>AOC loss</td>
<td>83,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>82,120</td>
</tr>
<tr>
<td>Net (income) loss</td>
<td>82,120</td>
</tr>
</tbody>
</table>

Debit (Credit)
Unexpected swings in pension expense could be caused by:
(1) large changes in market value of plan assets and
(2) changes in actuarial assumptions that affect the PBO.

**Gain or Loss**

**Volatility**

The profession decided to reduce the volatility with smoothing techniques.

**Question:** What is the potential negative impact on Net Income?

**Answer**

Recorded in OCI account with the offset impacting the net pension asset/Liability.

OCI amortized to pension expense over the average remaining service period of active employees expected to receive benefits under the plan. IF EXCEEDS "CORRIDOR" THRESHOLD

**Smoothing Gains and Losses on Plan Assets**

The expected return on the plan assets is to be included as a component of pension expense, not the actual return. The difference between the expected return and the actual return is gain/loss and is "smoothed"

**Corridor Amortization**

The unrecognized net gain or loss balance is considered too large and must be amortized when it exceeds the arbitrarily selected FASB criterion of 10% of the larger of the beginning balances of the PBO and the market-related value (FMV) of the plan asset.

**Question:** What happens to the difference between the expected return and the actual return?

**Answer**

EXACTLY THE SAME AS THE UNEXPECTED GAINS/ LOSSES ON PLAN ASSETS!!! SEE PRIOR SLIDE: OCI/AMORTIZE IF = "CORRIDOR"
Corridor Amortization

E20-8 Dougherty Corp. has beginning-of-the-year present values for its projected benefit obligation and market-related values for its pension plan assets:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Benefit Obligation</th>
<th>Plan Assets Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>$2,000,000</td>
<td>$1,900,000</td>
</tr>
<tr>
<td>2004</td>
<td>2,400,000</td>
<td>2,500,000</td>
</tr>
<tr>
<td>2005</td>
<td>2,900,000</td>
<td>2,600,000</td>
</tr>
<tr>
<td>2006</td>
<td>3,600,000</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

The average remaining service life per employee in 2003 and 2004 is 10 years and in 2005 and 2006 is 12 years. The unrecognized net gain or loss that occurred during each year is as follows: 2003, $280,000 loss; 2004, $90,000 loss; 2005, $10,000 loss; and 2006, $25,000 gain.

Instructions

Compute the amount of unrecognized net gain or loss amortized and charged to pension expense in each of the four years.

FACTS: dr./ <cr>

AT BOY: Pension asset/ (Liability) (105,400)
OCI- PSC 32,000
OCI- Loss 29,940
PBO (265,000)
Plan assets 159,600

ACTIVITY Service Cost 16,000
Salmon rate and ROR 10%
Actual return no assets 22,000
Amort. Of unrecog. P svc cost 17,600
Annual contributions 27,000
Benefits paid 18,000
Avg. service life of covered emp 20

COMPREHENSIVE Illustration - Work Sheet & Journal Entry

Page 1045 of the text has a pretty good comprehensive illustration. Using templates from class, this is solved on the excel spreadsheet available at the class web-page. We will cover in class- time permitting.

SOLUTION

GENERAL JOURNAL ENTRIES

<table>
<thead>
<tr>
<th>DR.</th>
<th>CR.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension expense 44,312</td>
<td>Cash 27,000</td>
</tr>
</tbody>
</table>

FACTS: dr./ <cr>

AT BOY: Pension asset/ (Liability) (105,400)
Pension Liability 6,500 | OCI- PSC 32,000 |
- OCI- Loss 29,940 |
PBO (265,000)

COMPUTE AMORTIZATION OF UNREC. LOSS

UNREC. GAIN/ (LOSS) UNREC. GAIN/ (LOSS) SERVICE COST AMORT. OF UNREC. GAIN/ (LOSS) ENDING PENSION LIABILITY

GENERAL JOURNAL ENTRIES

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PBO (265,000)

COMPUTE AMORTIZATION OF UNREC. LOSS

UNREC. GAIN/ (LOSS) SERVICE COST AMORT. OF UNREC. GAIN/ (LOSS) ENDING PENSION LIABILITY
**Practice!**

- The excel spreadsheet on the web-page (in the powerpoint presentations link) has a template for you to use. It also has a Zarle corp. computation which is the same as that used throughout the text’s illustrations.
- Don’t get too reliant upon using excel b/c you will need to be able to do it in a blue-book.

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**Expected Return**

The expected return on the plan assets is to be included as a component of pension expense, not the actual return.

**Smoothing Gains and Losses on Plan Assets**

**Question:** What happens to the difference between the expected return and the actual return?

**Answer:**
- Recorded in Unrecognized Net Gain or Loss account.
- Amortized to pension expense over the average remaining service period of active employees expected to receive benefits under the plan.