FINANCIAL REPORTING AND ANALYSIS

Exhibit 1: Accruals [2]

Cash movement in the same period as accounting recognition

Settled transaction- no accrual entry needed

Cash Movement prior to Accounting Recognition

Unearned (deferred) Revenue

Originating Entry
Record cash receipt and establish a liability
Adjusting Entry
Reduce the liability and recognize revenue

Prepaid Expense

Originating Entry
Record cash payment and establish an asset
Adjusting Entry
Reduce the asset and recognize the expense

Cash Movement after Accounting Recognition

Unbilled (accrued) Revenue

Originating Entry
Record revenue and establish an asset
Adjusting Entry
When billing occurs, reduce unbilled revenue and increase accounts receivable. When cash is collected, eliminate the receivable

Accrued Expenses

Originating Entry
Establish a liability and record an expense
Adjusting Entry
Reduce the liability as cash is paid

[2] Exhibit 10, pg 72, Vol 3, CFA Program Curriculum 2012

Basic EPS

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of shares outstanding}}$$

Diluted EPS

$$\text{Diluted EPS} = \frac{\left[\text{Net income} - \text{Preferred dividends}\right] + \text{Convertible preferred dividends} + \left[\text{Convertible debt interest} \times (1 - t)\right]}{\text{Weighted average shares} + \text{Shares from conversion of convertible preferred shares} + \text{Shares from conversion of convertible debt} + \text{Shares issuable from stock options}}$$

Comprehensive Income

Net income + Other comprehensive income = Comprehensive income

Gains and Losses on Marketable Securities

	Held-to-Maturity Securities	Available-for-sale Securities	Trading Securities
Balance Sheet	Reported at cost or amortized cost.	Reported at fair value. Unrealized gains or losses due to changes in market values are reported in other comprehensive income within owners' equity.	Reported at fair value.
Items recognized on the income statement	Interest income Realized gains and losses.	Dividend income. Interest income. Realized gains and losses.	Dividend income. Interest income. Realized gains and losses. Unrealized gains and losses due to changes in market values.

Cash Flow Classification under U.S. GAAP

CFO

Inflows	Outflows
Cash collected from customers. Interest and dividends received. Proceeds from sale of securities held for trading.	Cash paid to employees. Cash paid to suppliers. Cash paid for other expenses. Cash used to purchase trading securities. Interest paid. Taxes paid.

CFI

Inflows	Outflows
Sale proceeds from fixed assets. Sale proceeds from long-term investments.	Purchase of fixed assets. Cash used to acquire LT investment securities.

CFF

Inflows	Outflows
Proceeds from debt issuance. Proceeds from issuance of equity instruments.	Repayment of LT debt. Payments made to repurchase stock. Dividends payments.

Cash Flow Statements under IFRS and U.S. GAAP

	IFRS	U.S. GAAP
Classification of Cash Flows		
Interest and dividends received	CFO or CFI	CFO
Interest paid	CFO or CFF	CFO
Dividend paid	CFO or CFF	CFF
Dividends received	CFO or CFI	CFO
Taxes paid	CFO, but part of the tax can be categorized as CFI or CFF if it is clear that the tax arose from investing or financing activities.	CFO
Bank overdrafts	Included as a part of cash equivalents.	Not considered a part of cash equivalents and included in CFF.
Presentation Format		
CFO (No difference in CFI and CFF presentation)	Direct or indirect method. The former is preferred.	Direct or indirect method. The former is preferred. However, if the direct method is used, a reconciliation of net income and CFO must be included.
Disclosures		
	Taxes paid should be presented separately on the cash flow statement.	If taxes and interest paid are not explicitly stated on the cash flow statement, details can be provided in footnotes.

Free Cash Flow to the Firm

FCFF = NI + NCC + [Int * (1 – tax rate)] – FCInv – WCInv

FCFF = CFO + [Int * (1 – tax rate)] – FCInv

Free Cash Flow to Equity

FCFE = CFO - FCInv + Net borrowing

Inventory Turnover

$$\textbf{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

Days of Inventory on Hand

$$\textbf{Days of inventory on hand (DOH)} = \frac{365}{\text{Inventory turnover}}$$

Receivables Turnover

$$\textbf{Receivables turnover} = \frac{\text{Revenue}}{\text{Average receivables}}$$

Days of Sales Outstanding

$$\textbf{Days of sales outstanding (DSO)} = \frac{365}{\text{Receivables turnover}}$$

Payables Turnover

$$\textbf{Payables turnover} = \frac{\text{Purchases}}{\text{Average trade payables}}$$

Number of Days of Payables

$$\textbf{Number of days of payables} = \frac{365}{\text{Payables turnover}}$$

Working Capital Turnover

$$\textbf{Working capital turnover} = \frac{\text{Revenue}}{\text{Average working capital}}$$

Fixed Asset Turnover

$$\textbf{Fixed asset turnover} = \frac{\text{Revenue}}{\text{Average fixed assets}}$$

Total Asset Turnover

$$\textbf{Total Asset Turnover} = \frac{\text{Revenue}}{\text{Average total assets}}$$

Current Ratio

$$\textbf{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Quick Ratio

$$\textbf{Quick ratio} = \frac{\text{Cash + Short-term marketable investments + Receivables}}{\text{Current liabilities}}$$

Cash Ratio

$$\textbf{Cash ratio} = \frac{\text{Cash + Short-term marketable investments}}{\text{Current liabilities}}$$

Defensive Interval Ratio

$$\textbf{Defensive interval ratio} = \frac{\text{Cash + Short-term marketable investments + Receivables}}{\text{Daily cash expenditures}}$$

Cash Conversion Cycle

Cash conversion cycle = DSO + DOH – Number of days of payables

Debt-to-Assets Ratio

$$\textbf{Debt-to-assets ratio} = \frac{\text{Total debt}}{\text{Total assets}}$$

Debt-to-Capital Ratio

$$\textbf{Debt-to-capital ratio} = \frac{\text{Total debt}}{\text{Total debt + Shareholders' equity}}$$

Debt-to-Equity Ratio

$$\textbf{Debt-to-equity ratio} = \frac{\text{Total debt}}{\text{Shareholders' equity}}$$

Financial Leverage Ratio

$$\textbf{Financial leverage ratio} = \frac{\text{Average total assets}}{\text{Average total equity}}$$

Interest Coverage Ratio

$$\textbf{Interest coverage ratio} = \frac{\text{EBIT}}{\text{Interest payments}}$$

Fixed Charge Coverage Ratio

$$\textbf{Fixed charge coverage ratio} = \frac{\text{EBIT + Lease payments}}{\text{Interest payments + Lease payments}}$$

Gross Profit Margin

$$\textbf{Gross profit margin} = \frac{\text{Gross profit}}{\text{Revenue}}$$

Operating Profit Margin

$$\textbf{Operating profit margin} = \frac{\text{Operating profit}}{\text{Revenue}}$$

Pretax Margin

$$\textbf{Pretax margin} = \frac{\text{EBT (earnings before tax, but after interest)}}{\text{Revenue}}$$

Net Profit Margin

$$\textbf{Net profit margin} = \frac{\text{Net profit}}{\text{Revenue}}$$

Return on Assets

$$\textbf{ROA} = \frac{\text{Net income}}{\text{Average total assets}}$$

$$\textbf{Adjusted ROA} = \frac{\text{Net income} + \text{Interest expense } (1 - \text{Tax rate})}{\text{Average total assets}}$$

$$\textbf{Operating ROA} = \frac{\text{Operating income or EBIT}}{\text{Average total assets}}$$

Return on Total Capital

$$\textbf{Return on total capital} = \frac{\text{EBIT}}{\text{Short-term debt} + \text{Long-term debt} + \text{Equity}}$$

Return on Equity

$$\textbf{Return on equity} = \frac{\text{Net income}}{\text{Average total equity}}$$

Return on Common Equity

$$\textbf{Return on common equity} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Average common equity}}$$

DuPont Decomposition of ROE

$$\textbf{ROE} = \frac{\text{Net income}}{\text{Average shareholders' equity}}$$

2-Way Dupont Decomposition

$$\textbf{ROE} = \underbrace{\frac{\text{Net income}}{\text{Average total assets}}}_{\text{ROA}} \times \underbrace{\frac{\text{Average total assets}}{\text{Average shareholder's equity}}}_{\text{Leverage}}$$

3-Way Dupont Decomposition

$$\textbf{ROE} = \underbrace{\frac{\text{Net income}}{\text{Revenue}}}_{\text{Net profit margin}} \times \underbrace{\frac{\text{Revenue}}{\text{Average total assets}}}_{\text{Asset turnover}} \times \underbrace{\frac{\text{Average total assets}}{\text{Average shareholders' equity}}}_{\text{Leverage}}$$

5-Way Dupont Decomposition

$$\text{ROE} = \underbrace{\frac{\text{Net income}}{\text{EBT}}}_{\text{Tax burden}} \times \overbrace{\frac{\text{EBT}}{\text{EBIT}}}^{\text{Interest burden}} \times \underbrace{\frac{\text{EBIT}}{\text{Revenue}}}_{\text{EBIT margin}} \times \overbrace{\frac{\text{Revenue}}{\text{Average total assets}}}^{\text{Asset turnover}} \times \underbrace{\frac{\text{Average total assets}}{\text{Avg. shareholders' equity}}}_{\text{Leverage}}$$

Price- to-Earnings Ratio

$$\textbf{P/E} = \frac{\text{Price per share}}{\text{Earnings per share}}$$

Price to Cash Flow

$$\textbf{P/CF} = \frac{\text{Price per share}}{\text{Cash flow per share}}$$

Price to Sales

$$\textbf{P/S} = \frac{\text{Price per share}}{\text{Sales per share}}$$

Price to Book Value

$$\textbf{P/BV} = \frac{\text{Price per share}}{\text{Book value per share}}$$

Per Share Ratios

$$\textbf{Cash flow per share} = \frac{\text{Cash flow from operations}}{\text{Average number of shares outstanding}}$$

$$\textbf{EBITDA per share} = \frac{\text{EBITDA}}{\text{Average number of shares outstanding}}$$

$$\textbf{Dividends per share} = \frac{\text{Common dividends declared}}{\text{Weighted average number of ordinary shares}}$$

Dividend Payout Ratio

$$\textbf{Dividend payout ratio} = \frac{\text{Common share dividends}}{\text{Net income attributable to common shares}}$$

Retention Rate

$$\textbf{Retention Rate} = \frac{\text{Net income attributable to common shares} - \text{Common share dividends}}{\text{Net income attributable to common shares}}$$

Growth Rate

Sustainable growth rate = Retention rate × ROE

LIFO versus FIFO (with rising prices and stable inventory levels.)

LIFO versus FIFO when Prices are Rising

	LIFO	FIFO
COGS	Higher	Lower
Income before taxes	Lower	Higher
Income taxes	Lower	Higher
Net income	Lower	Higher
Cash flow	Higher	Lower
EI	Lower	Higher
Working capital	Lower	Higher

Type of Ratio	Effect on Numerator	Effect on Denominator	Effect on Ratio
Profitability ratios. NP and GP margins	Income is lower under LIFO because COGS is higher	Sales are the same under both.	Lower under LIFO.
Debt to equity	Same debt levels	Lower equity under LIFO	Higher under LIFO
Current ratio	Current assets are lower under LIFO because EI is lower.	Current liabilities are the same.	Lower under LIFO
Quick ratio	Assets are higher as a result of lower taxes paid	Current liabilities are the same	Higher under LIFO
Inventory turnover	COGS is higher under LIFO	Average inventory is lower under LIFO	Higher under LIFO
Total asset turnover	Sales are the same	Lower total assets under LIFO	Higher under LIFO

Financial Statement Effects of Capitalizing versus Expensing

	Effect on Financial Statements
Initially when the cost is capitalized	• Noncurrent assets *increase*. • Cash flow from investing activities *decreases*.
In future periods when the asset is depreciated or amortized	• Noncurrent assets *decrease*. • Net income *decreases*. • Retained earnings *decrease*. • Equity *decreases*.
When the cost is expensed	• Net income *decreases* by the entire after-tax amount of the cost. • No related asset is recorded on the balance sheet and therefore, no depreciation or amortization expense is charged in future periods. • Operating cash flow *decreases*. • Expensed costs have no financial statement impact in future years.

	Capitalizing	Expensing
Net income (first year)	Higher	Lower
Net income (future years)	Lower	Higher
Total assets	Higher	Lower
Shareholders' equity	Higher	Lower
Cash flow from operations	Higher	Lower
Cash flow from investing	Lower	Higher
Income variability	Lower	Higher
Debt to equity	Lower	Higher

Straight Line Depriciation

$$\text{Depreciation expense} = \frac{\text{Original cost - Salvage value}}{\text{Depreciable life}}$$

Accelerated Depriciation

$$\text{DDB depreciation in Year X} = \frac{2}{\text{Depreciable life}} \times \text{Book value at the beginning of Year X}$$

Estimated Useful Life

$$\text{Estimated useful life} = \frac{\text{Gross investment in fixed assets}}{\text{Annual depreciation expense}}$$

Average Cost of Asset

$$\text{Average age of asset} = \frac{\text{Accumulated depreciation}}{\text{Annual depreciation expense}}$$

Remaining Useful Life

$$\text{Remaining useful life} = \frac{\text{Net investment in fixed assets}}{\text{Annual depreciation expense}}$$

Treatment of Temporary Differences

Balance Sheet Item	Carrying value vs. tax base	Results in…
Asset	Carrying amount is greater.	DTL
Asset	Tax base is greater.	DTA
Liability	Carrying amount is greater.	DTA
Liabi lity	Tax base is greater.	DTL

Income Tax Accounting under IFRS versus U.S. GAAP

	IFRS	U.S. GAAP
ISSUE SPECIFIC TREATMENTS		
Revaluation of fixed assets and intangible assets.	Recognized in equity as deferred taxes.	Revaluation is prohibited.
Treatment of undistributed profit from investment in subsidiaries.	Recognized as deferred taxes except when the parent company is able to control the distribution of profits and it is probable that temporary differences will not reverse in future.	No recognition of deferred taxes for foreign subsidiaries that fulfill indefinite reversal criteria. No recognition of deferred taxes for domestic subsidiaries when amounts are tax-free.
Treatment of undistributed profit from investments in joint ventures.	Recognized as deferred taxes except when the investor controls the sharing of profits and it is probable that there will be no reversal of temporary differences in future.	No recognition of deferred taxes for foreign corporate joint ventures that fulfill indefinite reversal criteria.
Treatment of undistributed profit from investments in associates.	Recognized as deferred taxes except when the investor controls the sharing of profits and it is probable that there will be no reversal of temporary differences in future.	Deferred taxes are recognized from temporary differences.
DEFERRED TAX MEASUREMENT		
Tax rates.	Tax rates and tax laws enacted or substantively enacted.	Only enacted tax rates and tax laws are used.
Deferred tax asset recognition.	Recognized if it is probable that sufficient taxable profit will be available in the future.	Deferred tax assets are recognized in full and then reduced by a valuation allowance if it is likely that they will not be realized.
DEFERRED TAX PRESENTATION		
Offsetting of deferred tax assets and liabilities.	Offsetting allowed only if the entity has right to legally enforce it and the balance is related to a tax levied by the same authority.	Same as in IFRS.
Balance sheet classification.	Classified on balance sheet as net noncurrent with supplementary disclosures.	Classified as either current or noncurrent based on classification of underlying asset and liability.

Effective Tax rate

$$\text{Effective tax rate} = \frac{\text{Income tax expense}}{\text{Pretax income}}$$

Income Tax Expense

Income tax expense = Taxes Payable + Change in DTL - Change in DTA

Income Statement Effects of Lease Classification

Income Statement Item	Finance Lease	Operating Lease
Operating expenses	Lower	Higher
Nonoperating expenses	Higher	Lower
EBIT (operating income)	Higher	Lower
Total expenses- early years	Higher	Lower
Total expenses- later years	Lower	Higher
Net income- early years	Lower	Higher
Net income- later years	Higher	Lower

Balance Sheet Effects of Lease Classification

Balance Sheet Item	Capital Lease	Operating Lease
Assets	Higher	Lower
Current liabilities	Higher	Lower
Long term liabilities	Higher	Lower
Total cash	Same	Same

Cash Flow Effects of Lease Classification

CF Item	Capital Lease	Operating Lease
CFO	Higher	Lower
CFF	Lower	Higher
Total cash flow	Same	Same

Impact of Lease Classification on Financial Ratios

Ratio	Numerator under Finance Lease	Denominator under Finance Lease	Effect on Ratio	Ratio Better or Worse under Finance Lease
Asset turnover	Sales- same	Assets- higher	Lower	Worse
Return on assets*	Net income lower in early years	Assets- higher	Lower	Worse
Current ratio	Current assets- same	Current liabilities- higher	Lower	Worse
Leverage ratios (D/E and D/A)	Debt- higher	Equity same. Assets higher	Higher	Worse
Return on equity*	Net income lower in early years	Equity same	Lower	Worse

* In early years of the lease agreement.

Financial Statement Effects of Lease Classification from Lessor's Perspective

	Financing Lease	Operating Lease
Total net income	Same	Same
Net income (early years)	Higher	Lower
Taxes (early years)	Higher	Lower
Total CFO	Lower	Higher
Total CFI	Higher	Lower
Total cash flow	Same	Same

Definitions of Commonly Used Solvency Ratios

Solvency Ratios	Description	Numerator	Denominator
Leverage Ratios			
Debt-to-assets ratio	Expresses the percentage of total assets financed by debt	Total debt	Total assets
Debt-to-capital ratio	Measures the percentage of a company's total capital (debt + equity) financed by debt.	Total debt	Total debt + Total shareholders' equity
Debt-to-equity ratio	Measures the amount of debt financing relative to equity financing	Total debt	Total shareholders' equity
Financial leverage ratio	Measures the amount of total assets supported by one money unit of equity.	Average total assets	Average shareholders' equity
Coverage Ratios			
Interest coverage ratio	Measures the number of times a company's EBIT could cover its interest payments.	EBIT	Interest payments
Fixed charge coverage ratio	Measures the number of times a company's earnings (before interest, taxes and lease payments) can cover the company's interest and lease payments.	EBIT + Lease payments	Interest payments + Lease payments

Adjustments related to inventory:

$EI_{FIFO} = EI_{LIFO} + LR$

where
LR = LIFO Reserve

$COGS_{FIFO} = COGS_{LIFO}$ - (Change in LR during the year)

Net income after tax under FIFO will be greater than LIFO net income after tax by:

Change in LIFO Reserve × (1 - Tax rate)

When converting from LIFO to FIFO assuming rising prices:

Equity (retained earnings) increase by:

LIFO Reserve × (1 - Tax rate)

Liabilities (deferred taxes) increase by:

LIFO Reserve × (Tax rate)

Current assets (inventory) increase by:

LIFO Reserve

Adjustments related to property, plant and equipment:

$$\frac{\text{Gross investment in fixed assets}}{\text{Annual depreciation expense}} = \frac{\text{Accumulated depreciation}}{\text{Annual depreciation expense}} + \frac{\text{Net investment in fixed assets}}{\text{Annual depreciation expense}}$$

Estimated useful or depreciable life

The historical cost of an asset divided by its useful life equals annual depreciation expense under the straight line method. Therefore, the historical cost divided by annual depreciation expense equals the estimated useful life.

Average age of asset

Annual depreciation expense times the number of years that the asset has been in use equals accumulated depreciation. Therefore, accumulated depreciation divided by annual depreciation equals the average age of the asset.

Remaining useful life

The book value of the asset divided by annual depreciation expense equals the number of years the asset has remaining in its useful life.

Categories of Marketable Securities and Accounting Treatment

Classification	Balance Sheet Value	Unrealized and Realized Gains and Losses	Income (Interest & Dividends)
Held-to-maturity	Amortized cost (Par value +/- unamortized premium/ discount).	*Unrealized:* Not reported *Realized:* Recognized on income statement.	Recognized on income statement.
Held-for-trading	Fair Value.	*Unrealized:* Recognized on income statement. *Realized:* Recognized on income statement.	Recognized on income statement.
Available-for-sale	Fair Value.	*Unrealized:* Recognized in other comprehensive income. *Realized:* Recognized on income statement.	Recognized on income statement.

Inventory Accounting under IFRS versus U.S. GAAP

	Balance Sheet	Permitted Cost Recognition Methods	Changes in Balance Sheet Value
U.S. GAAP	Lower of cost or market.	▪ LIFO. ▪ FIFO. ▪ Weighted average cost.	Permits inventory write downs, but not reversal of write downs.
IFRS	Lower of cost or net realizable value.	▪ FIFO. ▪ Weighted Average Cost.	Permits inventory write downs, and also reversals of write downs.

Property, Plant and Equipment

	Balance Sheet	Changes in Balance Sheet Value	Effects of Changes in Balance Sheet Value
U.S. GAAP	Cost minus accumulated depreciation.	Does not permit upward revaluation.	No effect.
IFRS	Cost minus accumulated depreciation.	Permits upward revaluation. Asset is reported at fair value at the revaluation date less accumulated depreciation following the revaluation.	The increase in the asset's value from revaluation is reported as a part of equity unless it is reversing a previously-recognized decrease in the value of the asset. A decrease in the value of the asset is reported on the income statement unless it is reversing a previously-reported upward revaluation.

Long-Term Investments

Percent Ownership	Extent of Control	Accounting Treatment
Less than 20%	No significant control	Classified as held-to-maturity, trading, or available for sale securities.
20% - 50%	Significant Influence	Equity method.
More than 50%	Significant Control	Consolidation.
Shared (joint ventures)	Joint Control	Equity method/ proportionate consolidation.

Treatment of Identifiable Intangible Assets

	Balance Sheet	Changes in Balance Sheet Value	Effects of Changes in Balance Sheet Value
U.S. GAAP	Only purchased intangibles may be recognized as assets. Internally developed items cannot be recognized as assets. Reported at cost minus accumulated amortization for assets with finite useful lives. Reported at cost minus impairment for assets with infinite useful lives.	Does not permit upward revaluation.	No effect.
IFRS	Only purchased intangibles may be recognized as assets. Internally developed items cannot be recognized as assets. Reported at cost minus accumulated amortization for assets with finite useful lives. Reported at cost minus impairment for assets with infinite useful lives.	Permits upward revaluation. Assets are reported at fair value as of the revaluation date less subsequent accumulated amortization.	An increase in value is recognized as a part of equity unless it is a reversal of a previously recognized downward revaluation. A decrease in value is recognized on the income statement unless it is a reversal of a previously recognized upward revaluation.

Long-Term Contracts

	Outcome can be reliably estimated	Outcome cannot be reliably estimated
U.S. GAAP	Percentage-of-completion method.	Completed contract method.
IFRS	Percentage-of-completion method.	Revenue is recognized to the extent that it is probable to recover contract costs. Profit is only recognized at project completion.