

FA Module 14: Employee pensions and share-based compensation (overview 3rd edition)

(The attached PDF file has better formatting.)

(Readings from the third 3rd edition of the Robinson text.)

Reading: chapter 10

- ! § 4 introduction to pensions and other post-employment benefits, *excluding*
- " Example 15 (Pension-related disclosures)

Reading: chapter 14

- ! § 2 pensions and other post-employment benefits, *excluding*
- " sub-section 2.4 (Disclosure of pension and other post-employment benefits – all sub-sections of 2.4 are excluded)
- ! § 3 share-based compensation, *excluding*
- " exhibit 6 (SABMiller plc)
- " exhibit 7 (American Eagle Outfitters)
- " exhibit 8 (GlaxoSmithKline, plc)
- " Example 7 (Coca cola)

This module deals with defined benefit pension costs; defined contribution pension costs are not materially different from other expenses. Other actuarial exams deal with measuring a defined benefit pension plan's obligations; this course covers financial statement reporting of defined benefit pension plans.

Measuring the defined benefit pension plan liability is needed for reporting it; you must understand the basic measurement procedures. Final exam problems focus on GAAP and IFRS reporting. The practice problems on the discussion forum show the types of questions asked.

Exhibit 1 Types of Post-Employment Benefits; shows the types of plans. The final exam tests the accounting entries for defined benefit pension plans.

Know the financial statement entries for defined benefit pension plans: present value of defined benefit obligation, fair value of plan assets, net pension liability, periodic pension cost, service cost, current service cost, past service costs, net interest expense or income, actuarial gains and losses, remeasurement of the net pension liability or asset, interest expense on pension obligations, returns on the pension plan assets.

You will not be tested on the corridor approach, or on which items flow through the income statement vs the statement of other comprehensive income.

Sub-section 2.4 discusses several alternative disclosures and their use for readers of financial statements. This course focuses on the GAAP and IFRS requirements; sub-section 2.4 adds unneeded complexity.

Know how five factors affects defined benefit liabilities (periodic pension costs) for GAAP and IFRS:

- ! service costs: current service vs past service costs; net income vs other comprehensive income
- ! net interest expense / income: discount rate vs expected return on plan assets
- ! remeasurement: actuarial gains or losses; actual vs expected return on plan assets
- ! actuarial gains and losses: major types
- ! changes in assumptions: discount rate, expected returns

Know the differences for funded vs unfunded liabilities of defined benefit plans.

Share-based compensation differs from ordinary wages and salaries. Focus on

- ! Stock grants vs stock options

- " effects on retained earnings, paid-in capital, and shareholders' equity
- ! Executive stock options: historical cost vs fair values
- " influences on fair value of stock options

This module is easy for pension actuaries, but it can be confusing for other actuaries. The final exam problems are modeled directly on end of chapter problems 1 – 12. Focus on the definition of each accounting entry in the textbook and on the practice exam problems for this module on the discussion forum.

Look at the data for end of chapter problems 1 – 7. A final exam problem may give the input data and ask you to derive the outputs. In some cases, a final exam problem may give the components of the input data. For example, a final exam problem may give

- ! the past service cost and the current service cost; the service cost is the sum of these two.
- ! the discount rate and the benefit obligation at the beginning of the year; the interest cost on the benefit obligation is the product of these two.

Given the service cost, the net interest (income) expense, and any remeasurements, you derive the periodic pension cost. In the textbook end of chapter problem, this is

$$228 + 273 + (-18) = 483.$$

Remeasurements can be tricky, since you may not be sure whether to add or subtract them. Many final exam problems say that remeasurements are zero.

Service costs and interest costs (on the benefit obligation) increase the benefit obligation; benefits paid and the actuarial gain (loss) reduce the benefit obligation. In the textbook end of chapter problem, this is

$$28,416 + 228 + 1,557 - 1,322 - 0 = 28,879$$

Some final exam problems give you the benefit obligation at the end of the year and ask you to derive the benefits paid or the actuarial gain (loss).

The fair value of plan assets increases with employer contributions and the actual return on plan assets and decreases with pension benefits paid, so the fair value of the plan assets at the end of the year = the fair value of the plan assets at the beginning of the year + employer contributions + the actual return on plan assets – the pension benefits paid. In the textbook end of chapter problem, this is

$$23,432 + 1,302 + 693 - 1,322 = 24,105$$

The funded status of the pension plan is the fair value of the plan assets minus the benefit obligations. In the textbook end of chapter problem, this is

beginning of the year:	$23,432 - 28,416 = (4,984)$
end of the year:	$24,105 - 28,879 = (4,774)$

Consider end of chapter questions 8-12 and Exhibit 2 XYZ SA Retirement Plan Information. We verify that the figures are consistent. We first compute the service costs and the interest costs.

- ! The total service cost = the current service cost + the past service cost = 200 + 120 = 320.
- ! The interest cost on the benefit obligation = the discount rate x the present value of the benefit obligation at the beginning of the year = 7% x 42,000 = 2,940.

We derive the pension benefits paid during the year from the formula relating the pension obligations at the beginning and end of the year:

The benefit obligation at the end of the year =

- the benefit obligation at the beginning of the year
- + the total service cost
- + the interest cost
- the benefits paid
- the actuarial gain or loss

which implies that the pension benefits paid during the year =

- the benefit obligation at the beginning of the year
 - the benefit obligation at the end of the year
 - + the total service cost
 - + the interest cost
 - the actuarial gain (loss)
- $$= 42,000 - 41,720 + 320 + 2,940 - (-460) = 4,000$$

The actuarial *loss* is 460, so the actuarial gain is –460.

The fair value of the plan assets at the end of the year =

- the fair value of the plan assets at the beginning of the year
 - + the actual return on plan assets
 - + employer contributions
 - benefits paid
- $$= 39,000 + 2,700 + 1,000 - 4,000 = 38,700$$

The plan assets at the end of the year in the exhibit are 38,700.

We can also compute the periodic pension cost as

- the total service costs
 - the actuarial gain or loss (or + the actuarial loss)
 - + the interest expense on the benefit obligation at the beginning of the year
 - the actual return on plan assets
- $$= 320 + 460 + 2,940 - 2,700 = 1,020$$