Teachers' seminar on BAFS :

Experience Sharing -
Cost Accounting

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Chairman of Hong Kong Association for Business Education
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AL Syllabus – An introduction to Managerial Accounting

1. Costing principles and systems

(a) Introducing managerial accounting
(Entries for interlocking cost accounting system are not required)
(b) Costing for materials, labour and overheads
(c) Preparation of manufacturing account
(d) Costing systems: job costing, process costing, and activity-based costing
(Costing of normal and abnormal losses is required but costing of by-products and waste products is excluded)
(e) Marginal costing Vs absorption costing
(f) Cost-volume-profit (CVP) analysis (marginal costing only)

AL Syllabus – An introduction to Managerial Accounting

2. Standard costing **Deleted**

(a) Establishing cost standards
(b) Preparation of trading and profit and loss account under standard costing system (including treatment of variances)
(c) Variance analysis
   i. Sales - sales price variance and sales volume variance
   ii. Direct materials - material price variance and material usage variance
   iii. Direct labour - wage rate variance and labour efficiency variance

(Analysis of overhead variance and calculation of sales mix and material mix variances are excluded)

AL Syllabus – An introduction to Managerial Accounting

Included in Business Management Module

3. Budgeting

(a) Advantages and uses
(b) Fixed Vs flexible budgets
(c) Factors to consider in setting and revising budgets
(d) Cash budgets
(e) Budgeted profit and loss accounts and balance sheets

4. Investment appraisal

(a) Financial factors affecting investment decisions
— ascertainment of future cash flows, payback, and accounting rate of return
— net present value and internal rate of return (Calculation of IRR is not required)

(b) Non-financial factors affecting investment decisions

Comparison between Syllabuses

BAFS – Accounting Module	Advanced Level Examination
2(b) Cost Accounting	**IV. AN INTRODUCTION TO MANAGERIAL ACCOUNTING**
Cost Classification, Concepts and Terminology	1. Costing principles and systems
- Explain the general nature of cost accounting and appreciate its importance for financial decision-making.	(a) Introducing **managerial accounting** (Entries for interlocking cost accounting system are not required)
- Distinguish between direct and indirect costs, fixed and variable costs, and factory and administrative overheads.	(b) **Costing for materials, labour and overheads**

Comparison between Syllabuses

BAFS – Accounting Module	Advanced Level Examination
2(b) Cost Accounting	**IV. AN INTRODUCTION TO MANAGERIAL ACCOUNTING**
Job Costing	1. Costing principles and systems
- Explain the job costing system for manufacturing operations. - Illustrate the allocation and apportionment of costs to a single job or product.	(d) Costing systems: **job costing**, **process costing**, and **activity-based costing** (Costing of normal and abnormal losses is required but costing of by products and waste products is excluded)

Comparison between Syllabuses

BAFS – Accounting Module	Advanced Level Examination
2(b) Cost Accounting	**IV. AN INTRODUCTION TO MANAGERIAL ACCOUNTING**
Marginal and Absorption Costing	**1. Costing principles and systems**
- Compare the use of marginal and absorption costing in preparing: (i) manufacturing accounts (ii) income statements.	(e) **Marginal costing Vs absorption costing**
- Compare the advantages and disadvantages of adopting marginal and absorption costing.	(c) **Preparation of manufacturing account**

Comparison between Syllabuses

BAFS – Accounting Module	Advanced Level Examination
2(b) Cost Accounting	**IV. AN INTRODUCTION TO MANAGERIAL ACCOUNTING**
Cost Accounting for Decision-making	**1. Costing principles and systems**
- Identify the nature of various cost items and their relevance to decision-making: **sunk costs**, **incremental costs** and **opportunity costs**.	
- Apply costing concepts and techniques in business decisions e.g. '**hire, make or buy**', '**accept or reject an order at a special price**', '**retain or replace equipment**', '**sell or process further**', and '**eliminate or retain an unprofitable segment**'.	
- Conduct cost-volume-profit analysis to assess the effects of changes in costs, selling price and units sold on the breakeven point and target profit.	(f) **Cost-volume-profit (CVP) analysis** (marginal costing only)

Financial Accounting Vs Management (Cost) Accounting

	Financial Accounting	Management Accounting
Time Dimension	Past	Past, present and future
Principle Objectives	Stewardship of business for benefit of shareholders	To improve economy, efficiency and effectiveness
Report Recipients	External - Shareholders / investors - Government authority	Internal - Directors - Company managers
Outputs (Form, focus and frequency)	Financial statements for the whole business: (semiannual and annual reports) - Income Statement - Statement of Financial Position - Statement of Cash Flow	Reports and statements on individual parts or segments: - Detailed daily, weekly, monthly or annual management accounts showing results by product and function - Ad hoc reports
Regulating Framework	Accounting standards plus statutory requirements of the Companies Ordinances	None prescribed

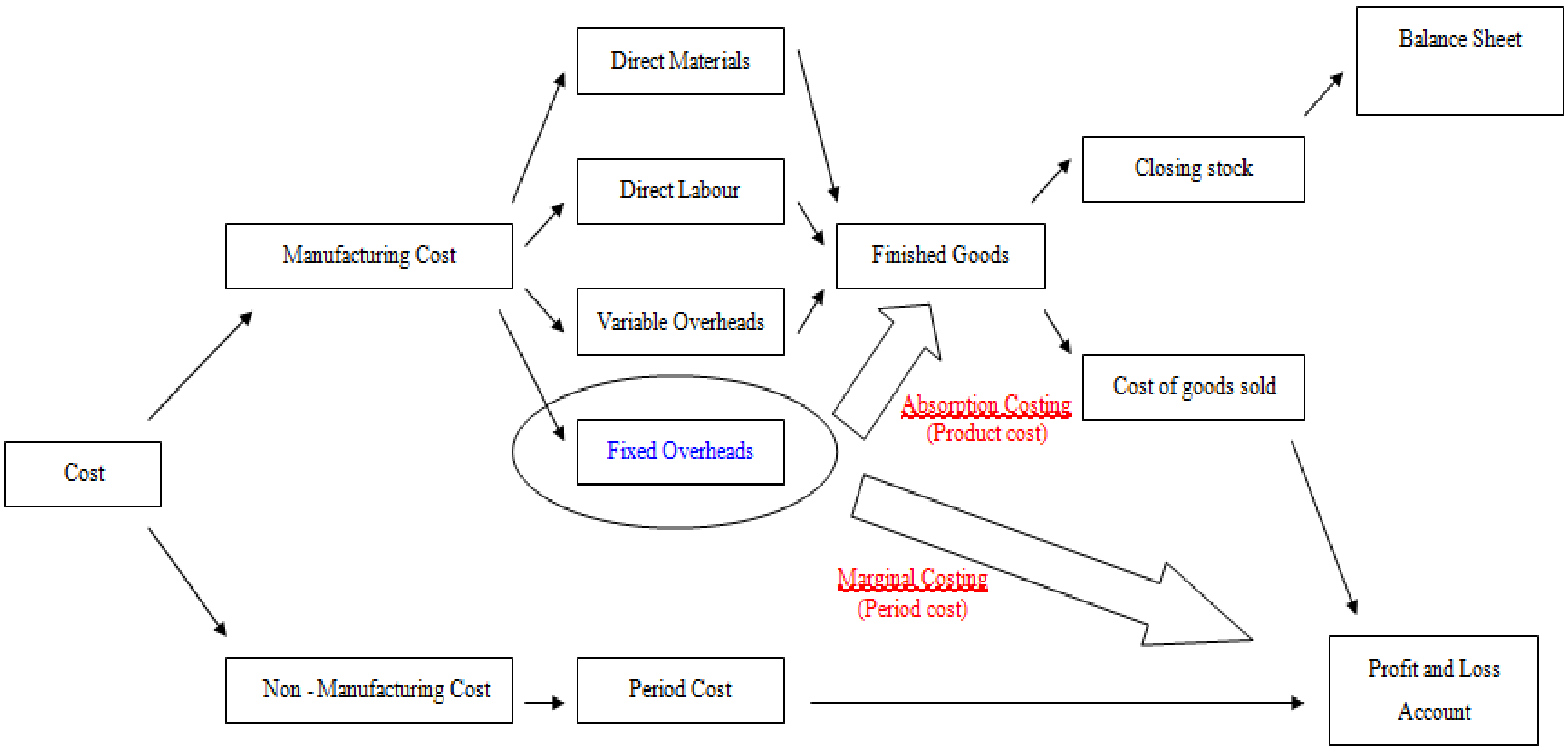
Manufacturing Account

A. **Under Financial Accounting**

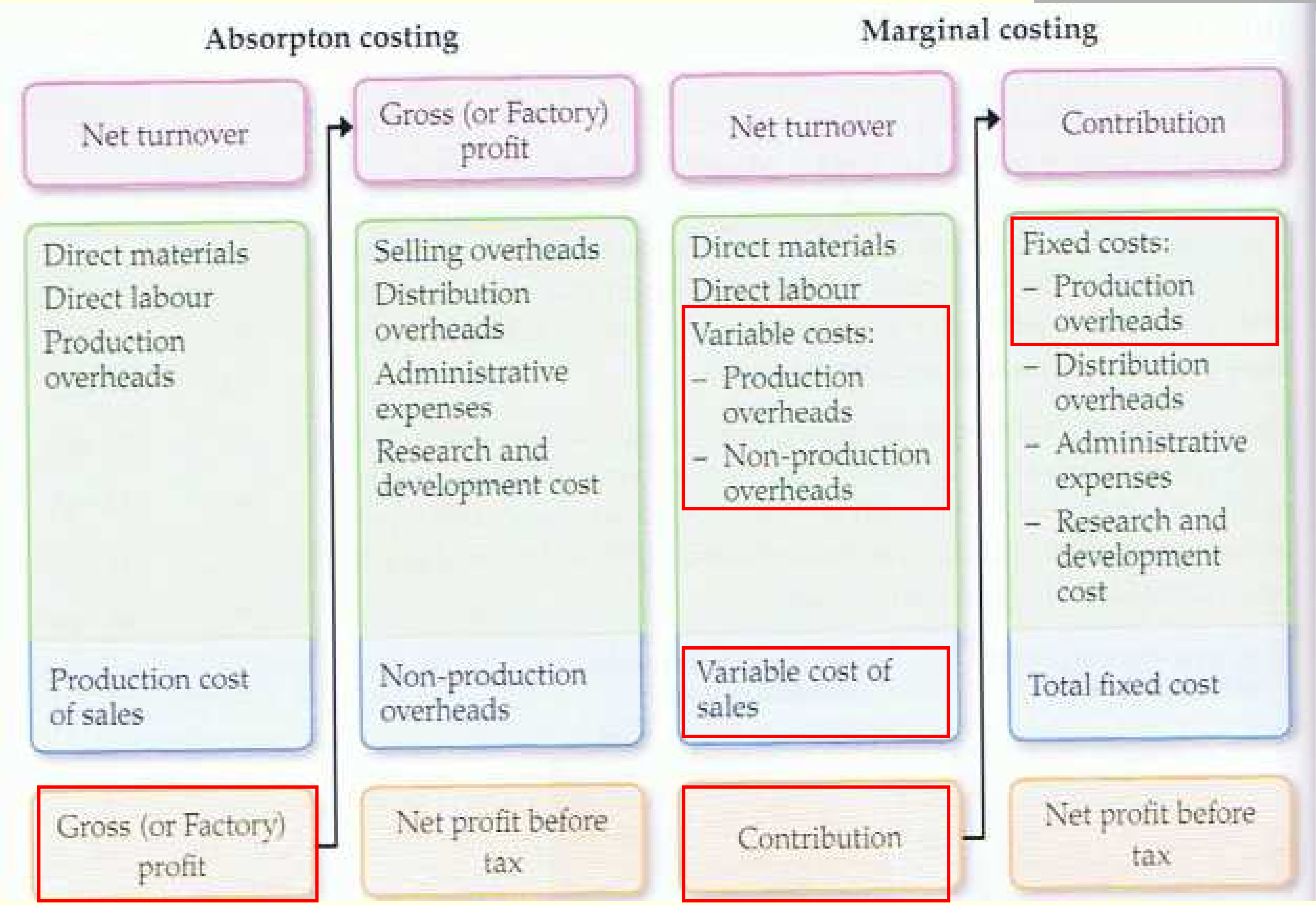
B. **Under Management/ Cost Accounting**

1. **Absorption Costing**
2. **Marginal Costing**

Absorption Vs Marginal Costing



Absorption Vs Marginal Costing



Income statement prepared under absorption costing

Baby Toys
Income Statement for the year ended 31 March 2012

		$	$
Sales (1,100 × $100)			110,000
Less *Cost of goods sold:*			
	Opening inventory	8,000	
	Add Manufacturing cost of goods completed {[1,000 × ($18 + $8 + $4)] + (1,000 × $10)}	40,000	
	Cost of goods available for sale	48,000	
	Less Closing inventory ($40,000 × $\frac{100}{1,000}$)[Note]	(4,000)	(44,000)
Gross profit			66,000
Less Marketing costs [(1,100 × $5) + $15,000]			(20,500)
Net profit			45,500

Income statement prepared under marginal costing

Baby Toys
Income Statement for the year ended 31 March 2012

		$	$
Sales			110,000
Less *Variable cost of goods sold:*			
	Opening inventory	6,000	
	Add Variable manufacturing cost of goods completed [1,000 × ($18 + $8 + $4)]	30,000	
	Variable cost of goods available for sale	36,000	
	Less Closing inventory ($30,000 × $\frac{100}{1,000}$)[Note]	(3,000)	(33,000)
Product contribution margin			77,000
Less Variable marketing costs (1,100 × $5)			(5,500)
Total contribution margin			71,500
Less Fixed manufacturing costs		10,000	
	Fixed marketing costs	15,000	(25,000)
Net profit			46,500

Manufacturing Account and Income Statement

A. **Under Financial Accounting**

Absorption Costing (HKAS2)

B. **Under Management/ Cost Accounting**

1. Absorption Costing (HKAS2)

2. Marginal Costing (Contribution Approach)

Manufacturing Account and Income Statement

1. Absorption Costing (HKAS2)

Classification by function

2. Marginal Costing

(Contribution Approach)

Classification by behaviour

Absorption Costing Vs Marginal Costing

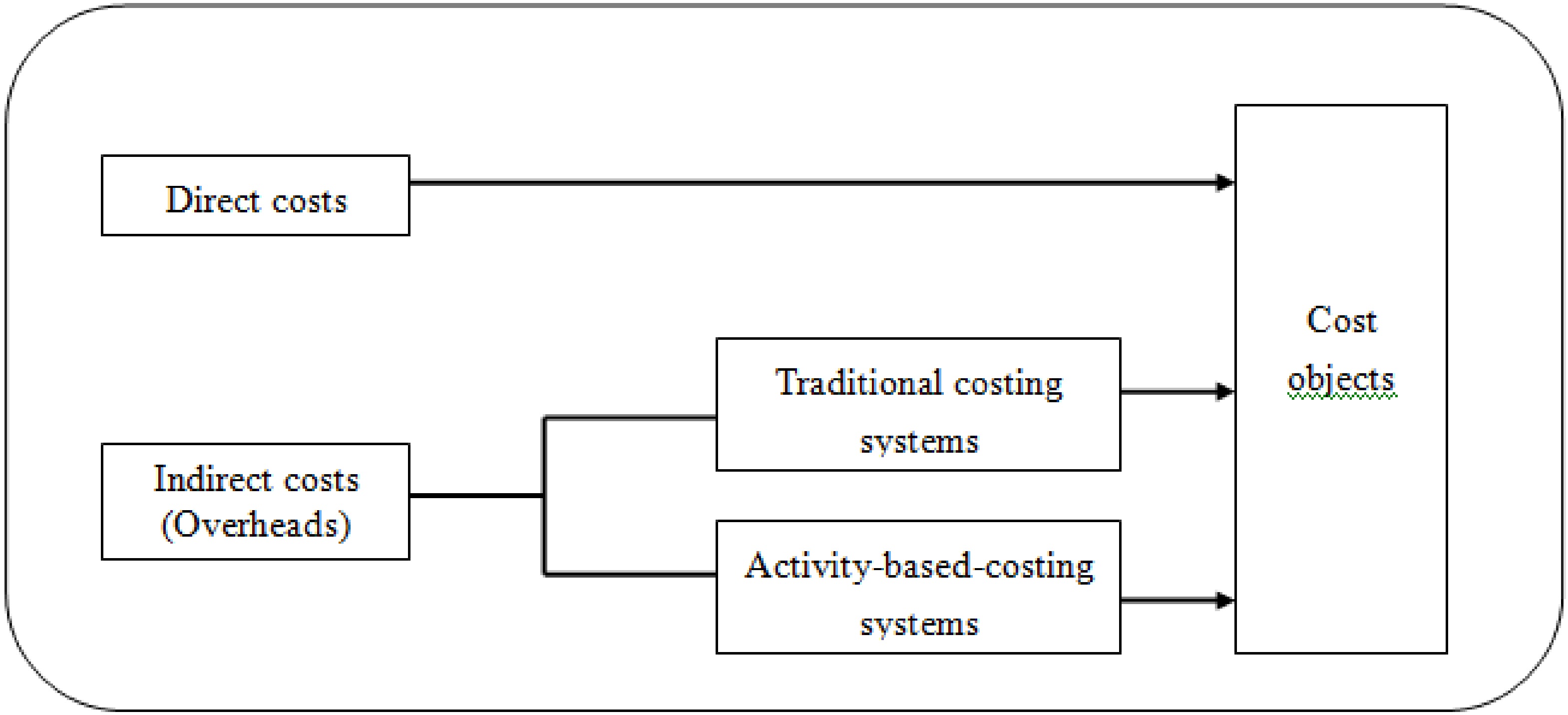
Difference in reported profit for Absorption Costing and Marginal Costing

	Increase/(Decrease) in closing stock	Cost	Net Income
In Period ***(Production = Sales)***	No change	AC = MC	AC = MC
In Period ***(Production > Sales)***	Increase	AC < MC	AC > MC
In Period ***(Sales > Production)***	(Decrease)	AC > MC	AC < MC

Relationship between inventory level and net profit figure.

Reconciliation of the difference in net profit may be required.

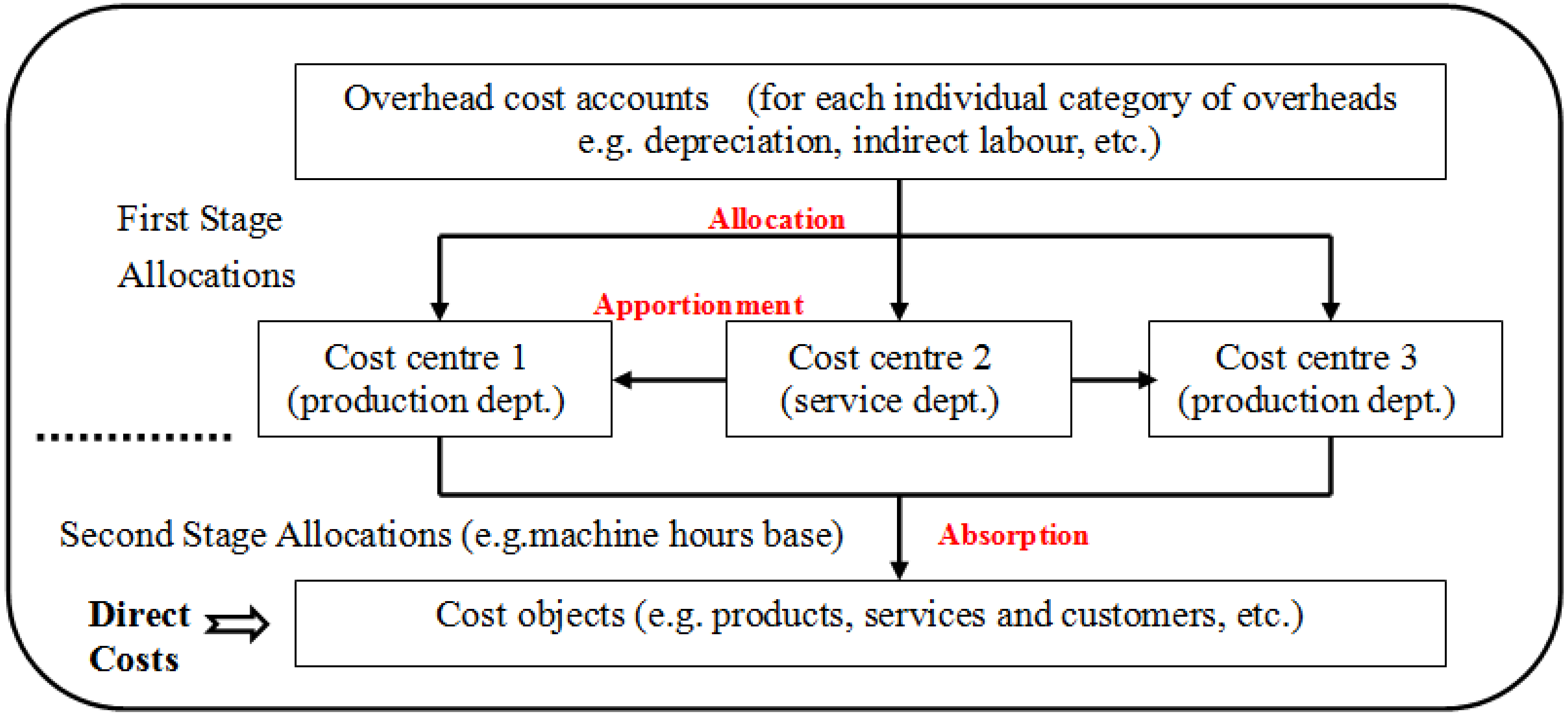
Job Costing – Cost Assignment



Cost allocations and cost tracing

Job Costing – Cost Assignment

The two-stage overhead allocation process for a traditional costing system



Job Costing – Cost Assignment

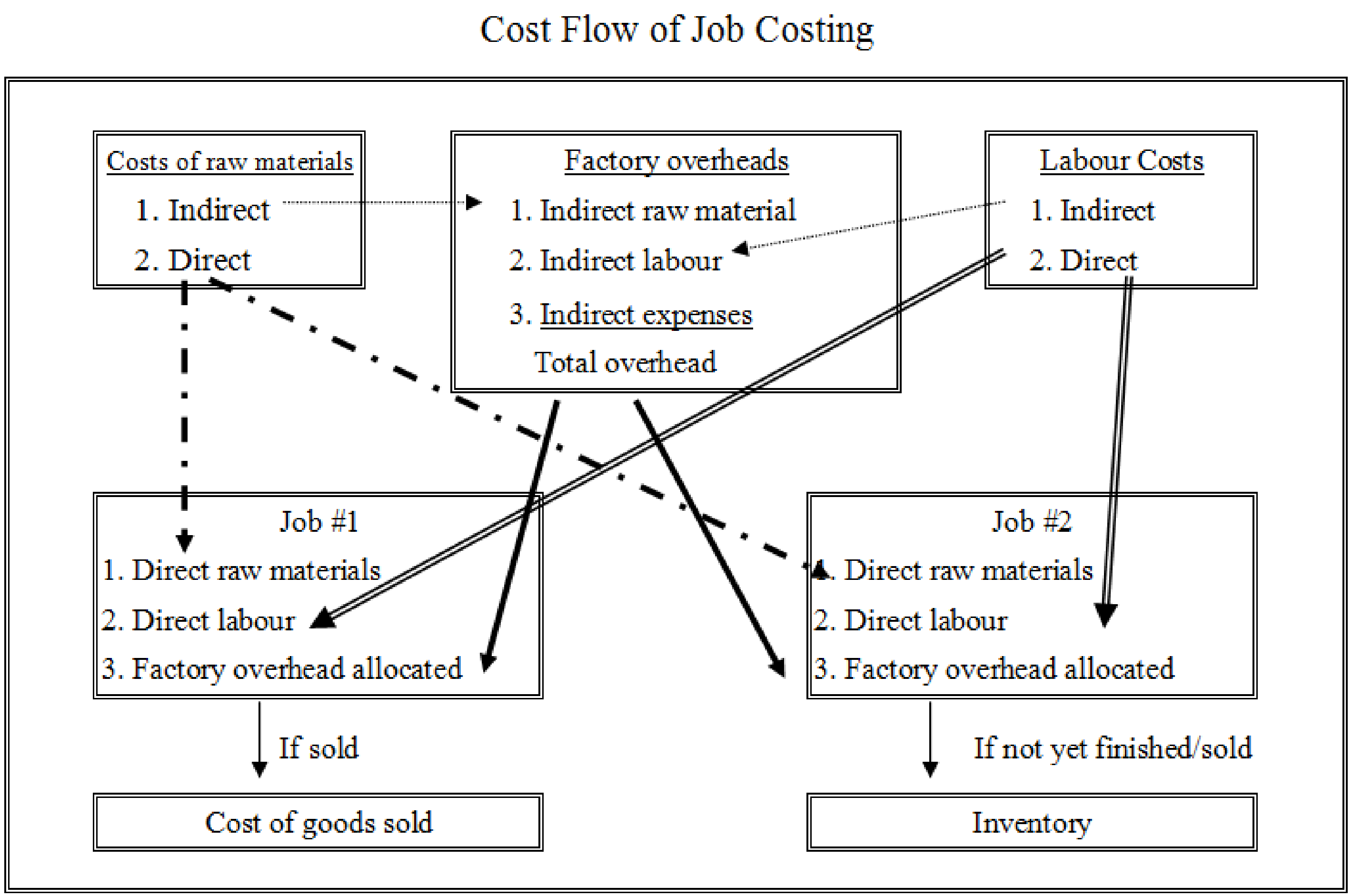
1. **Overhead Allocation**
   Basis of allocation e.g. area occupied, machine value, no. of workers.
2. **Overhead Apportionment**
   Re-apportion OH of service dept. to production dept. (problem of inter-service : Direct method, Repeated distribution, Simultaneous equation)

Job Costing – Cost Assignment

3. Overhead Absorption

- **Single vs Multiple Overhead Absorption Rate**
  (Blanket rate vs Departmental rates)
- **Actual vs Predetermined Overhead Absorption Rate**
  (Acutal Costing vs Normal Costing)
- **Over- or Under-absorbed Overhead**

Job Costing – Final calculation



Note: The above Flow Chart assumes that there is only ***one single production department*** in the factory. It further assumes that ***no direct expenses*** are incurred.

Cost-Volume-Profit Analysis

<u>Contribution Margin Concept</u>

Contribution margin is the excess of sales revenues over variable costs.

$$\text{Contribution margin} = \text{Sales} - \text{variable costs}$$

Contribution margin per unit is the dollars from each unit of sales available to cover fixed costs and provide income from operations.

$$\begin{array}{c}\text{Contribution margin per unit} \\ \text{(Unit contribution margin)}\end{array} = \frac{\text{Sales} - \text{Variable costs}}{\text{No of unit}}$$

Contribution margin ratio (profit-volume ratio) indicates the percentage of each sales dollar available to cover the fixed costs and to provide income from operation.

$$\boxed{\text{Contribution margin ratio/percentage}} = \frac{\text{Sales} - \text{Variable costs}}{\text{Sales}}$$

Cost-Volume-Profit Analysis

Break-even Analysis

The break-even point is the level of operations at which a business's revenues and expired costs are exactly equal.

$$\text{Break-even sales (units)} = \frac{\text{Fixed Costs}}{\text{Unit contribution margin}}$$

$$\boxed{\text{Sales units for target profit} = \frac{\text{Fixed Cost + Target profit}}{\text{Unit contribution margin}}}$$

Alternative method to calculate break-even sales and sales for target profit

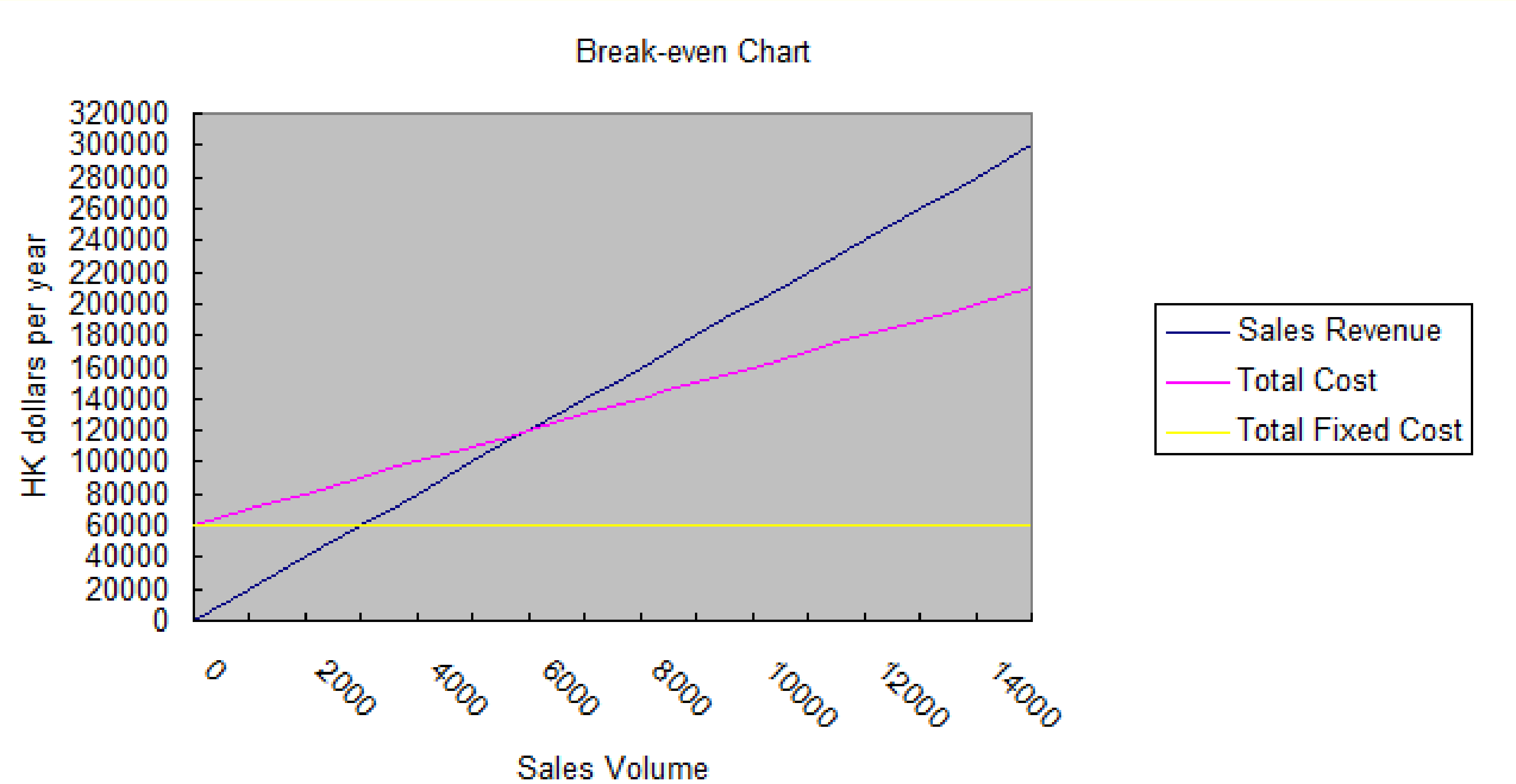
Net profit = (Sales revenue * P/V ratio) – Fixed Costs

➔ Net Profit + Fixed Costs = Sales revenue * P/V ratio

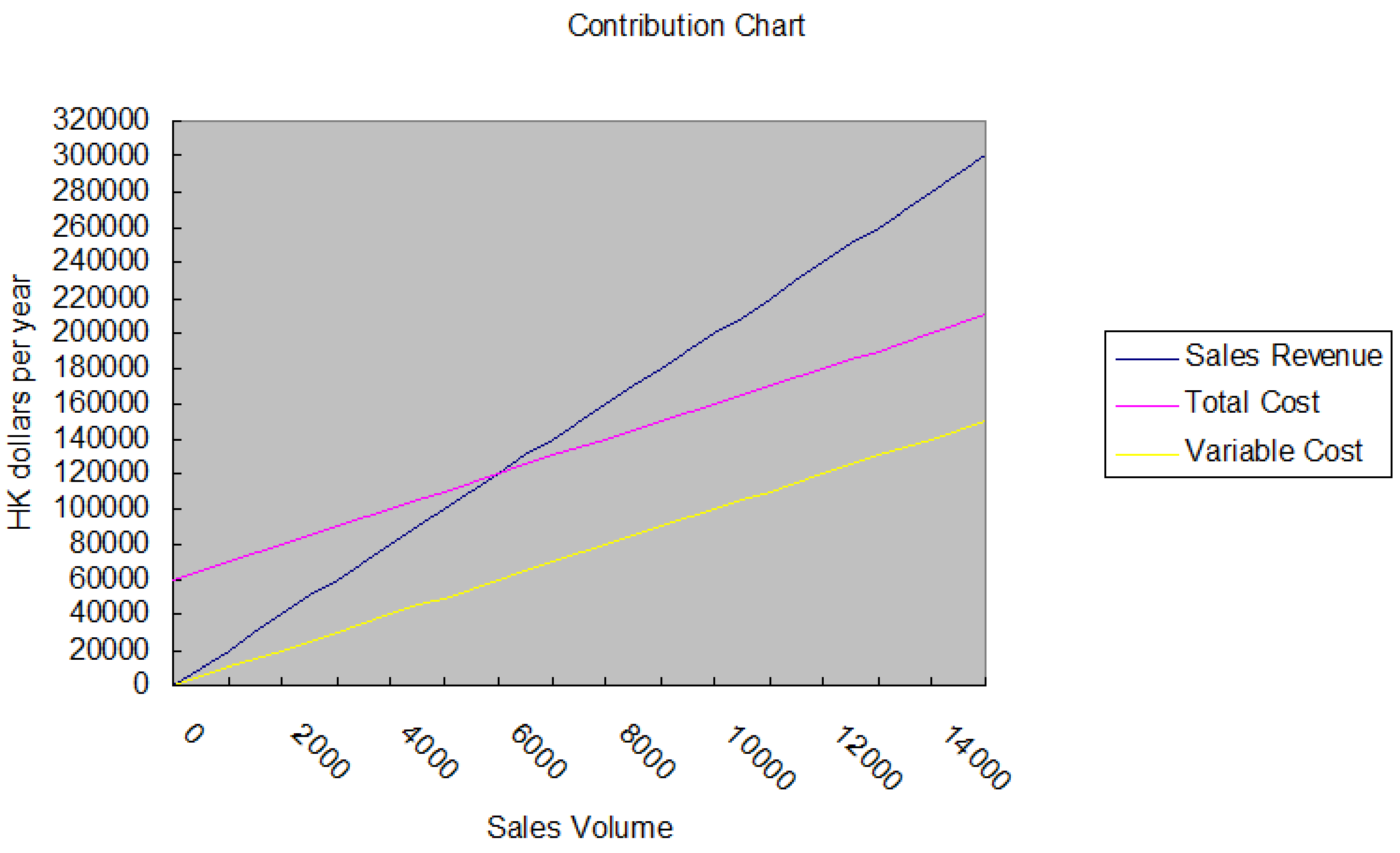
➔ Sales revenue = (Fixed Costs + Net Profit)/ P/V ratio (General Case)

➔ If Net Profit = 0, Breakeven sales = Fixed Costs/ P/V ratio (Specific Case)

Cost-Volume-Profit Analysis

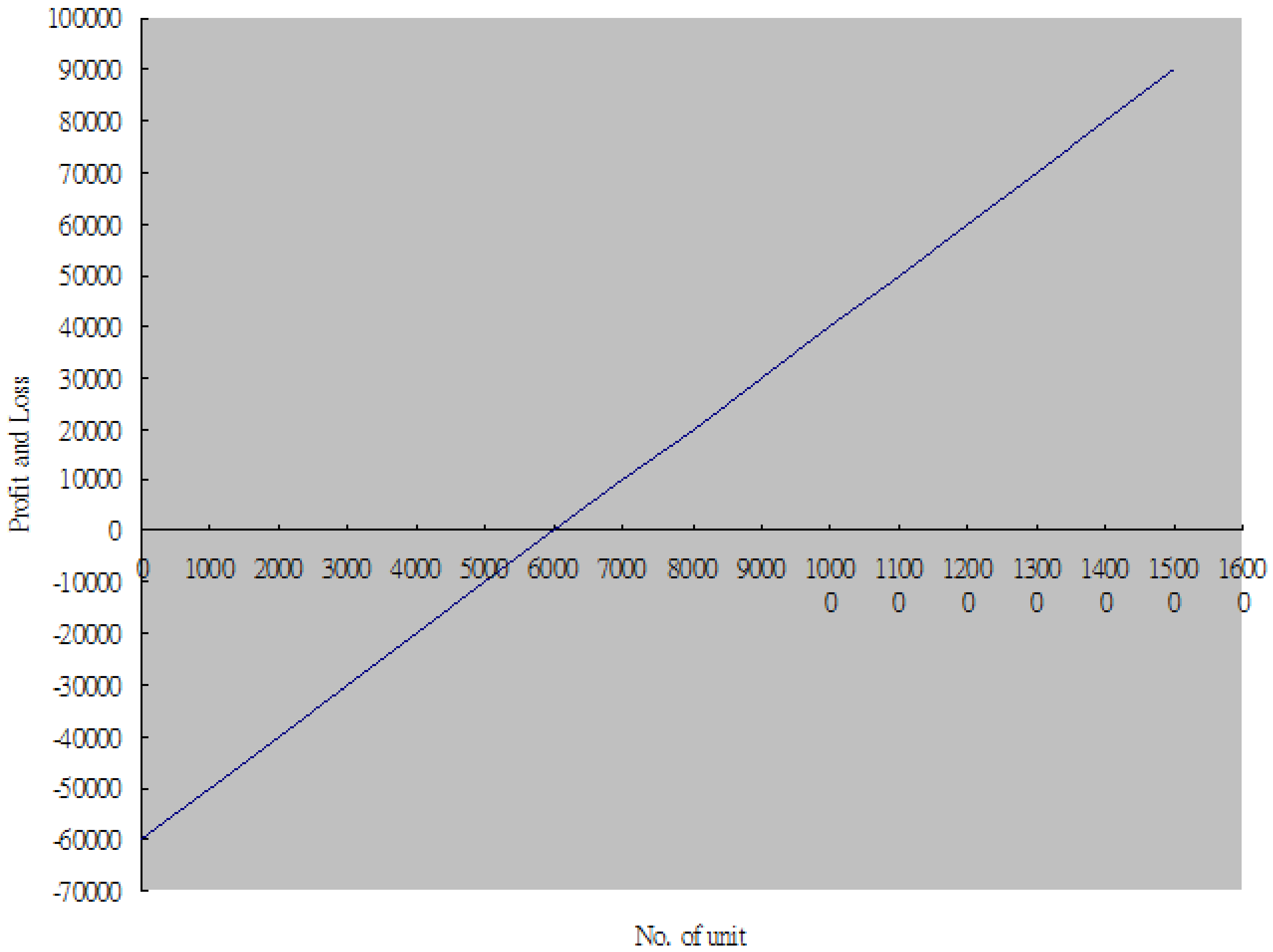


Cost-Volume-Profit Analysis



Cost-Volume-Profit Analysis

Profit-volume Graph



Cost-Volume-Profit Analysis

<u>Margin of Safety</u>

$$\text{Margin of Safety} = \text{Current sales revenue} - \text{Sales at the break-even point}$$

$$\text{Margin of Safety in percentage} = \frac{\text{Current sales revenue} - \text{Sales at the break-even point}}{\text{Current sales revenue}}$$

$$\text{Margin of Safety in units} = \frac{\text{Margin of Safety (or Sales * \% Margin of Safety)}}{\text{Unit selling price}}$$

Margin of safety indicates the possible decrease in sales that may occur before an operating loss results. To cite an example, if the margin of safety is low, even a small decline in sales revenue may result in an operating loss.

Cost-Volume-Profit Analysis

- Multi-product cost-volume-profit anaylsis (with limiting factors)
- Separation of semi-variable costs

	Volume of production (Units)	Indirect costs ($)
Lowest activity	5,000	22,000
Highest activity	10,000	32,000

If variable costs are constant per unit and the fixed costs remain unchanged the increase in costs will be due entirely to an increase in variable costs. The variable cost per unit is therefore calculated as follows:

$$\frac{\text{Difference in cost}}{\text{Difference in activity}} = \frac{\$10{,}000}{5{,}000 \text{ units}}$$

$$= \$2 \text{ variable cost per unit of activity}$$

Short-term Decision Making

- Sunk costs, Incremental costs and Opportunity costs

Relevant costs	Irrelevant costs
• Variable costs	• Fixed costs
• Avoidable costs	• Unavoidable costs
• Opportunity costs	• Sunk costs
• Incremental costs	• Historical costs
• Marginal costs	• Joint costs
	• Committed costs
	• Notional costs

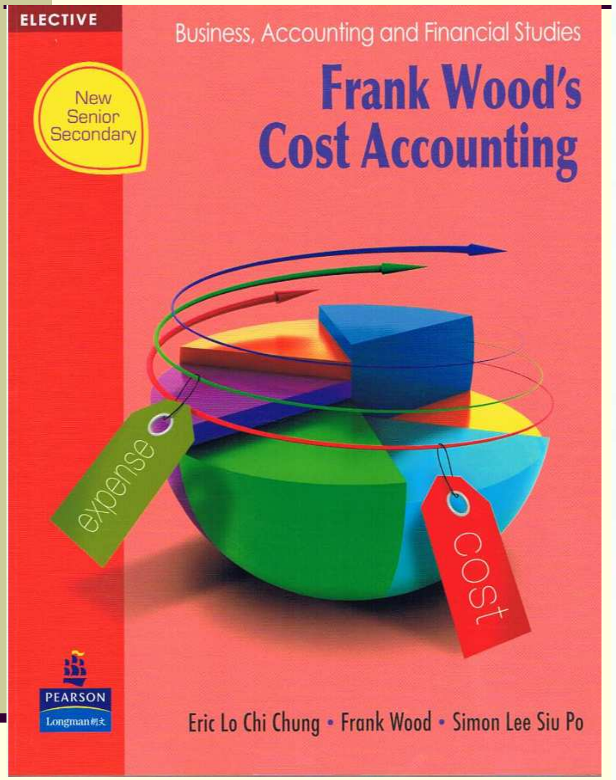
Replacement costs?? Net Realisable Value??

Short-term Decision Making

Apply costing concepts and techniques in business decision.

- hire, make or buy
- accept or reject an order at a special price
- retain or replace equipment
- sell or process further
- eliminate or retain an unprofitable segment

Teaching Resources - Textbooks



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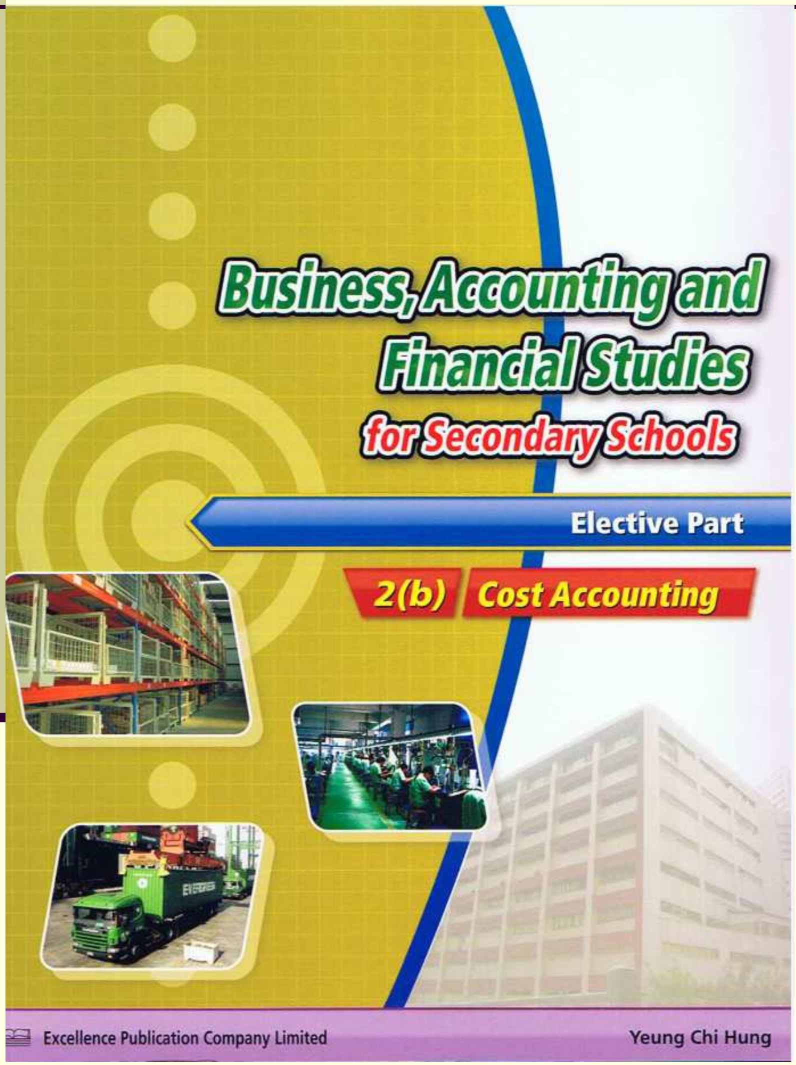

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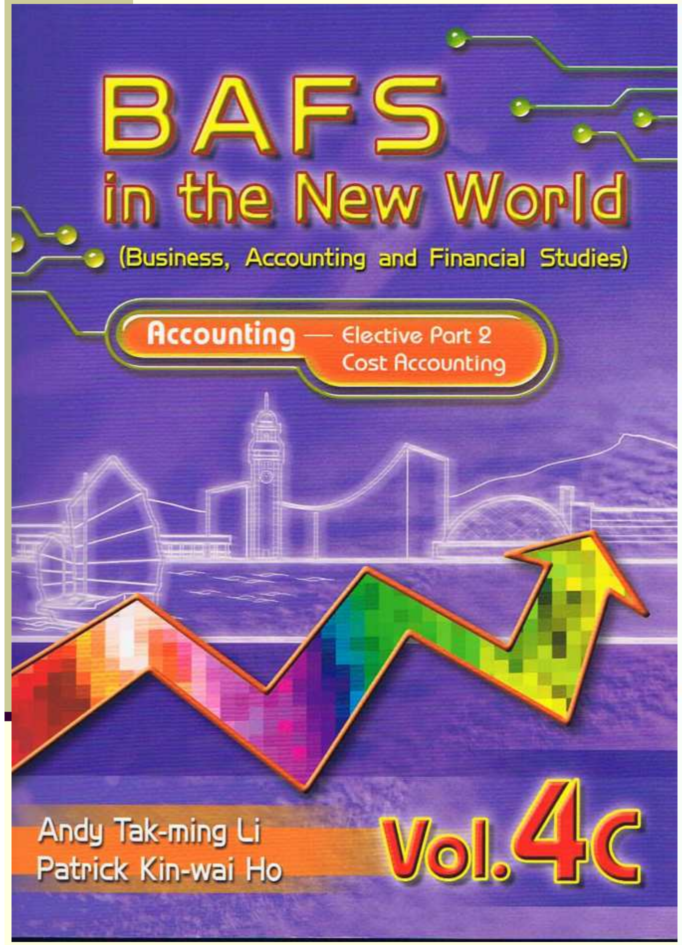

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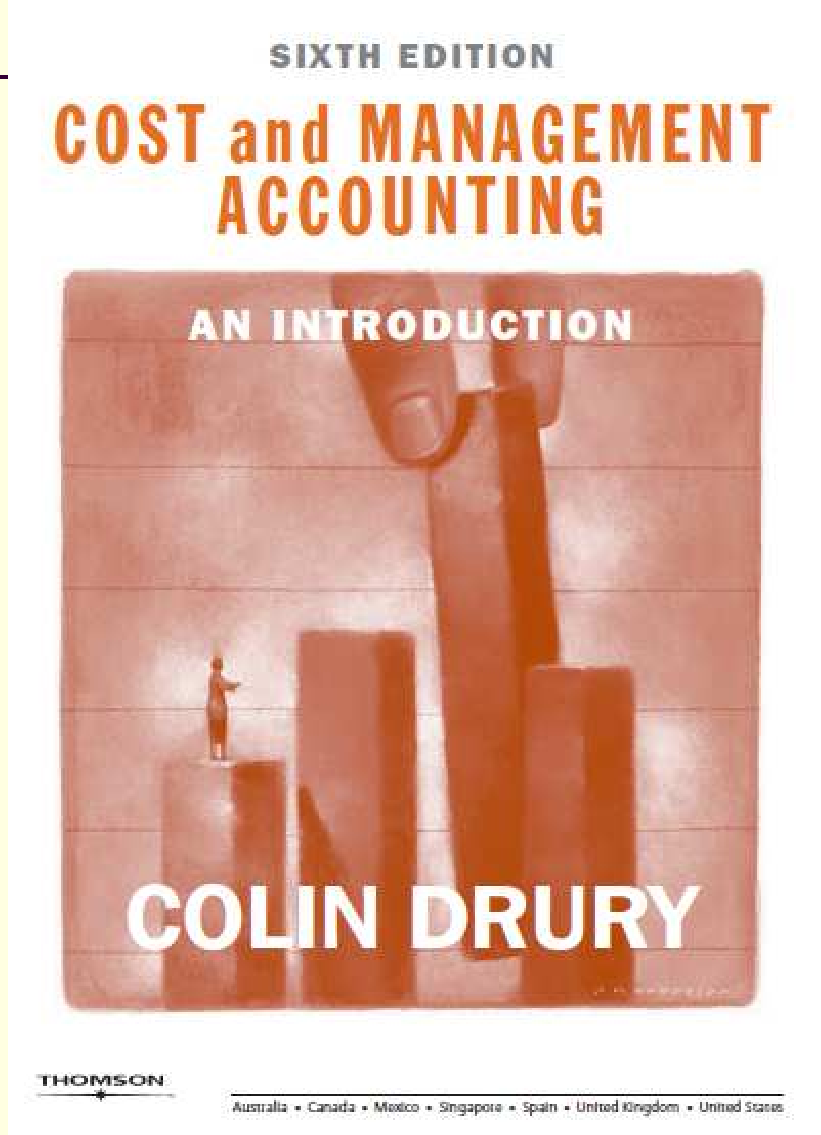

Teaching Resources – AL Past Papers

Questions from AL Exam which are relevant to HKDSE

TOPIC I: Cost classification, concepts and terminology

- Explain the general nature of cost accounting and appreciate its importance for financial decision making.
- Distinguish between direct and indirect costs, fixed and variable costs, and factory and administrative overheads.

TOPIC II: Job costing

- Explain the job costing system for manufacturing operations.110
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- Illustrate the allocation and apportionment of costs to a single job or product.

2005 II Q.1 (30%) – cost assignment (repeated distribution method) and job costing
(with 8% decision making – Special order)

TOPIC III: Marginal and Absorption costing

- Compare the use of marginal and absorption costing in preparing manufacturing accounts and income statements.
- Compare the advantages and disadvantages of adopting marginal and absorption costing.

2004 II Q.2 part d (i) – marginal cost (4%) + part d (ii) – CVP (2%)
2005 II Q.2 part a (7%) + part d (8%) decision making

Teaching Resources – AL Past Papers

TOPIC IV: Cost accounting for decision making

- Identify the nature of various cost items and their relevance to decision making: sunk costs, incremental costs and opportunity costs.
- Apply costing concepts and techniques in business decision, e.g. hire, make or buy, accept or reject an order at a special price, retain or replace equipment, sell or process further, and eliminate or retain an unprofitable segment.
- Conduct CVP analysis to assess the effects of changes in costs, selling price and units sold on the breakeven point and target profit.

2004 II Q.5 (20%) – make or buy decision
2005 II Q.5 (20%) – CVP
2006 II Q.1 (30%) – CVP + decision making (special order 13%)
2007 II Q.2 part c (4%) + part f (9%) CVP [also part a and b cost behavior 7%]
2007 II Q.5 part a and b (11%) – CVP
2008 II Q.2 part b and c and d (16%) – CVP
2009 II Q.2 part a, b, c, d and e (23%) – decision making
2009 II Q.5 part c, d, e and f (11%) - CVP
2010 II Q.3 (20%) – CVP
2010 II Q.4 part a and b (8%) – decision making (production ranking)