FA Module 12: Current taxes assets and liabilities – practice problems

(The attached PDF file has better formatting.)

Exercise 12.1: Current tax assets and liabilities

Taxes are paid during the year as they accrue. The tax expense for the year is not known with certainty until the tax return is filed in the next year, so the tax payments are estimates. The tax payment schedule varies by country. A common pattern is for the firm to estimate and pay taxes at the beginning of each quarter: Jan 1, April 1, July 1, and Oct 1. At the end of the year, the firm re-estimates the taxes and reports a current tax liability if it owes more taxes than it paid or a current tax asset if it expects a tax refund.

Illustration: The tax rate is 20% of taxable income. A firm estimates and pays taxes of 100 at the beginning of each quarter. After the year ends, the firm estimates its taxable income at 2,200. The estimated tax for the year is 20% × 2,200 = 440, so the firm reports a current tax liability of 40. If the estimated taxable income at year-end is 1,600, the estimated tax for the year is 20% × 1,600 = 320, so the firm reports a current tax asset of 80.

A scenario may have two or more years. In 20X2, the firm may pay taxes of 500 and estimate its total tax as 550, so it reports a current tax liability of 50. In 20X3, the firm may pay taxes of 500 for 20X3 income and estimate it total tax as 480; it pays also the 50 for the tax due at the end of 20X2, so the total taxes paid are 550. The tax expense for 20X3 is

$$\text{tax paid} + \Delta(\text{current tax liability}) - \Delta(\text{current tax asset}) = 550 + (-50) - 20 = 480.$$

Exercise 12.2: Current tax assets and liabilities

The taxes due are the tax rate × the taxable income. The pre-tax income on financial statements may differ from taxable income for two reasons:

Permanent differences: Some revenue may not be taxed, or some expenses may not be tax deductible.

Illustration: Some investment income may be tax exempt, such as interest income from tax exempt bonds or dividends received from a subsidiary.

Illustration: Some operating expenses may not be tax deductible, such as lobbying expenses or entertainment expenses for clients.

Temporary differences: Some revenue and expenses may be assigned to different tax years than their fiscal years (the years on the financial statements). The textbook discusses many examples. For illustration, rent revenue might be assigned to the tax year in which the cash is received, and rent expense might be assigned to the tax year in which the cash is paid.

Illustration: Suppose rent revenue is assigned to the tax year in which the cash is received, and rent expense is assigned to the tax year in which the cash is paid, and the tax rate is 20%.

A landlord collects rent revenue of 100 on December 31, 20X2, for the coming year. The landlord pays tax of 20, but the revenue on the financial statement is zero. The landlord reports a deferred tax asset of 20 at year-end 20X2, so the tax expense for 20X2 is tax paid + Δ(deferred tax liability) – Δ(deferred tax asset) = 20 + 0 – 20 = 0.

A firm pays rent expense of 100 on December 31, 20X2, for the coming year. The firm deducts 20 from its taxes for 20X2, but the rent expense on the financial statement is zero. The firm reports a deferred tax liability of 20 at year-end 20X2, so the tax expense for 20X2 is tax paid + Δ(deferred tax liability) – Δ(deferred tax asset) = –20 + 20 – 0 = 0.

Exercise 12.3: Current tax assets and liabilities

The corporate tax rate is 20%. Estimated taxes for each quarter are due at the beginning of the quarter.

- In 20X1 and 20X2, a firm pays estimated taxes of 200 at the beginning of each quarter.
- The firm's actual taxable income is 3,750 in 20X1 and 4,250 in 20X2.
- Current tax liabilities are paid and current tax assets are collected on May 1 of the following year.

A. What is the tax liability for 20X1?
B. What is the current tax asset or liability at December 31, 20X1?
C. What is the tax portion of the operating cash flow for 20X1?
D. What is the tax expense for 20X1?
E. What is the tax liability for 20X2?
F. What is the current tax asset or liability at December 31, 20X2?
G. What is the tax portion of the operating cash flow for 20X2?
H. What is the tax expense for 20X2?

Part A: Taxable income is 3,750 in 20X1, so the tax liability is 20% × 3,750 = 750.

Part B: The firm paid taxes of 800 but its tax liability is 750, so it has a current tax asset of 50 at 12/31/20X1.

Part C: The tax portion of the operating cash flow for 20X1 is –800.

Part D: The tax expense = taxes paid + Δ(current tax liability) – Δ(current tax asset) = 800 + 0 – 50 = 750.

This problem has no deferred tax assets or liabilities, so the tax expense for 20X1 is the tax liability for 20X1.

Part E: Taxable income is 4,250 in 20X2, so the tax liability is 20% × 4,250 = 850.

Part F: The firm paid taxes of 800 but its tax liability is 850, so it has a current tax liability of 50 at 12/31/20X2. The current tax asset for 20X1 is collected on May 1, 20X2, so its current tax asset at 12/31/20X2 is zero.

Part G: The firm paid taxes of 800 for 20X2 and received a tax refund of 50 on May 1, 20X2, for over-paying taxes in 20X1. The tax portion of the operating cash flow for 20X2 is –750.

Part H: The tax expense = taxes paid + Δ(current tax liability) – Δ(current tax asset) = 750 + (50 – 0) – (0 – 50) = 850.