Chapter 6

Reporting and Analyzing Inventory

Determining Inventory Quantities

- Whether companies use a periodic or perpetual system, physical inventory must still be counted at the end of the period
  - To check the accuracy of the perpetual inventory records
  - To determine the amount of inventory lost to shrinkage or theft
- Determining inventory quantities involves two steps:
  1. Taking a physical inventory of goods on hand
  2. Determining the ownership of goods

Taking a Physical Inventory

- To ensure inventory is properly counted, companies must have a good system of internal control:
  - Employees who perform the count should not have responsibility for custody or record-keeping
  - Counter establishes validity of item
  - Second count by another employee or auditor
  - Pre-numbered tags

Determining Ownership

- Need to consider ownership of goods when taking inventory
- Goods in transit at the end of the period make the determination of ownership more complicated:
  - Determine who has legal title to goods in transit
  - Include in inventory if company has legal title
- Apply freight/shipping concepts from Chapter 5:
  - FOB shipping point versus FOB destination
- Ownership of consigned goods remains with the owner (the consignor), not the holder of the goods (the consignee)
- Goods taken home “on approval” by a customer are still owned by the company

Inventory Cost Determination Methods

- Once inventory quantities are counted, must apply unit costs to determine total cost of inventory
- Units of the same inventory can be purchased at different prices
- Which costs should be used?

Specific Identification

- Tracks physical flow of goods
- Used in perpetual system *only*
- Can only be used where
    - Actual costs of each item can be determined
    - Goods are easily distinguishable
    - Or for goods produced and segregated for specific projects

Cost Formulas

- Cost formulas assume a flow of costs that may not be the same as the actual flow of goods
- FIFO (First-in, first-out)
    - Cost of first item purchased is cost of first item sold
- Average
    - Cost is determined using a moving (weighted) average of the cost of the items purchased

FIFO

- Merchandise inventory is recorded at most recent (current) cost in the current assets section of statement of financial position
- Cost of goods sold is recorded as an expense at oldest inventory cost on income statement
- Ending inventory and cost of goods sold under FIFO are the same for periodic and perpetual inventory systems

Average

- Used when physical flow of inventory cannot be measured
- Under a perpetual inventory system, a new weighted (called moving) average is calculated after each purchase
    - Used to record cost of goods sold and ending inventory

Choice of Cost Determination Method

- Choose a method that best
    - Represents physical flow of goods,
    - Reports ending inventory at recent cost, and
- Use the same method for inventories of similar nature and usage

Advantages of Cost Determination Methods

Specific Identification	FIFO	Average
• Exactly matches costs and revenues on the income statement.	• Ending inventory on the statement of financial position includes the most current costs (closest to replacement cost).	• Cost of goods sold on the income statement includes more current costs than FIFO.
• Tracks the actual physical flow.	• Approximates the physical flow of most retailers.	• Smooths the effects of price changes by assigning all units the same average cost.

Summary of Financial Statements Effects: During a Period of Rising Prices

	Specific Identification	FIFO	Average
Income statement			
Cost of goods sold	Variable	Lowest	Highest
Gross profit	Variable	Highest	Lowest
Profit	Variable	Highest	Lowest
Statement of financial position			
Cash (pre-tax)	Same	Same	Same
Ending inventory	Variable	Highest	Lowest
Retained earnings	Variable	Highest	Lowest

Inventory Errors

- Errors can occur in accounting for inventory
  - Incorrect counting or costing
  - Transfer of title not recognized
- Errors affect both
  - Statement of financial position – through merchandise inventory
  - Income statement – through cost of goods sold

Income Statement Effects

Nature of Error	Net sales	-	Cost of Goods Sold	=	Gross Profit	-	Operating Expenses	=	Profit Before Income Tax
Understate beginning inventory or cost of goods purchased	NE		U		O		NE		O
Overstate beginning inventory or cost of goods purchased	NE		O		U		NE		U

U = Understatement O = Overstatement NE = No Effect

Valuing Inventory at the Lower of Cost and Net Realizable Value

- When the net realizable (fair) value is less than cost, the value is written down
  - The lower of cost and net realizable value (LCNRV) rule
- Net realizable value is selling price less any costs to make ready for sale
- Assets should not be carried in excess of amounts expected to be realized form their sale or use

LCNRV Rule - Application

- Apply rule to individual inventory items
- Reduce inventory by crediting it for the amount of write-down, debit is to cost of goods sold
- Reverse write-down if value subsequently recovers
  - When conditions that caused the write-down have changed

Reporting Inventory

- No significant differences between IFRS and ASPE
- In the statement of financial position:
  - At the lower of cost and NRV
- In the notes to the statements
  - Total amount of inventory
  - Cost of goods sold
  - Cost determination method
  - Basis of valuation
  - Amount of write-downs or reversals

Inventory Turnover

- How much inventory should a company have?
- Two ratios to help manage:
  - Inventory turnover ratio – measures the number of times inventory is sold in a period
  - Days in inventory ratio – converts inventory turnover ratio into number of days inventory is held

Inventory Ratios

Inventory Turnover	=	**Cost of goods sold / Average inventory**

Days in Inventory	=	**365 days / Inventory turnover**

- In general, the higher the inventory turnover and the lower the days in inventory ratios, the better

Appendix 6A - Periodic Inventory System

- Both inventory cost formulas (FIFO and average) can also be used in periodic systems
- Allocation is made at the end of the period

Periodic System Under *FIFO*

COST OF GOODS AVAILABLE FOR SALE					
Date		Explanation	Units	Unit Cost	Total Cost
Jan.	1	Beginning inventory	100	$10	$ 1,000
Apr.	15	Purchase	200	11	2,200
Aug.	24	Purchase	300	12	3,600
Nov.	27	Purchase	400	13	5,200
		Total	1,000		$12,000

STEP 1: ENDING INVENTORY				STEP 2: COST OF GOODS SOLD	
Date	Units	Unit Cost	Unit Total		
Nov. 27	400	$13	$5,200	Cost of goods available for sale	$12,000
Aug. 24	50	12	600	Less: Ending inventory	5,800
Total	450		$5,800	Cost of goods sold	$ 6,200

Periodic System Under *Average*

COST OF GOODS AVAILABLE FOR SALE					
Date		Explanation	Units	Unit Cost	Total Cost
Jan.	1	Beginning inventory	100	$10	$ 1,000
Apr.	15	Purchase	200	11	2,200
Aug.	24	Purchase	300	12	3,600
Nov.	27	Purchase	400	13	5,200
		Total	1,000		$12,000

STEP 1: ENDING INVENTORY			STEP 2: COST OF GOODS SOLD	
$12,000 ÷ 1,000 = $12			Cost of goods available for sale	$12,000
Units	Unit Cost	Total Cost	Less: Ending inventory	5,400
450	$12	$5,400	Cost of goods sold	$ 6,600

Chapter 8

Reporting and Analyzing Receivables

Types of Receivables

- Amounts due to a business from its customers or other entities
- Expected to be collected in cash
- Frequently classified as
    - Accounts receivable
        - Amounts owed by customers on account
        - Result from the sale of goods and services
        - Generally expected to be collected within 30 days, classified as current assets
    - Notes receivable
        - Claims where formal instruments of credit- a written promise to repay – are issued as evidence of the debt
        - The credit instruments normally require the debtor to pay interest
        - Normally for periods 30 days or longer
        - May either be current or non-current assets, depending on the due date
    - Other receivables
        - Interest receivable, loans and advances to employees, recoverable sales and income tax, etc.

Recognizing Accounts Receivable

- A receivable is recorded when service is provided on account or at point of sale of merchandise on account
- A receivable is reduced when cash is collected, a sales discount is taken, or the product is returned by the customer
- Receivables are considered financial assets

Accounts Receivable Subsidiary Ledger

- **Subsidiary ledger** is a group of accounts that share a common characteristic (i.e. they are all receivable accounts)
- The subsidiary ledger for accounts receivable provides the details that support the total balance for accounts receivable in the general ledger
- The total of all the balances in the customer accounts in the subsidiary ledger should equal the total balance in the general ledger

- Inventory, accounts payable and payroll are other accounts that are supported by subsidiary ledgers
- A control account is a general ledger account that summarized the subsidiary ledger data
- Each journal entry that affects accounts receivable must be posted twice
    - Once to the subsidiary ledger account
    - Once to the general ledger control account

Interest Revenue

- If a customer does not pay in full within a specified period of time (usually 30 days), an interest (financing) charge may be added to the balance due
- Seller recognizes interest revenue and increases the account receivable balance owed by the customer

Recording Estimated Uncollectable Accounts

- Some accounts receivable become uncollectible
- Losses from these uncollectible accounts are debited to an account called **Bad Debts Expense**
    - Used instead of debiting a contra sales account
- Bad debts expense is recognized in the same period that the related sales revenue is generated

Allowance Method

- This method estimates the uncollectible accounts at the end of each period
- The amount estimated is shown in the **Allowance for Doubtful Accounts**
    - A contra asset account that is shown below Accounts Receivable
- Note that the allowance is an estimate – it does not show specific customer accounts
- Accounts receivable balance less the allowances for doubtful accounts equals the **net realizable value** or collectable portion of these accounts

Three Features of the Allowance Method

1. Recording estimated uncollectible accounts
    - Any increase to the allowance is recorded as bad debts expense
2. Recording the write-off of an uncollectible account
    - Actual accounts are written off when they are determined to be uncollectible
    - This write-off reduces the allowance
3. Recording the recovery of an uncollectible account
    - If a written-off account is later collected, the write-off is reversed and the collection recorded

Recording Estimated Uncollectible Accounts

Mar. 31	Bad Debts Expense	10,000	
	Allowance for Doubtful Accounts		10,000
	(To record estimate of uncollectible accounts)		

– The balance in the Allowance for Doubtful Accounts is deducted from Accounts Receivable in the current assets section of the statement of financial position:

Accounts receivable	$200,000
Less: Allowance for doubtful accounts	11,000
Net realizable value	$189,000

Estimating the Allowance

- Most companies use the percentage of receivables basis to determine the allowance
  - Estimate what percentage of receivables are likely to be uncollectible
  - Apply this percentage to total receivables, or
  - Apply this percentage to receivables classified according to the length of time they have been outstanding (called **aging the accounts receivable**)
- Once the appropriate estimate for uncollectible accounts is determined, an adjusting entry can be recorded
- The amount of the adjusting entry is the difference between the required balance and the existing balance in the allowance account

Recording the Recovery of an Uncollectable Account

- When a company collects from a customer after the account has been written off
- Two entries are required:
  - The entry made in writing off the account is reversed to reinstate the customer's account
  - The collection is recorded in the usual way

Assume that on July 1, T. Ebbet's fortunes have changed and he now wants to restore his credit with Abrams Furniture. In order to do so, he has to pay the $2,500 amount that had been written off on March 1. The entries are as follows:

Accounts Receivable—T. Ebbet	2,500	
Allowance for Doubtful Accounts		2,500
(To reverse write-off of T. Ebbet account)		

Cash	2,500	
Accounts Receivable—T. Ebbet		2,500
(To record collection from T. Ebbet)		

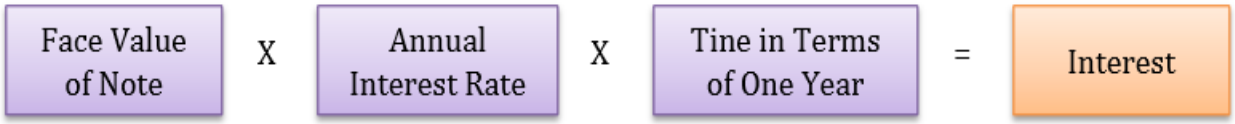
Notes Receivable

- Stronger legal claim to assets than accounts receivable; written promise (**promissory note**) to repay
- A credit instrument that normally:
  - Requires the payment of interest
  - Extends for time periods greater than 30 days
- Often accepted from customers who need to extend payment of an account receivable
- Often required from high risk customers

Recognizing Notes Receivable and Interest Revenue

- The note receivable is recorded at its principal value
- No interest revenue is reported when the note is accepted

The basic formula for calculating interest on an interest-bearing note is:



- The interest rate specified on the note is an annual rate of interest
- This calculation of interest applies only to short-term note receivables with interest due at maturity

Assume that on May 1, Tabusintac Inc. (the payee) accepts a note receivable in exchange for an account receivable from Raja Ltd. (the maker). The note is for $10,000, with 6% interest due in four months, on September 1.

We record this entry as follows for the receipt of the note by Tabusintac:

May 1	Notes Receivable – Raja	10,000	
	Accounts Receivable – Raja		10,000
	(To record acceptance of Raja note)		

Interest is calculated as follows:

$10,000 X 6% X 4/12 = $200

or $50 a month.

If Tabusintac's year-end was May 31, the following adjusting journal entry would be required to accrue interest for the month of May:

May 31	Interest Receivable	10,000	
	Interest Revenue		10,000
	(To accrue interest on Raja note receivable)		

Honouring and Dishonouring Notes Receivables

- Honoured
  - Paid in full at maturity date

- Collection recorded

If Raja pays its note when it is due on September 1, the maturity date, the entry by Tabusintac to record collection is:

Sept. 1	Cash	10,200	
	Notes Receivable – Raja		10,000
	Interest Receivable		50
	Interest Revenue		150
	(To record collection of Raja note and interest)		

- Dishonoured
  - Not paid at maturity date; note no longer negotiable
  - No longer negotiable
  - Balance transferred to Accounts Receivable if eventual collection expected
  - Balance transferred to Allowance for Doubtful Account if eventual collection not expected

The journal entry to record this is identical to the one above where the note was honoured, except that the debit to Cash would instead be made to the Accounts Receivable account:

Sept. 1	Accounts Receivable	10,200	
	Notes Receivable – Raja		10,000
	Interest Receivable		50
	Interest Revenue		150
	(To record dishonoured Raja not; eventual collection expected)		

If there is no hope of collection, the principal and any accrued interest should be written off. No interest revenue would be recorded, because collection will not occur. The entry to write off the amount is:

Sept. 1	Allowance for Doubtful Accounts (Notes)	10,200	
	Notes Receivable – Raja		10,000
	Interest Receivable		50
	(To write off dishonoured Raja Note)		

Valuing Notes Receivable

- Like accounts receivables, notes receivable are reported to their net realizable value
- Each note must be analyzed to determine its probability of collection

Statement Presentation

- Statement of Financial Position
  - Reported in the current assets section
  - Following cash and short-term investments
  - Only required to disclose net realizable value, but helpful to disclose gross receivables and the allowance for doubtful accounts

- Income Statement
  - Bad debts expense is reported as an operating expense
  - Interest revenue is non-operating

Managing Receivables

- Determine to whom to extend credit
- Establish a payment period
- Monitor collections
  - Prepare and update an accounts receivable aging schedule
- Evaluate the liquidity of receivables
- Accelerate cash receipts from receivables when necessary

Evaluating the Liquidity of Receivables

- Liquidity is measured by how quickly certain assets can be converted into cash
  - The ratio that is used to assess the liquidity of receivables is the receivables turnover ratio
    - Measures the number of times, on average, that receivables are collected during the year

$$\text{Receivables Turnover} = \frac{\text{Net Credit Sales}}{\text{Average Gross Accounts Receivable}}$$

HIGHER IS BETTER

  - A popular variant of receivables turnover is to convert it into an average collection period in terms of days
    - The average amount of time that a receivable is outstanding

$$\text{Average Collection Period} = \frac{\text{365 Days}}{\text{Receivables Turnover}}$$

LOWER IS BETTER

Accelerate Cash Receipts from Receivables

- Loans secured by receivables
  - One of the most common ways to speed up cash flow from receivables is to borrow money from a bank using receivables as collateral
- Sale of receivables
  - Companies also frequently sell their receivables to another company for cash

        - Securitization: transfer receivables to investors in return for cash through a process called securitization
    - Factoring Receivables
        - A factor is a finance company or bank that buys receivables from business for a fee
        - If the customer does not pay, normally the company is responsible for reimbursing the factor for the uncollected amounts

Chapter 9

Reporting and Analyzing Long Lived Assets

Property, Plant, and Equipment

- Long lived assets that:
    - Are controlled by the company
    - Have physical substance
    - Are used in the operation of a business
    - Are not intended for sale to customers
- Provide benefits over many years
    - PPE are critical to a company's success because they determine the company's production capacity, which in turn affects customer satisfaction

Determining the Cost of Property, Plant and Equipment

- Record at cost, which includes:
    - Purchase price, including taxes and duties, less discounts or rebates
    - Expenditures necessary to bring asset to its intended location and make it ready for its intended use

Types of Expenditures

- Operating Expenditures
    - Benefit only the current period
    - Immediately charged against revenue as an expense
- Capital Expenditures
    - Capitalized as an asset
    - Benefit future periods
    - Increases a company's investment in productive activity

Property, Plant and Equipment are Subdivided into Four Classes

- Land

- Cost of land includes:
  - Purchase price
  - Closing costs such as title and legal fees
  - Additional costs to prepare land for its intended use (less any proceeds from salvage)
- Land has an unlimited life, therefore it is no depreciated

- Land Improvements
  - The costs of structural additions made to land (e.g. paving, fencing)
  - These decline in service potential over time
    - They are recorded separately from land
    - Depreciated over their useful lives
- Buildings
  - All expenditures related to the purchase-e or construction of a building
  - When a building is purchased such costs include:
    - Purchase price
    - Closing costs (legal fees, title, insurance)
    - Costs required to make building ready for its intended use
  - When a building is constructed, its cost consists of
    - Contract price
    - Architects fees
    - Building permits
    - Excavation cost
    - Interest costs during construction
- Equipment
  - Costs include:
    - Purchase price
    - Freight charges and insurance during transit paid by the purchaser
    - Assembling
    - Installing and testing

Asset Retirement Costs

- Cost of any obligation to dismantle, remove or restore long-lived asset when it is retired
- These costs are estimated in advance and included as part of the cost of the asset

Buy or Lease?

- Advantages of leasing
  - Reduced risk of obsolescence
  - 100% financing
  - Income tax
  - “Off-balance sheet” financing

- Terminology
  - Lessor – owner of asset for lease (landlord)
  - Lessee – company leasing asset from owner (tenant)
- Operating Lease
  - Treated as rental by lessee
  - Periodic payment (dr. rent expense/ cr. Cash)
- Finance Lease
  - Treated as purchase by lessee (dr. asset/ cr. Liability)
  - Periodic payment (dr. liability and interest expense/ cr. Cash)

Depreciation

- The cost model records property, plant and equipment at cost when acquired
- Subsequent to acquisition, depreciation is recorded each period and the assets are carried at cost less the accumulated depreciation
- Systematic allocation of the cost of PPE over the assets useful life
- Depreciation is a process of cost allocation, not a process of determining an asset's fair value
- Does not use or provide cash to replace the asset

Factors in Calculating Depreciation

- Cost: The purchase price plus all necessary costs to make the asset ready for its intended use
- Useful Life: An estimate of the period over which an asset is expected to be available for use
- Residual Value: An estimate of the amount that will be received upon disposal of the asset
  - The difference between a depreciable asset's cost and its residual value is called the depreciation amount, which is the total amount to be depreciated over its useful life

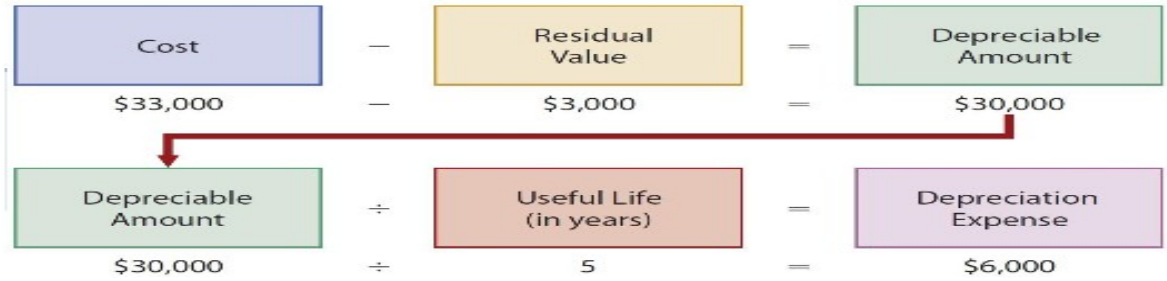
Depreciation Methods

1. Straight line
   - Depreciation is constant for each year of the asset's useful life
2. Diminishing-balance
   - Produces a decreasing annual depreciation expense over an asset's useful life
     - Depreciation is calculated based on the asset's carrying amount, which diminishes each year as accumulated depreciation increases
   - Annual depreciation expense is calculated by multiplying the carrying amount by the depreciation rate
     - Residual value is not included in the calculation
   - Can be applied using different rates
     - Depreciation rate = straight line rate x multiplier
3. Units-of-production

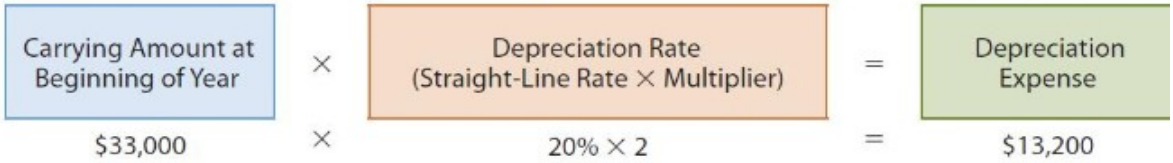
- Useful life is expressed in terms of total units of production or activity expected from the asset
  - Such as units produced or machine-hours worked
- Useful for factory machinery, vehicles, airplanes

Example: A delivery van was bought on Jan. 1, 2012
Cost: $33,000
Estimated residual value: $3,000
Estimated useful life: 5 years/100,000km

Straight-Line Method



Diminishing-Balance Method



Units-of-Production Method

Other Depreciation Issues

- Significant components
  - May be depreciated separately
- Income tax

- Impairments
  - When carrying amount of asset exceeds its recoverable amount
- Cost vs. revaluation model
  - Revaluation model allowed under IFRS
  - Allows revaluation to fair market value

Revising Periodic Depreciation

- Revision needed if:
  - Capital expenditures during useful life
  - Impairment losses
  - Change in estimated useful life or residual value
  - Change in the pattern in which the assets economic benefits are consumed
- Accounted for as a change in estimate
  - Change made in current and future years, but not to prior periods (prospectively)

Disposal of Property, Plant and Equipment

- Companies dispose of property, plant and equipment that is no longer useful to them using of these three methods:
  - Sale – equipment is sold
  - Retirement – equipment is scrapped or discarded
  - Exchange – existing equipment is traded for new equipment
- Whatever the disposal method, the company must follow these 4 steps:
  - Step 1: Update Depreciation
    - Depreciation for the fraction of the year to the date of disposal must be recorded
  - Step 2: Calculate Carrying Amount
    - Carrying amount = cost – accumulated depreciation
  - Step 3: Calculate Gain or Loss
    - Proceeds – carrying amount = gain (loss)
      - Proceeds < carrying amount = Loss (Dr.)
      - Proceeds > carrying amount = Gain (Cr.)
  - Step 4: Record Disposal
    - Remove cost of asset and accumulated depreciation. Record proceeds (if any) and gain or loss on disposition (if any)

Cash	xxx	
Accumulated Depreciation	xxx	
Asset		xxx
Gain on Disposal		xxx

Statement of Financial Position

- Reported as
  - Property, plant and equipment

  - Intangible assets
  - Goodwill
- Disclose cost and accumulated depreciation (amortization) of each major class of assets
  - Either in statement or in notes
- IFRS also requires additional disclosures

Income Statement

- Depreciation expense, gains and losses on disposal and impairment losses are included in the operating section

Analyzing Assets

Return on Assets

- Measures overall profitability

$$\text{Return on Assets} = \frac{\text{Profit}}{\text{Average Total Assets}}$$

HIGHER IS BETTER

Asset Turnover

- Measures how efficiently a company uses its assets

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

HIGHER IS BETTER

Chapter 10

Reporting and Analyzing Liabilities

Current Liabilities

- Expected to be paid
  - From existing current assets or through the creation of other current liabilities
  - Within one year
- Debts that do not meet both criteria are classified as non-current (or long-term) liabilities
- Types of current liabilities:
  - Bank indebtedness from operating lines of credit
  - Accounts payable and accrued liabilities
  - Unearned revenue
  - Notes or loan payable
  - Sales taxes
  - Property taxes
  - Payroll
  - Current portion of non-current debt

Operating Line of Credit

- Prearranged agreement between a company and a lender to allow the company to borrow up to an agreed-upon amount
    - To help managers temporary cash shortfalls
- Interest is charged using a floating (or variable) interest rate
- Security (collateral) may be required by bank
- When used, results in bank indebtedness

Sales Taxes

- Expressed as a percentage of the sales price
- Federal goods and services tax (GST)
- Provincial sales tax (PST)
- Combines into one harmonized sales tax (HST) in some provinces
- When a sale occurs, the retailers collects the sales tax from the customer and periodically sends the sales tax to respective governments:
    - When paid, debit sales tax payable account and credit cash

Example: The March 25 cash register readings for the Islander Corporation show sales of $10,000, and HST of $1,300

Mar. 25	**Cash**	**11,300**	
	Sales		**10,000**
	Sales Tax Payable ($10,000 X 13%)		**1,300**
	(To record sales and sales tax)		

Property Taxes

- Businesses that own property pay property taxes for each calendar year to municipal or provincial governments
- Property taxes are calculated at a specified rate for every 100$ of the assessed valued of the property

Example: Tantramar owns land and a building in the city of Regina. Tantramar receives its property tax bill of $6,000 for the calendar year on March 1, payable May 31.
Upon receipt of the property tax bill, an expense is recorded for the months that have passed.

Mar 1	**Property Tax Expense ($6,000 X 2/12)**	**1,000**	
	Property Tax Payable		**1,000**
	(To record property tax expense for January and February)		

In May, when Tantramar records the payment of the liability recorded on March 1, it also records the expense incurred to date for the months of March-May.

May 31	**Property Tax Payable**	**1,000**	
	Property Tax Expense ($6,000 X 3/12)	**1,500**	
	Prepaid Property Tax ($6,000 X 7/12)	**3,500**	
	Cash		**6,000**
	(To record payment of property tax for January through December)		

Prepaid is cleared to expense at the end of year.

Dec. 31	**Property Tax Expense**	**11,300**	
	Prepaid Property Tax		**10,000**
	(To record property tax expense for June through December)		**1,300**

Payroll

- Three types of liabilities related to employee salaries and wages
  1. Salary and wages owed to employees (known as gross pay)
  2. Payroll deductions required to be withheld from employees' gross pay
     a. Employees gross pay less payroll deductions is known as net pay (or take home pay)
  3. Employer payroll obligations

Employee Payroll Deductions

- Mandatory payroll deductions:
  - Canada pension plan (CPP)
  - Employment insurance (EI)
  - Federal and provincial income taxes
- Voluntary payroll deductions:
  - Benefits such as health and pension
  - Charitable contributions
  - Union dues

Employer Payroll Obligations

- Employer's share of CPP and EI
- Workers' compensation
- Employee benefits:
  - Compensated absences (vacation, statutory holidays)
  - Employer-sponsored health plans and pensions

Short Term Notes Payable

- A promise to pay a specified amount either at a future date or on demand
- Often used instead of accounts payable
- Provide writing documentation, if needed, for legal remedies
- Normally has interest attached (at a fixed annual rate)
- Issues for carrying periods:
  - If due within one year or financial statement date, they are classified as current liabilities

Example: assume HSBC Bank lends $100,000 to Williams Ltd. on March 1, 2012. The loan is due in four months, on July 1, and 6% interest.
Williams makes the following journal entry when it receives the $100,000:

Mar 1	Cash	100,000	
	Bank Loan Payable		100,000
	(To record receipt of four-month, 6% bank loan from HSBC)		

If Williams has a March 31 year-end, the adjusting entry for interest would be:

Mar 31	Interest Expense	500	
	Interest Payable		500
	(To accrue interest for March on HSBC bank loan)		

At maturity, the following entries would be made:

July 1	Interest Expense	1,500	
	Interest Payable		1,500
	(To accrue interest for April-June on HSBC bank loan)		

July 1	Bank Loan Payable	100,000	
	Interest Payable ($500 + $1,500)	2,000	
	Cash ($100,000 + $2,000)		102,000
	(To record payment of HSBC bank loan and interest at maturity)		

Current Maturities of Non-Current Debt

- The portion of non-current (long-term) debt that is due within the current year or operating cycle should be classified as a current liability

Non-Current Liabilities: Installment Notes Payable

Non-Current Liabilities

- Obligations to be paid after one year or longer
- Also known as financial liabilities (a type of financial instrument)
  - A contractual obligation to pay cash in the future
- Includes long-term notes, bonds and lease obligations
- May be secured or unsecured
  - Secured notes are also known as mortgages

Installment Notes Payable

- Normally repayable in a series of periodic payments called installments
- Installment payments usually take one or two forms:
  - Fixed principal payments plus interest (fixed or floating interest)
  - Blended principal and interest payments

Non-Current Liabilities: Bonds Payable

Bonds Payable

- A form of interest-bearing notes payable
- Large amount is divided into smaller denominations
  - Makes them attractive to investors

- Most have a fixed interest rate (coupon rate)
- May be secured or unsecured (debenture)
- Payable at maturity (term bonds) or in installments (serial bonds)
- Redeemable bonds can be retired before maturity

Bonds Trading

- Convertible bonds can be converted to common shares at a stated price
- Bonds can also be traded on stock exchanges:
    - Bond prices are quoted as a percentage of the face value of the bonds
- Market (or effective) interest rate (yield):
    - Rate investors demand for loaning funds

Terminology

- Face Value: amount of principal due at maturity
- Present value
    - Value of
        1. Bond face value to be received at maturity, and
        2. Interest payments to be received periodically
    - The value today is dependent upon when the amounts are to be received, and the market rate on interest

Presentation

Current Liabilities

- Reported as the first category of liabilities
- Can be listed separately on statement of financial position or detailed in the notes
- Normally listed in order of liquidity

Non-current Liabilities

- Report separately in statement of financial position and detail in notes
- Measured and reported at amortized cost

Uncertain Liabilities

- Events with uncertain outcomes:
    - Who is owed
    - When it is owed
    - How much is owed
- Provisions are uncertain as to timing or amount
- Contingent liabilities are possible obligations that are dependent upon some future event
    - Should be recognized if more likely than not (IFRS)
    - Should be recognized if likely (ASPE)

Analysis of Debt Obligations

Liquidity

- Measure short-term ability to pay maturing obligations and meet cash needs:
  - Current ratio
  - Inventory turnover ration
  - Receivables turnover ratio

Solvency

- Measure ability to meet long-term obligations:
  - Debt to total assets
  - Times interest earned

Debt to Total Assets

- Measures the percentage of assets that is financed by leaders and other creditors rather than by shareholders

$$\text{Debt to Total Assets} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

LOWER IS BETTER

Times Interest Earned

- Provides an indication of a company's ability to meet interest payments as they come due

$$\text{Times Interest Earned} = \frac{\text{Profit} + \text{Interest Expense} + \text{Income Tax Expense}}{\text{Interest Expense}}$$

HIGHER IS BETTER

Operating Leases

- Treated as periodic rentals – no assets or liabilities are recorded
- Usually short term:
  - If longer-term, considered to be "off-balance-sheet financing"
- Must be disclosed in the notes to the financial statement

Chapter 11

Reporting and Analyzing Shareholders' Equity

The Corporate Form of Organization

- A separate legal entity:
  - Separate and distinct from its owners
- Has most of the rights and privileges of a person
- Classified by purpose and ownership
  - Purpose: profit or not-for-profit
  - Ownership: public or private

Characteristics of a Corporation

- Separate legal existence
- Limited liability of shareholders
- Transferable ownership rights
- Ability to acquire capital
- Continuous life
- Corporation management
- Government regulations
- Income tax

Advantages and Disadvantages of a Corporation

- Advantages
  - Corporate management
  - Separate legal existence
  - Limited liability of shareholders
  - Deferred or reduced income tax
  - Transferable ownership rights
  - Ability to acquire capital
  - Continuous life
- Disadvantages
  - Increased costs and complexity in order to adhere to government regulation
  - Additional income tax

Share Issue Consideration

- To raise capital, the corporation sells ownership rights as shares:
  - Other way to raise capital is to issue debt
- Shares can be divided into different classes:
  - Usually referred to as common shares and preferred shares
- Ownership rights are specified in articles of incorporations or in by-laws
  - Rights in voting, dividends, liquidation
- Authorized share capital
  - Maximum amount of shares allowed to sell

- May be limited or unlimited
- Not recorded; disclosed only (IFRS not ASPE)
- Legal capital
  - Share capital cannot be distributed to shareholders unlike retained earnings, which can be distributed as dividends

Issuing Shares

- First issue normally through initial public offering (IPO):
  - Share price is set by the company
- Once issued, shares of publicly held companies trade on organized exchanges:
  - At prices per share established between buyers and sellers (no direct impact on company)
  - Fair value of shares – share price – is determined by market forces

Common Shares

Issuing Common Shares

- Contributed capital:
  - The amount that shareholders have paid to the corporation for their shares
- Shares usually issued for cash

  Dr. Cash

  Cr. Common shares
- Shares can be issued in exchange for services or noncash assets
  - IFRS: Record at cash equivalent price (ideally the fair value of consideration received)
  - ASPE: Fair value of shares given up or fair value of consideration received (whichever is more reliable)

Example: assume Hydro-Slide, Inc. is authorized to issues 1,000 shares for $2 per share on January 12.

Jan. 12	**Cash**	**2,000**	
	Common Shares		**2,000**
	(To record issue of 1,000 common shares)		

Assume that 5,000 common share3s were issued by Hydro-Slide in exchange for a parcel of land on January 27. The shares were trading at $3.50 per share and the land was valued at $20,000.

Jan. 27	**Land**	**20,000**	
	Common Shares		**20,000**
	(To record issue of 5,000 common shares in exchange for land)		

** The transaction is recorded using the value of the land, rather than the value of the common shares**

Preferred Shares

- Share capital can consist of preferred and common shares
- Preferred shares have contractual provisions that give them priority over common shares

- Usually do not have voting rights
- Accounting for preferred shares similar to common shares

Preferred Share Preferences

- Dividend Preference:
  - Cumulative (dividends in arrears)
- Liquidating preference
- Other preferences:
  - Convertible
  - Redeemable/callable (company option)
  - Retractable (shareholder option)

<u>Retained Earnings</u>

Dividends

- *A pro rata (equal)* distribution of a portion of a corporation's retained earnings to its shareholders
- Cash dividends are most common:
  - a distribution of cash to shareholders
- Stock dividends may also be issued

Cash Dividends

- For a cash dividend to occur; a corporation must:
  - Meet a two-part solvency test
  - Effect a formal declaration of dividends by board of directors
- Three important dates in connection with dividends:
  - Declaration date
    - Date the Board of Directors authorizes the ash dividend
    - Commits the corporation to a binding legal obligation
  - Record date
    - Date of ownership of shares is determined for dividend purposes
    - No entry necessary
  - Payment date
    - Date dividend cheques are mailed

Stock Dividends

- Cash dividend: Paid in cash
- Stock dividend: Distributed (paid) in shares:
  - Fair value (on date of declaration)is assigned to the stock dividend shares

Purposes and Benefits of Stock Dividends

- Satisfy shareholders' dividend expectations without spending cash
- Increase marketability of its shares:
  - Increases number of shares and decreases market price per share
- Reinvest and restrict a portion of shareholders' equity:
  - Unavailable for future cash dividends

Example: Assume that IBR Inc. has 50,000 common shares with a balance of $500,000 in Common Shares and $300,000 in Retained Earnings. On June 30, it declares a 10% stock dividend to shareholders of record at July 20, to be distributed to shareholders on August 5. The share price on June 30 is $15 per share.

Declaration Date			
June 30	Stock Dividends	75,000	
	Common Stock Dividends Distributable		75,000
	(To record declaration of 10% stock dividend)		
Record Date			
No Entry			
Distribution Date			
Aug. 5	Stock Dividends Distributable	75,000	
	Common Shares		75,000
	(To record issue of 5,000 common shares in a 10% stock dividend)		

Effects of Stock Dividends

- Decreases retained earnings
- Increases common shares
- Total shareholder's equity remains the same

Stock Splits

- A stock split involves the issue of additional shares to shareholders according to their percentage of ownership
  - Like a stock dividend but much larger
- A stock split has no effect on total share capital, retained earnings, or total shareholders' equity
- Market value of the shares will decrease roughly proportionately to the split

Retained Earnings Restrictions

- Balance in retained earnings is generally available for dividend declarations
- Restrictions make a portion of the balance unavailable for dividends:
  - May be legal, contractual or voluntary restrictions
- No journal entry; disclosed in notes

Statement of Financial Position

Contributed Capital:

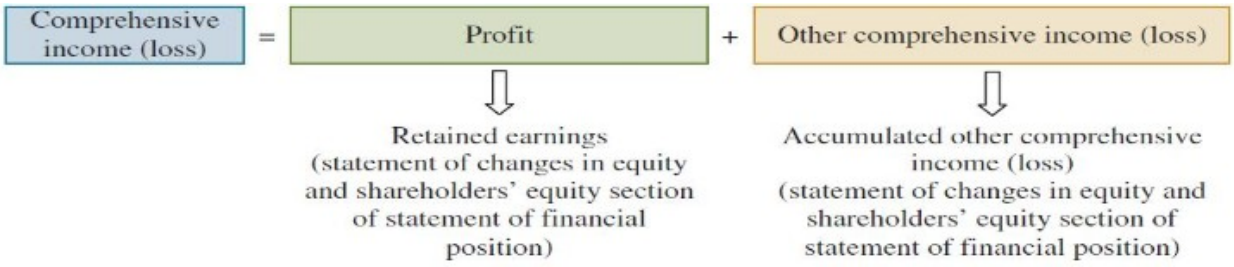
- Share capital: Preferred and common shares
- Additional contributed capital: Amounts contributed from acquiring and retiring shares

Retained Earnings:

- Cumulative profit (losses) since incorporation
- Annual profit is added; losses and dividends declared are deducted

Accumulated Other Comprehensive Income:

- Certain gains and losses that bypass profit
- Recorded directly to shareholders' equity
- Other comprehensive income reported only under IFRS; not required under ASPE
- Other comprehensive income (OCI) includes certain gains and losses:
    - For example, revaluations of property, plant and equipment using the revaluation model
- Accumulated other comprehensive income is the cumulative change in shareholders' equity:
    - Starts with opening balance and is increased (decreased) by other comprehensive income (loss) each period
- Comprehensive income (loss) includes profit and OCI



Statement of Changes in Equity (IFRS)

- Discloses changes in total shareholders' equity for the period, including:
    - Contributed capital
    - Retained earnings
    - Accumulated other comprehensive income
- Required under IFRS

Measuring Corporate Performance

- Dividend record:
    - Payout ratio
    - Dividend yield
- Earnings performance:
    - Earnings per share

- Return on common shareholders' equity

Payout Ratio

- Measures the percentage of profit distributed in the form of cash dividends to common shares

$$\text{Payout Ratio} = \frac{\text{Cash Dividends}}{\text{Profit}}$$

HIGHER IS BETTER if investor is looking for income

Dividend Yield

- Measures the profit generated by each share, based on the market price of the shares

$$\text{Dividend Yield} = \frac{\text{Dividend per Share}}{\text{Market Price per Share}}$$

HIGHER IS BETTER if investor is looking for income

Earnings per Share

- Measures the profit earned by each common share

$$\text{Earnings Per Share} = \frac{\text{Profit available to common Shareholders}}{\text{Weighted averge number of common shares}}$$

NOT COMPARABLE BETWEEN COMPANIES

- Profit available to common shares: = profit – preferred dividends
- Weighted average number of common shares:
  - Shares issued during the year x the fraction of the year they are outstanding
  - Example: April 1 = 3/12 months if calendar year is used

Complex Capital Structure

- When a company has securities that can be converted into common shares
- The additional common shares will result in a reduced (diluted) EPS figure
- Two EPS amounts are calculated:
  - Basic EPS: calculation on preceding page
  - Diluted EPS: hypothetical calculation as if all securities were converted into, or changed for, common shares

Return on Equity

- Common shareholders' equity:
  = Total shareholders' equity – legal capital of preferred shares

Return on Common Shareholders' Equity

- Measures the company's profitability from the shareholders' viewpoint

$$\text{Return on Common Shareholders Equity} = \frac{\text{Profit Available to Common Shareholders}}{\text{Average Common Shareholders' Equity}}$$

HIGHER IS BETTER

Chapter 13

Statement of Cash Flows

Purpose of the Statement of Cash Flows

- Helps users assess:
  - A company's ability to generate cash
  - A company's needs in using this cash
- This is useful in determining:
  - Company's ability to generate future cash flows
  - Investing and financing transactions during the period, and effect upon capital structure
  - And for making comparisons with other companies

Content of the Statement of Cash Flows

Definition of Cash

- Cash may include cash equivalents
  - Short-term, highly liquid investments that are readily converted to cash within a short period of time (usually within three months)
  - May not be included in future depending on outcome of IASB/FASB joint project

Classification of Cash Flows

Operating Activities

- Cash effects pf transactions that create revenues and expenses that enter into determination of profit
- Includes relevant (i.e. the related account is an income statement account) noncash current assets and current liabilities on the statement of financial Position

Investing Activities

- Purchasing and disposing of long-term investments and productive long-lived assets using cash
- Lending money and collecting the loans

- Generally includes non-current asset items (e.g. long-term investments, property, plant and equipment)on the statement of financial position

Financing Activities

- Obtaining cash from issuing debt and repaying the amounts borrowed
- Obtaining cash from selling common and preferred shares and paying dividends
- Generally includes non-current liabilities, and shareholders' equity items on the statement of financial position

Significant Noncash Activities

- If I does not affect cash, do NOT report in statement of cash flows
- Report in separate note or supplementary schedule to the financial statement
- Examples:
    - Issue of debt to purchase assets
    - Issue of shares to purchase assets
    - Conversion of debt to equity
    - Exchange of property, plant, and equipment

Preparing the Statement of Cash Flows General Format:

COMPANY NAME Statement of Cash Flows Period Covered		
Operating Activities		
(Prepared using indirect or direct method)	XXX	
Net cash provided (used) by operating activities		XXX
Investing Activities		
(List of individual inflows and outflows)	XXX	
Net cash provided (used) by investing activities		XXX
Financing Activities		
(List of individual inflows and outflows)	XXX	
Net cash provided (used) by financing activities		XXX
Net increase (decrease) in cash		XXX
Cash, beginning of period		XXX
Cash, end of period		XXX

Steps in Preparing:

Step 1: Prepare operating activities section
Step 2: Prepare investing activities section
Step 3: Prepare financing activities section
Step 4: Complete the statement of cash flows

Step 1: Operating Activities

- Determine the net cash provided (used)by operating activities by converting profit from an accrual basis to a cash basis
- Conversion may be done by either the indirect method or the direct method

- Both methods arrive at the same amount of net cash provided by (used in) operating activities
- Direct method is preferred by standard-setters
- Indirect method is preferred by most companies

Section1: Indirect Method

- Most companies favour the indirect method for the following reasons:
  - Easier to prepare
  - Reveals less information to competitors

Convert Profit to Net Cash Provided (Used) by Operating Activities

- Start with profit and add or deduct items not affecting cash to arrive at net cash provided (used) by operating activities
  - + Noncash expenses and/or – noncash revenues on the income statement
  - + Losses and/or – gains on the income statement
  - +/- Changes in relevant noncash current assets and current liabilities on the statement of financial position

Non Cash Expenses	Depreciation Expense (Property & Equipment)	ADD
	Amortization Expense (Intangible Assets)	ADD
Losses & Gains	Losses	ADD
	Gains	DEDUCT
Changes in Noncash Current Assets and Current Liability Accounts	Increase in Current Asset Decrease in Current Asset Increase in Current Liability Decrease in Current Liability	DEDUCT ADD ADD DEDUCT

Example: We will analyze the changes in Computer Services' current asset accounts.

COMPUTER SERVICES CORPORATION
Statement of Cash Flow – Indirect Method (partial)
Year Ended December 31, 2012

Operating activities		
Profit		$145,000
Adjustments to reconcile profit to net cash provided (used) by operating activities		
Depreciation expense	$9,000	
Loss on sale of equipment	3,000	
Decrease in accounts receivable	10,000	
Increase in merchandise inventory	(5,000)	
Increase in prepaid expenses	(4,000)	
Increase in accounts payable	16,000	
Decrease in income tax payable	(2,000)	27,000
Net cash provided by operating activities		172,000

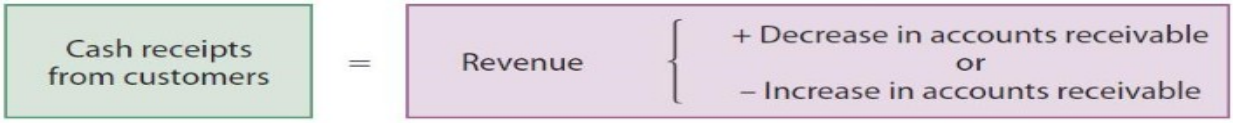
Section 2: Direct Method

- Standard setters prefer the direct method but allow the use of either method

- Details cash receipts and payments
- Similar to indirect method:
  - Adjusts income statement from accrual basis to cash basis in order to arrive at net cash provided (used) by operating activities
  - However, whereas indirect method adjusts total profit, direct method adjusts each individual revenue and expense account

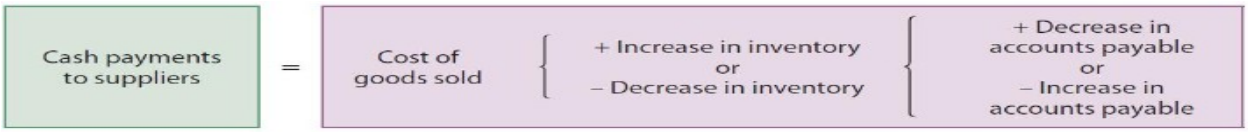
Cash Receipts

- The relationship among cash receipts from customers, revenues from sales, and changes in accounts receivable is:
- If other cash receipts (such as interest), these must be adjusted for any receivable amounts as was done above



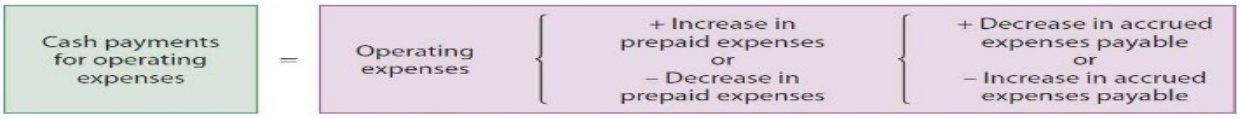
Cash Payments to Suppliers

- The relationship among cash payments to suppliers, cost of goods sold, changes in inventory, and changes in accounts payable is:



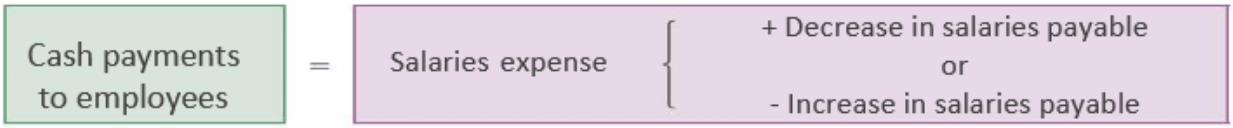
Cash Payments for Operating Activities

- The relationship among cash payment for operating expenses, changes in prepaid expenses, and changes in accrued expense payable is:



Cash Payments to Employees

- Some companies report payments to employees with operating expenses
- If reported separately, the relationship among cash payments to employees, salaries expense, and changes in salaries payable is:



Cash Payments for Interest

- The relationship among cash payments for interest, interest expense, and changes in interest payable is:

Cash payments for interest	=	Interest expense	+ Decrease in interest payable or - Increase in interest payable

Cash Payments for Income Tax

- The relationship among cash payments for income tax, income tax expense, and changes in income tax payable is:

Cash payments for income tax	=	Income tax expense	+ Decrease in income tax payable or – Increase in income tax payable

Summary of Conversion of Net Cash Provided (Used) by Operating Activities

	Cash Receipts (Revenues)	Cash Payments (Expenses)
Current Assets		
Increase in account balance	Deduct (–)	Add (+)
Decrease in account balance	Add (+)	Deduct (–)
Current Liabilities		
Increase in account balance	Add (+)	Deduct (–)
Decrease in account balance	Deduct (–)	Add (+)

Example: Partial Statement of Cash Flows from Operating Activities.

COMPUTER SERVICES CORPORATION Statement of Cash Flow (partial) Year Ended December 31, 2012		
Operating activities		
Cash receipts from customers		$517,000
Cash payments		
To suppliers	$(139,000)	
For operating expenses	(145,000)	
For interest	(12,000)	
For income tax	(49,000)	(345,000)
Net cash provided by operating activities		172,000

Step 2: Investing Activities

- Determine the net cash provided (used) by investing activities by analyzing changes in non-current asset account
- Reported the same under both direct and indirect methods

- Asset acquisitions are uses of cash; disposals are sources of cash (for the proceeds of disposition)
    - Depreciation expense is a noncash charge

Step 3: Financing Activities

- Determine the net cash provided (used) by financing activities by analyzing changes in non-current liability and shareholders' equity accounts
- Changes to notes, loans, and bonds payable are analyzed to determine cause of change
    - Amortization of premium or discount (if any) are noncash charges and have no effect
- Analyze share capital and retained earnings accounts for changes and their cause
    - Profit is reported in the operating activities section

Step 4: The Statement of Cash Flows

- Complete the statement of cash flows
- Determine increase (decrease) in cash
- Ensure ending cash balance agrees to that reported on statement of financial position
- Identify any noncash disclosures

Direct Method

COMPUTER SERVICES CORPORATION
Statement of Cash Flows
Year Ended December 31, 2012

Operating activities		
Cash receipts from customers		$517,000
Cash payments		
To suppliers	$(139,000)	
For operating expenses	(145,000)	
For interest	(12,000)	
For income tax	(49,000)	(345,000)
Net cash provided by operating activities		172,000
Investing activities		
Purchase of building	$(120,000)	
Purchase of equipment	(25,000)	
Sale of equipment	4,000	
Net cash used by investing activities		(141,000)
Financing activities		
Issue of common shares	$20,000	
Payment of cash dividend	(29,000)	
Net cash used by financing activities		(9,000)
Net increase in cash		22,000
Cash, January 1		33,000
Cash, December 31		$55,000
Note x: Significant noncash investing and financing activities		
Issue of bonds to purchase land		$110,000

Using Cash Flows to Evaluate a Company

- Liquidity
  - Cash current debt coverage ratio
    - Measures short-term debt paying ability (cash basis)

$$\text{Cash Current Debt Coverage} = \frac{\text{Cash Provided By Operating Activities}}{\text{Average Current Liabilites}}$$

HIGHER IS BETTER

- Solvency
  - Cash total debt coverage ration
    - Measures long-term debt paying ability (cash basis)

$$\text{Cash Total Debt Coverage Ratio} = \frac{\text{Cash Provided By Operating Activities}}{\text{Average total liabilities}}$$

HIGHER IS BETTER

  - Free Cash Flow
    - Measures discretionary cash flow remaining from operating activities available to use to expand operations, reduces debt, go after new opportunities, or pay additional dividends, among other alternatives

$$\text{Free Cash Flow} = \underset{\text{Operating Activities}}{\text{Net Cash Provided (Used)}} - \underset{\text{Expenditures}}{\text{Net Capital}} - \text{Dividends Paid}$$

HIGHER IS BETTER

Chapter 14

Performance Measurement

Sustainable Income

- The level of profit that is likely to be attainable in the future
- Differs from actual profit due to irregular revenues, expenses, gains and losses that are included in profit
- Two common types of irregular items:
  - Discontinued operating's
  - Changes in accounting policy

Discontinued Operations

- Disposal, or availability for sale, of a component of an entity

- Separate major line of business or major geographical area of operations that has been disposed of or is for sale
- Must be clearly distinguishable operationally and financially

Statement of Financial Position

- Assets and liabilities are reported separately
- Valued and reported at lower of carrying amount and fair value, less any expected costs of disposition
  - Reported as non-current assets or liabilities

Income Statement

- Segregated from continuing operations and reported separately on the income statement
  - Shown immediately following profit/loss from continuous operations
- Consists of two parts:
  - Profit (loss) from discontinued operations
  - Gain (loss) on disposal of the segment
  - Both components are reported net of applicable taxes

Change in Accounting Policy

- Occurs when the policy used in the current year is different from the one used in the preceding year
  - Voluntary Change: Allowed when new policy results in more reliable and relevant presentation
  - Mandatory: Required by standard setters

Effect on Reporting

- Cumulative effect of change to prior years is reported as adjustment to opening retained earnings
  - In statement of changes in equity (IFRS)
  - In statement of retained earnings (ASPE)
- New policy used to report results of current year
- Prior period statements restated
- Effects of change detailed in notes

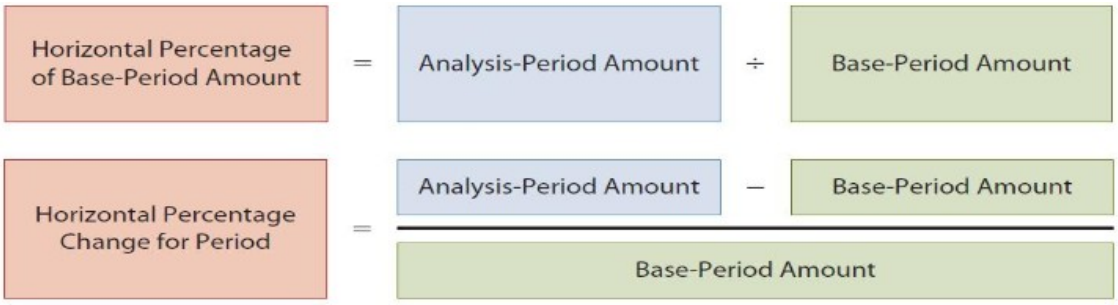
Comparative Analysis

- Three types of comparisons:
  - Intracompany basis – comparisons **within** a company
  - Intercompany basis – comparisons **between** one or more competitor companies
  - Industry averages

Three Tools

- Horizontal analysis (trend analysis
  - A technique to determine the change over time
  - Percentage of base-period amount
  - Percentage change for the period
- Vertical analysis (common size analysis)
- Ratio analysis

Horizontal Analysis



	2010	2009	2008	2007	2006
Net Sales	$6,051.0	$3,657.6	$8,989.2	$4,764.0	$3,376.8
% of Base-Year Amount	179.2%	108.3%	266.2%	141.1%	100.0%
% Change for Year	65.4%	(59.3)%	88.7%	41.1%	-

Vertical Analysis

- Expresses each item in a financial statement as a percent of a base amount (total assets or net sales)

ANY COMPANY INC. Condensed Statement of Financial Position December 31 (in thousands)				
	2012		2011	
Assets	Amount	Percent	Amount	Percent
Current Assets	$2,139.9	20.3%	$2,271.7	25.1%
Property Plant, and Equipment	8,062.7	76.3%	6,413.3	70.9%
Other Assets	363.1	3.4%	359.9	4.0%
Total Assets	$10.565.7	100%	$9.044.9	100%

Ratio Analysis

- Liquidity Ratios: Measure *short-term* ability of the company to pay its maturing obligations and to meet unexpected needs for cash
- Solvency Ratio: Measure the ability of the company to survive over a *long period of time*
- Profitability Ratios: Measure the earnings or operating success of a company for a *given period of time*

Liquidity Ratios

- Working capital
  - Different between current assets and current liabilities

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

HIGHER IS BETTER

- Current ratio
  - Dividing current assets and current liabilities

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

HIGHER IS GENERALLY BETTER

- Cash current debt coverage
  - Measures short-term debt paying ability (cash basis)

$$\text{Cash Current Debt Coverage} = \frac{\text{Cash Provided By Operating Activities}}{\text{Average Current Liabilites}}$$

HIGHER IS BETTER

- Receivables turnover
  - Measures the number of times, on average, that receivables are collected during the year

$$\text{Receivables Turnover} = \frac{\text{Net Credit Sales}}{\text{Average Gross Accounts Receivable}}$$

HIGHER IS BETTER

- Average collection period
  - Measures numbers of days receivables are outstanding

$$\text{Average Collection Period} = \frac{\text{365 Days}}{\text{Receivables Turnover}}$$

LOWER IS BETTER

- Inventory turnover
  - Measures liquidity of inventory

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

HIGHER IS BETTER

- Days in inventory
  - Measures number of days inventory is on hand

$$\text{Days in Inventory} = \frac{365 \text{ Days}}{\text{Inventory Turnover}}$$

LOWER IS BETTER

Solvency Ratios

- Debt to Total Assets
  - Measures % of total assets provided by creditors

$$\text{Debt to Total Assets} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

LOWER IS BETTER

- Times interest earned
  - Provides an indication of a company's ability to meet interest payments as they come due

$$\text{Times Interest Earned} = \frac{\text{Profit} + \text{Interest Expense} + \text{Income Tax Expense}}{\text{Interest Expense}}$$

HIGHER IS BETTER

- Cash total debt coverage ratio
  - Measures long-term debt paying ability (cash basis)

$$\text{Cash Total Debt Coverage Ratio} = \frac{\text{Cash Provided By Operating Activities}}{\text{Average total liabilities}}$$

HIGHER IS BETTER

- Free Cash Flow
  - Measures cash available for paying dividends or expanding operations

$$\text{Free Cash Flow} = \underset{\text{Operating Activities}}{\text{Net Cash Provided (Used)}} - \underset{\text{Expenditures}}{\text{Net Capital}} - \text{Dividends Paid}$$

HIGHER IS BETTER

Profitability Ratios

- Return on common shareholders' equity
  - Measures the company's profitability from the shareholders' viewpoint

$$\text{Return on Common Shareholders Equity} = \frac{\text{Profit Available to Common Shareholders}}{\text{Average Common Shareholders' Equity}}$$

HIGHER IS BETTER

- Profit margin
  - Measures the percentage of profit generated by each dollar of sales

- Return on assets
  - Measures overall profitability of assets

Return on Assets: Measures overall profitability of assets

$$\text{Return on Assets} = \frac{\text{Profit}}{\text{Average Total Assets}}$$

HIGHER IS BETTER

- Asset turnover
  - Measures how efficiently assets are used to generate sale

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

HIGHER IS BETTER

- Gross profit margin
  - Measures margin between selling price and COGS

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

HIGHER IS BETTER

- Earnings per share (EPS)

- Measures profit earned on each common share

$$\text{Earnings per Share} = \frac{\text{Profit Available to Common Shareholders}}{\text{Weighted Average Number of Common Shares}}$$

NOT COMPARABLE BETWEEN COMPANIES

- Price-Earnings ratio (P-E)
  - Measures relationship between market price per share and earnings per share

$$\text{Price Earnings Ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

HIGHER indicates investors expect favourable profitability in future.

- Payout ratio
  - Measures the percentage of profit distributed in the form of cash dividends to common shareholders

$$\text{Payout Ratio} = \frac{\text{Cash Dividends}}{\text{Profit}}$$

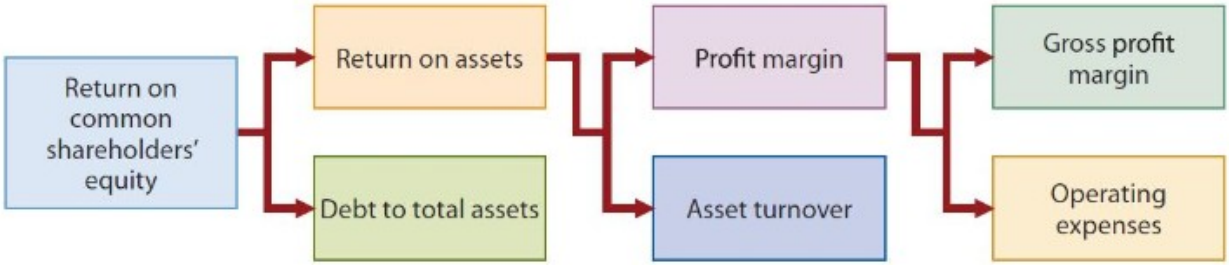
HIGHER IS BETTER if investor is looking for income

- Dividend yield
  - Measures the profit generated by each share, based on the market price of the shares

$$\text{Dividend Yield} = \frac{\text{Dividend per Share}}{\text{Market Price per Share}}$$

HIGHER IS BETTER if investor is looking for income

Relationships Amongst Profitability Ratios



Limitations of Financial Analysis

- Can be impacted by:
  - Alternative accounting principles
  - Professional judgment
  - Comprehensive income
  - Diversification
  - Inflation
  - Economic factors