Accounting Equation

Assets	=	Liabilities	+	Shareholders' Equity
Dr | Cr		Dr | Cr		Dr | Cr
+ | -		- | +		- | +

Asset Criteria – Probable future economic benefit obtained or controlled by firm due to past transactions

- Assets are initially recorded at cost and later revalued downward for Usage (product cost, revenue generation, etc), Wastage (does not result in specific benefit, is period expense), and Obsolescence (depreciation)

Liability is a claim on an entity's assets

- Recognized when (1) it embodies future sacrifice of economic benefits, & (2) entity has little or no discretion to avoid sacrifices

Changes in valuation of assets/liabilities lead to gains & losses of shareholders' equity

Shareholders' Equity – shows funds owners have provided AND (in parallel) owners' claim on all assets in excess of those required to meet creditor's claims

- 2 types: Contributed Capital (cash contributed by owners) Retained Earnings (cumulative earnings not paid as dividends)

Shareholders' Equity

Decrease (Debit) | Increase (Credit)

Expenses | Revenues

Dividends | Capital Stock

Methods of computing cash flow from operations

Direct Method – List sources of uses of cash directly

Indirect Method – Reconciles net income to cash flows from operations by adjusting net income for noncash income statement components

Cash Change Equation – Indirect Method

$$A = L + SE$$

$$Cash + CA + LA = CL + LL + SE$$

$$\Delta\ Cash + \Delta CA + \Delta LA = \Delta CL + \Delta LL + \Delta SE$$

$$\Delta\ Cash = \Delta NE - (\Delta CA - \Delta CL) + \Delta LL - \Delta LA$$

$$= \Delta CC + (NI - Div) - \Delta WC + D\&A - (\Delta LA + D\&A) + \Delta LL$$

$$= (NI + D\&A - \Delta WC) - (\Delta LA + D\&A) + (\Delta CC + \Delta LL)$$

$$= CFO + CFI + CFF$$

D&A = Depreciation & Amortization | CA=current asset; LA=long-term asset | ΔWC = ΔCA - ΔCL | ΔSE=ΔCC+NI-Div

CFO=NI-ΔWC+D&A

Cash Change Equation – Direct Method

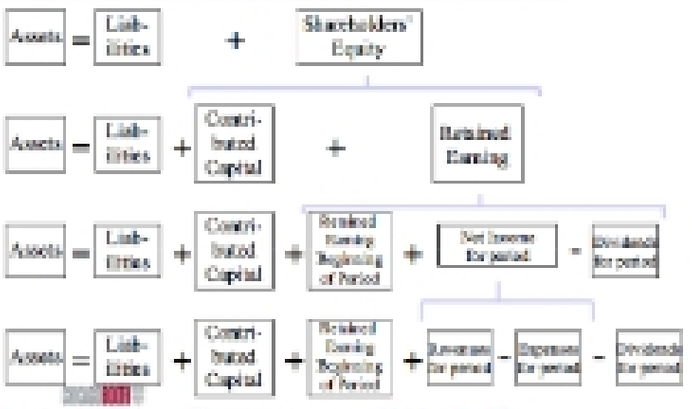
$$\Delta\ Cash = Cash\ Received\ (CR) - Cash\ Paid\ (CP)$$

$$CR = Revenue + \Delta\ Advance - \Delta\ AR$$

$$CP\ to\ supplier = COGS + \Delta\ AP - \Delta\ Prepaid$$

$$CP\ to\ government = Tax\ Expense + \Delta\ Tax\ payable$$

Relation between Balance Sheet and Income Statement



Retained Earnings: BB + Net Income – Dividend = EB

Accrual Accounting

Revenue Recognition Criteria

- Firm has provided all, or most of, the services it expects to provide
- Firm has received cash or some other asset (e.g. receivables) whose cash-equivalent value can be measured with reasonable precision.

Expense Recognition Criteria - When 1 of the 3 situations occurs:

1) related revenues are recognized (matching principle) – e.g. COGS
2) if difficult to match w/ revenue, then when expense is incurred (i.e. when assets are consumed) (expensing rule)–e.g. period cost, tax, interest, salaries
3)event triggered-downward revaluation of assets (loss recognition rule)

	Cash in past (deferral)	Cash in future (accrual)
Revenue	Cash that you received in the past but is not recognized as revenue till now. Fulfilled liability (e.g. subscription revenue)	Cash that you will receive in the future, but is recognized as revenue now. Uncollected asset (e.g. interest receivable)
Expense	Things you paid for in the past with case but don't recognize as expense till now. Consumed asset (e.g. prepaid rent or insurance depreciation)	Things you will pay for in the future, but recognize now as expense. Unpaid liability (e.g. salaries and bonus payable)

Gains/Losses vs. Revenues/Expenses

Gains increase net assets and also increases income, but is not part of core operations and therefore is not revenue.

Similarly losses decreases net assets and net income, but is not part of core operations and therefore not part of operating expenses

Other Revenue Recognition Methods

Percentage-of-completion method

Completed Contract Method

Income Recognition after "sale"

- Long-term services or payments-perform substantial service b4 recog
- Installment method – rev and exp recognized as cash collected
- Cost recovery first method – Rev and Exp recognized as ca

Sample Balance Sheet

ABC Corp Balance Sheet – Jan 31, 2010

ASSETS

- Current Assets (not always necessary to put into BS)
  - Cash
  - Inventory
  - Accounts Receivable
- Non-current Assets (not always necessary to put into BS)
  - Property, Plant, and Equipment
  - Total Assets

LIABILITIES AND SHAREHOLDERS' EQUITY

- Current Liabilities (not always necessary to put into BS)
  - Accounts Payable
- Noncurrent Liabilities (not always necessary to put into BS)
  - Mortgage Payable
  - Total Liabilities
- Shareholders' Equity
  - Common Stock
  - Retained Earnings
  - Total Shareholders' Equity
  - Total Liabilities and Shareholders' Equity

Sample Income Statement

FABC Corp, For the year ended December 31, 2007

- Revenues
  - Net Sales
  - Interest Revenue
- Expenses
  - COGS
  - Salary Expense
  - Rent Expense
  - Depreciation Expense
  - Interest Expense
  - Income before income tax
- Provision for income taxes
  - Net Income

(Note: Dividends are not used in the calculation of Net Income)

(Note: When preparing IS: close the rev and exp accounts by transferring their balances to Retained Earnings (a BS account)

Sample Statement of Cash Flows

ABC Corp

For the year ended December 31, 2007

Operating Activities (Note: Net cash from operations = Cash received from sale of goods – cash paid for operations)

Additions	
Net Income, Depreciation, etc	x
Subtractions	
Net recognized gains on investments…	(z)
Net cash from operations	x-z

Investing Activities (Note: Net cash from investing activities = cash received from sale of investments and PPE – cash paid for acquisition of investments and PPE)

Financing Activities (Note: Net cash from financing activities = Cash received from issue of debt or capital stock – cash paid for dividends and re-acquisition of debt or capital stock)

Cash and cash equivalents, end of period

ASSETS ACCOUNTS

Notes Receivable: amount due from others to whom firm has made a loan or extended credit

Interest Receivable: Interest owed to firm b/c of passage of time, but firm has not collected.

Advances to Supplier: payment that the firm made in advance to supplier for goods or services to be received later.

Investments in securities: bonds or stock that firm plans to hold for more than 1 year

Accumulated Depreciation: contra account subtracted from acquisition cost of long-term asset

Goodwill: When a firm acquires another firm, the excess purchase price over "assets-liabilities".

LIABILITY ACCOUNTS

Notes Payable: current liability

Income Tax Payable: income tax that's been accumulated but unpaid

Deferred Income Tax: income tax that are delayed beyond current accounting period

SHAREHOLDERS' EQUITY ACCOUNTS

Additional Paid-In Capital: assets received during issuance of stock that are in excess of par value.

Contributed Capital – common stock at par value

Sample Journal Entries

- Sell product costing $2K for $8K

Dr Cash (or other asset or both) 8000
Cr Sales Revenue 8000
Dr COGS 2000
Cr Inventory 2000

- Expense

Dr Expense
Cr Cash (or liability or both)

- Discount

Dr Accounts Payable
Cr Inventory

- Income Tax

Dr Income Tax Expense
Cr Income Tax Payable

Types of Journal Entries

Adjusting Entries: journal entries that result from passage of time. Part of measurement of net income

Closing Entries: Reduces income statement accounts to zero by

- Debiting revenue account & crediting expense accounts, and
- transferring net income/loss to Retained Earnings
- Examples:

Dr Retained Earnings
Cr COGS
Dr Sales Revenue
Cr Retained Earnings

Sample Journal Entries

- Issues 5000 shares of $2 par value common stock for $20,000 cash

Dr Cash 20,000
Cr Common Stock 10,000
Cr Additional Paid in Capital 10,000

- Acquire building w/ appraised value of $100K for $30K cash and assumption of 25-year, 10% mortgage w/ balance of $60K

Dr PPE 90,000
Cr Cash 30,000
Cr Mortgage Payable 60,000

Prepaid Rent

- Pay $1000 to landlord for current month's plus next month's rent

Dr Rent Expense 500
Dr Prepaid Rent 500
Cr Cash 1000

- Adjusting entry for prepaid rent after 1 month

Dr Rent Expense 500
Cr Prepaid Rent 500

Subscriptions

- Sell $2K in magazine subscription that will be filled over next 12 mon

Dr Cash 2000
Cr Advances from customer (Deferred Revenue) 2000

- Adjusting entry for above magazine subscription after 1 month

Dr Advances from customer 2000/12
Cr Revenue 2000/12

Insurance

- Buy Insurance

Dr Prepaid Insurance 120
Cr Cash (or other asset) 120

- Adjusting entry for insurance after 1 month

Dr Insurance Expense 120/12
Cr Prepaid Insurance 120/12

Dividends

- Declaration of Dividends

Dr. Retained Earnings
Cr Dividend Payable

- Payment of Dividends

Dr Dividend Payable
Cr Cash
Cr Prepaid Insurance 120/12

Interest (adjusting entry)

Dr Interest Expense
Cr Interest Payable

Depreciation

Dr Depreciation expense
Cr Accumulated Depreciation (long-term contra-asset acct)

Use of office supplies (adjusting entry)

Dr Office Supplies Expense
Cr Office Supplies

Compensation/Bonus

- Bonus to be paid

Dr Compensation Expense
Cr Bonus Payable

- Bonus paid

Dr Bonus Payable
Cr Cash

Allowance Method for Uncollectible Accounts

- GAPP requires firm to recognize an expense for uncollectible Accounts Receivable (AR) in the same period when it recognizes the related revenue.
- During each period, the firm estimates the amount of uncollectible AR associated with that period's credit sales and recognize that amt as expense.
- To recognize this expense, the firms credits a contra-asset account: Allowance for Uncollectibles that reduces total AR to the amount the firm expects to collect. This has effect on income stmt. Example Journal Entry:

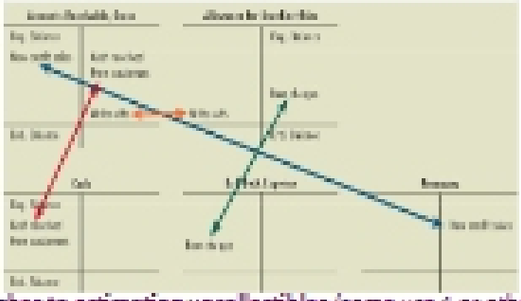
Dr Bad Deb Expense
Cr Allowance for Uncollectibles

- When firm decides a customer account is uncollectible, it writes off the acct

Dr Allowance for Uncollectibles
Cr Accounts Receivable

(This write off has no effect on income stmt. It also has no effect on net AR on balance sheet.)

- When do these entries happen?
  - Recognize BDE as adjusting entry at end of period.
  - Write Off's happen during period as customers are identified as uncollectible



2 approaches to estimating uncollectibles (some use 1 or other, some use both)

1) **percentage-of-sales procedure** – 2% of all credit sales will be uncollectible

- After estimate is made, make adjusting entry (of estimate amount) to debit BDE and credit Allowance for Uncollectible

Dr BDE 100*5%
Cr AU 100*5%

2) **aging-of-accounts-receivable procedure:** estimate made on age of specific accounts in AR.

- After estimate is made, adjust the Allowance for Uncollectibles so its balance reflects the estimated amount the firm expects to be uncollectible
- Example: say at the end of a period, a firm has a *debit* balance of $15000 for Allowance for Uncollectible and it estimates $24000 will be uncollectible. Then it will make the following adjusting entry:

Dr Bad Deb Expense 15000+24000=39000
Cr Allowance for Uncollectibles 39000

Inventory - 3 issues with inventory:

1- What costs are included in inventory? Product vs. Period Costs
2- When if ever should inventory be revalued? Historical cost vs Current val
   - Never "Write-up". Write down when market value declines
   - JE for writing down inventory

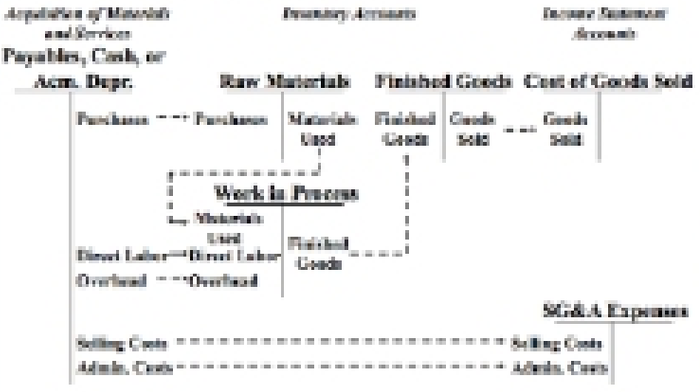
Dr COGS
Cr Inventory

3- Which costs flow into COGS? Inventory cost flow assumption (most imp)

COGS = Beg Inventory + Addition – Ending Inventory

Current Ratio= Current Assets / Current Liabilities

Inventory Cost Flows -Manufacturer



How to calculate COGS - Cost Flow Assumptions:

1] Specific Identification
2] Weighted Average cost
3] LIFO (results in low net income when prices are increasing) – IFRS prohibits LIFO b/c it allows firms to delay income
4] FIFO (results in high net income)

Types of Long Term Assets

Nature of Resource		
	Tangible	Intangible
Acquired Internally	Self-constructed Buildings and Equipment (asset)	Research and Development (expense under U.S. GAAP; research is an expense and development is an asset under IFRS) Advertising (expense) Employee Training (expense) Software Development Costs: Pre-technological Feasibility (expense) Post-technological Feasibility (asset)
Acquired Externally	Land, Buildings, and Equipment (asset)	Patent Technologies (asset) In-Process Technologies (asset) Patents, Trademarks, Customer Lists, and Other Identifiable Resources (asset) Purchased Labor Force and Other Unidentifiable Resources (part of goodwill) Goodwill (asset)

Long-lived Assets – 4 Issues

1] Cost Capitalization: a) when do we capitalize assets? b] how much do we capitalize assets?
2] Cost allocation
3] Impact of new information: estimates, improvement, impairment
4] Retirement

3 Categories of long-lived Assets

1] Long-lived assets except intangible assets not subject to amortization and goodwill
2] Intangibles, other than goodwill, not subject to amortization
3] Goodwill

Depreciating Long-lived Assets (Issue 2)

Tangible Assets

Dr Depreciation Expense (or Inventory)
Cr Accumulated Depreciation

Intangible Assets

Dr Amortization Expense
Cr Asset (or Accum Amortization)

Depreciation Methods

- Straight-line: Take cost, subtract salvage, and divide by useful life to get depreciation expense per period
- Double-Declining: Take the straight-line rate (such as 5 years or 1/5 per period), multiply by 2 (e.g. 1/5*2=40%) and apply that to the depreciated balance each period. You eventually switch to SL when the SL amount > the DDB amount for that period.
- Sum-of-the-years – Take the useful life, add up the values (e.g. 5 years life = 5+4+3+2+1=15) and apply the fraction for that year (e.g. year 1: 5/15=33%, year 2: 4/15, etc) to the depreciable basis

Initial Cost =100, 5 year life, salvage value=5

	Year				
Method	1	2	3	4	5
SL	19	19	19	19	19
DDB	40.0	24.0	14.4	8.6	8.0
SYD	31.7	25.3	19.0	12.7	6.3

Change in market value of long-lived asset (Issue 3)

1) Long-lived assets except intangibles not subject to amortization:
•Test: book value - undiscounted cash flows
•Recognition: impairment loss=book value – fair value
2) Intangibles, other than goodwill, not subject to amortization
•Test and recognition: loss=book value – fair value
3) Goodwill
Book value – residual value from allocation

Retirement of asset (Issue 4)

Standard Journal Entry

Dr Cash (cash received in sale, may be 0)
Dr Accumulated Depreciation (full balance)
Dr Loss (plug)
Dr Gain (plug)
Cr Equipment (original cost)

Bonds (Key Terms)

Coupon: % of the face value the firm pays the investor each year
Principal : the amount you owe people. Often the same as face val.
Face Value – How much you have to pay at maturity
Market rate: the rate used to calculate Present Value of each payment and interest expense.
Interest Expense: Market Rate * beginning amortized balance
Issue Price: Amount that firm receives for bonds, which is equal to PV of face value + PV of coupon payments
Discount or premium: Difference between face value and the issue price of the bonds. If coupon < market rate, then bonds will be issued at discount. If coupon> market rate, then premium.

Bond JE's

1) Issue Bonds

(Note on calculation: pay attention to WHEN the payments are made (if end of period, use simple PV calculation. If beginning of period, make sure to NOT discount first payment)

Dr Cash
Cr Bonds Payable

2) Interest Expense paid each period

(Note on calculation: pay attention to dates: pro rata interest expense needs to be recognized for the year even if the next bond payment has not been paid yet)

Dr Interest expense
Dr Bonds Payable
Cr Cash (or Interest Payable)

3) Retire Bonds

(Note: this can be early and result in a gain/loss on retirement)

Dr Bonds Payable
Cr Cash

Calculating Present Value

Time value of money

Future Value = Present Value * (1 + r)^n
Present Value = Future Value / (1 + r)^n

Annuity

How much will you receive at end of 3 years if you put 100 in account that pays 10% annual interest at end of each year?

Future value = 100 * 1.1 * 1.1 + 100*1.1 + 100 = 331

How much do you have to invest in account at beginning of first year that pays 10% annual interest in order to receive 100 at end of every year for two years from now?

Present value = 100/(1.1*1.1) + 100/1.1 = 174

Bond Example:

A two-year bond with a coupon rate of 16% at yield of 10% on 12/31/2007. Coupon payment is made semi-annually on every June 30 and Dec 31