

Basic equations

B/S: Assets = Liabilities + Owners' equity

I/S: Revenue – Cost of Goods Sold – SG&A – Tax = Net Income

C/F: Cash flow during the year = cash flow from operation + cash flow from investing + cash flow from financing

Statement of Owners' equity: Retained earnings_t = Retained earnings_{t-1} + NI_t - Dividend_t

Accounts Receivable

Relevant Formulae

- $A/R_{EB} = A/R_{BB} + \text{Credit Sales} - \text{Cash Received} - \text{Write-off} + \text{Recovery}$
- $ADA_{EB} = ADA_{BB} + \text{Bad Debt Expense} - \text{Write-off} + \text{Recovery}$

Two methods for determining Allowance for Bad Debts

- Percentage of (Credit) Sales
 - Fixes the Bad Debt Expense recorded for the year
- Aging Method
 - Fixes the ***Ending Balance*** of Allowance for Bad Debts
 - Bad Debt Expense is as a “Plug-in”

Relevant entries

- Credit sales: Dr. A/R Cr. Revenue
- Record bad debt expense: Dr. Bad debt expense Cr. ADA
- When bad debt happens: Dr. ADA Cr. A/R
- Recovery of bad debt: Dr. A/R Cr. ADA

Inventory

- $INV_{EB} = INV_{BB} + \text{Purchase/Production} - \text{COGS}$
- LIFO Reserve = cumulative difference in FIFO – LIFO inventory ****or****
- LIFO Reserve = Ending INV_{FIFO} – Ending INV_{LIFO}
- $\text{Change in LIFO Reserve} = \text{COGS}_{LIFO} - \text{COGS}_{FIFO}$

PP&E

- $PPE_{EB} = PPE_{BB} + \text{Acquisitions} - \text{Disposals}$
- Straight-line depreciation = (Purchase price – salvage value) / Useful life
- $\text{AccDep}_{EB} = \text{AccDep}_{BB} + \text{Depreciation} - \text{AccDep}_{\text{Disposal}}$
- $MV / \text{Proceeds from sales} = (BV - \text{AccDep}) + \text{gain/loss}$

Cash flow statement

- Indirect method differs from direct method only in the CFO session.
- CFO (indirect method) = NI + depreciation – (increase in operating non-cash current assets) + (increase in operating current liabilities) – gain from sale of PPE

Accounting For Income Taxes

- Permanent Differences: Differences between financial statement (“pretax”) GAAP income and taxable income that will **never** be recaptured/reversed, e.g. Government Fines, Tax-Exempt Revenue.
- Temporary Timing Differences: Differences between pretax GAAP income and taxable income that will be **recaptured/reversed** at some point in the future. Temporary differences create *Deferred Tax Liabilities* or *Deferred Tax Assets*
- Deferred Tax Liabilities (DTL)
 - Taxable Income < Pretax GAAP Income
 - Taxes Payable < GAAP Income Tax Expense
 - Taxpayer pays lower taxes today. A liability must be recorded to account for the added taxes to be paid at some point in the future.
- Deferred Tax Asset (DTA)
 - Taxable Income > Pretax GAAP Income
 - Taxes Payable > GAAP Tax Expense
 - Taxpayer pays higher taxes today. An asset must be recorded to account for the value of lower taxes to be paid at some point in the future.
- Assume depreciation is the only source of deferred tax expense, then deferred tax expense = change in DTL = (tax depreciation – book depreciation) * tax rate

Marketable securities: recording of gains and losses (or price increase/decrease):

	Sales of securities	Price change – not sold yet
Trading securities	IS – Realized gains/losses	IS – Unrealized gains/losses
Available-for-sales	IS - Realized gains/losses	SE – Unrealized gains/losses

LONG-TERM DEBT

Terminology

- Principal (Par Value): stated or face value of the bond; the amount due at maturity
- Coupon Rate: the rate used to determine the periodic cash payments, if any.
- Coupon Payment: Cash Payment = Principal x Coupon Rate
- Market Rate of interest at issuance (Effective Rate): the rate used to determine the proceeds received by the borrower when the bond is issued. This rate is also used to determined interest expense.
- Current Market Interest Rate: the rate used to determine the current market value of the bond. It is used to calculate the value of bond at early retirement.
- Interest Expense: Book value of bond x Market Interest Rate at issuance

Bonds - Par/Discount/Premium

Bond Sells	Market Rate at issuance	Market Value at issuance	Coupon Payment
At Par	= Coupon Rate	= Par Value	= Interest Expense
At a Discount	> Coupon Rate	< Par Value	< Interest Expense
At a Premium	< Coupon Rate	> Par Value	> Interest Expense

Long-Term Debt - Balance Sheet Equation

If bond is sold **At Premium**

	Assets		=	Liabilities		+	S. E.
Date	Cash			Bond Payable	Premium (Discount)		Retained Earnings
Issue	Market Value			Par Value	Premium		
1 yr.	(Coupon Payment)				(Discount accrual)		(Interest Expense)
...							
Maturity	(Par Value)			(Par Value)	0		

If bond is **Zero-Coupon** (*special case of bonds sold At Discount*)

	Assets		=	Liabilities		+	S. E.
Date	Cash			Bond Payable	Premium (Discount)		Retained Earnings
Issue	Market Value			Par Value	(Discount) ^a		
1 yr.					Discount Accrual		(Interest Expense) ^b
...							
Maturity	(Par Value)			(Par Value)	0		

^a Discount = Par Value - Market Value

^b Interest Expense = Net Bond Liability x Market Rate of interest at issuance

Capital Lease

- During the lease, interest (based on the market rate at lease inception) and depreciation expense are recognized.
- When the lease terminates, the lease obligation is zero and Leased Property - Acc. Depr. = 0

	Assets			Liabilities		S. E.
Date	Cash	Leased Property	-Acc. Depr.	Lease Obligation		Retained Earnings
Lease inception		Market Value ^a		Market Value		
Each lease period	(lease payment)			(reduction) ^c		(Interest Exp.) ^b

			Depr Exp		(Depr. Exp.)
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^a Present Value of the Lease Payments (PV of an annuity due)

^b Interest Expense = Interest Rate x Beginning Balance of Lease Obligation

^c Reduction = Lease Payment - Interest Expense (*Plug value*)

Consolidation

Ownership	<20%	20%-50%	>50%
Reporting method	Mark to market	Equity	Consolidation

- Equity method: investee's announcement of earnings increases investor's Investment account; investee's announcement of dividends decreases investor's Investment account.
- Consolidation method
 - Eliminate the Investment on the parent's book and the corresponding Equity on the subsidiary's book. In essence, consolidation expands the one line item "Investment" into the detailed components of it.
 - Eliminate intra-company transactions.
 - Since consolidated equity reflects only the ownership interests of parent's shareholders, Minority Interest account emerges to represent the ownership of other shareholders in the subsidiary if the parent does not own 100% of the sub. Minority interest = %*BV of the sub.
 - Good will = Purchase price for the sub – fair market value of the sub