
Chapter 4

Job Order Costing

Job Costing vs. Process Costing
Procedure of Job Costing
Actual vs. normal Costs

Building Block Concepts of Costing Systems

The following five terms constitute the building blocks that will be used in this chapter:

- 1 A *cost object* is anything for which a separate measurement of costs is desired.
- 2 *Direct costs of a cost object* are costs that are related to the particular cost object and can be traced to it in an economically feasible way.
- 3 *Indirect costs of a cost object* are costs that are related to the particular cost object but cannot be traced to it in an economically feasible way.
- 4 *Cost pool* is a grouping of individual cost items.
- 5 *Cost allocation base* is a factor that is the common denominator for systematically linking an indirect cost or group of indirect costs to a cost object.

Cost Pools

- **Accounting subdivides costs in different categories according to traceability**
 - **Assume we intend to trace factors to products. Then we form a separate cost pool for the costs traceable to each product.**
 - Costs that may be traced to a product go to the respective pool.
 - **Costs that cannot be traced to an individual product are recorded in an overhead cost pool.**
 - Should there be costs that cannot be traced to a single product but to a group of products, we may form a cost pool for the group of products.
- **The attempt to trace costs to products serves the desire to know something about product profitability.**

Types of Cost Pools

- **Product cost pool: collects costs that are associated to any set of products.**
 - **Direct Product Cost Pool: a product cost pool that is associated with a single product**
 - i.e. direct costs are traceable to a single product
 - **Indirect Product Cost Pool: collects product costs that are not directly traceable to individual products but allocated to them according to an allocation base determined as part of the accounting system**
- **Expenses that are neither traceable nor allocated to products are associated with the time period**
- **Matching Principle: Product costs are expensed in the period in which the revenue is realized, period-related expenses are charged against the income of the period.**

Generalization: Cost Objects and Activities

- **Not only products for sale can be cost objects.**
 - Also a customer,
 - a product category,
 - a period,
 - a project (R&D or reorganization),
 - an activity or
 - a department

may qualify as a cost object and, consequently, have a separate cost pool.

Job-Costing and Process-Costing Systems

- There are two basic systems used to assign costs to products or services:
 - 1 Job costing
 - In a *job-costing system*, the cost object is an individual unit, batch, or lot of a distinct product or service called a *job*.
 - 2 Process costing
 - In *process costing*, the cost object is masses of identical or similar units of a product or service.
 - Process costing allocates costs among all the products manufactured during that period.

1. General Approach to Job Costing

- The following *seven-steps approach* is used to assign *actual costs* to individual jobs:
 - 1 Identify the chosen cost object(s).
 - 2 Identify the direct costs of the job.
 - 3 Select the cost-allocation base(s).
 - 4 Identify the indirect costs associated with each cost-allocation base
 - 5 Compute the rate per unit of each cost-allocation base used to allocate indirect costs to the job.
 - 6 Compute the indirect costs allocated to the job.
 - 7 Compute the cost of the job by adding all direct and indirect costs assigned to it.

Example

- **Swing&Squeak (Sw&Sq) Limited manufactures various sporting goods.**
- **Sw&Sq is planning to sell a batch of 25 special machines (Job 100) to Sweat & Groan Gym for \$104,800.**
- **The 7 steps:**
 - **Step 1: The cost object is Job 100.**
 - **Step 2: Identify the direct costs of Job 100.**
 - Direct material = \$45,000
 - Direct manufacturing labor = \$14,000
 - **Step 3: Select the cost-allocation base.**
 - S&S chose machines hours as the only allocation base for linking all indirect manufacturing costs to jobs.
 - ◆ Job 100 used 500 machine hours.
 - ◆ 2,480 machine hours were used by all jobs.
 - **Step 4: Identify the indirect costs.**
 - ◆ Actual manufacturing overhead costs were \$65,100.

Direct materials	\$45,000
Direct labor	14,000
Factory overhead	<u>13,125</u>
Total	\$72,125

Step 5: Compute the rate per unit.

- **Actual indirect cost rate is $\$65,100 \div 2,480 = \26.25 per machine hour.**

Step 6: Compute the indirect costs allocated to the job.

- **$\$26.25$ per machine hour \times 500 hours = $\$13,125$**

Step 7: Compute the cost of Job

Actual Costing and Normal Costing

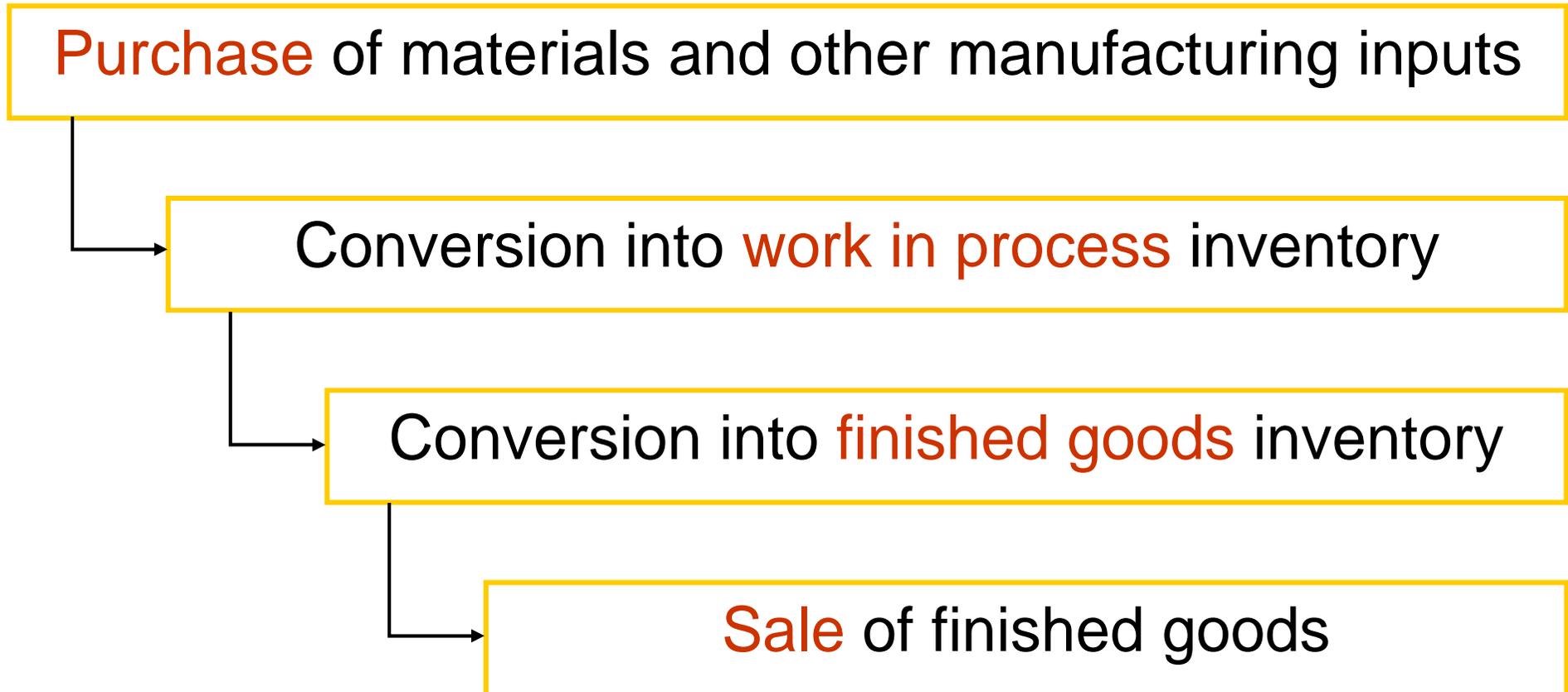
- ***Actual Costing*** is a job-costing system that uses actual costs to determine the cost of individual jobs.
 - Actual costing is a method of job costing that traces direct costs to a cost object by the **actual direct-cost rate(s)** times the **actual quantity of the direct cost input(s)**
 - **and allocates indirect costs** using indirect costs to a cost object by using the **actual indirect-cost rate(s)** times the **actual quantity of the cost allocation base**.
- ***Normal Costing*** allocates indirect costs based on the **budgeted indirect-cost rate(s)** times the **actual quantity of the cost allocation base(s)**.

Normal Costing

- Assume that S&S budgets \$60,000 for total manufacturing overhead costs and 2,400 machine hours.
- What is the budgeted indirect-cost rate?
 - $\$60,000 \div 2,400 = \25 per hour
- How much indirect cost was allocated to Job 100?
 - $500 \text{ machine hours} \times \$25 = \$12,500$
- What is the cost of Job 100 under normal costing?

➤ Direct materials	45,000
Direct labor	14,000
Factory overhead	<u>12,500</u>
Total	\$71,500

Transactions



Procurement of Materials

\$80,000 worth of materials (direct and indirect) were purchased on credit.

Materials	
Control	
<hr/>	
80,000	

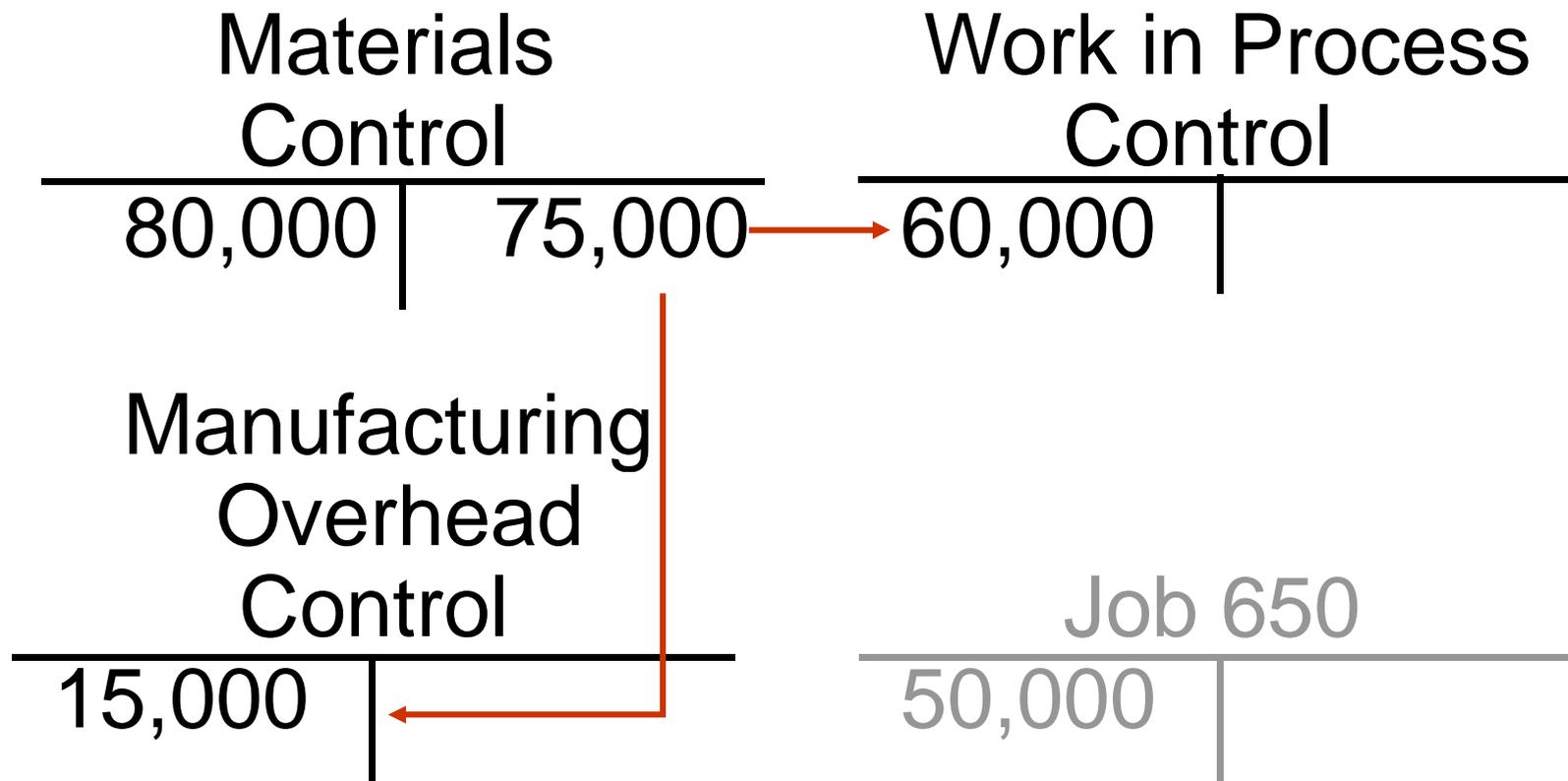
Accounts Payable	
Control	
<hr/>	
	80,000

Materials to Work in Process

- When materials go to the production space they add to “Work in Process”
- Materials costing \$75,000 were sent to the manufacturing plant floor.
 - \$50,000 were issued to Job No. 650 and
 - \$10,000 to Job 651.
 - \$15,000 of indirect materials were issued.
- What is the journal entry?

Work in Process Control:		
Job No. 650	50,000	
Job No. 651	10,000	
Factory Overhead Control	15,000	
Materials Control		75,000

T – Account Representation



Accounting for Wage Cost

- Total manufacturing payroll for the period was \$27,000.
- Job No. 650 incurred direct labor costs of \$19,000 and
- Job No. 651 incurred direct labor costs of \$3,000.
- \$5,000 of indirect labor was also incurred.
- What is the journal entry?

Work in Process Control:		
Job No. 650	19,000	
Job No. 651	3,000	
Manufacturing Overhead Control	5,000	
Wages Payable		27,000

T – Account Representation

Wages Payable Control	
<hr/>	
	27,000

Work in Process Control	
<hr/>	
60,000	
22,000	

Manufacturing Overhead Control	
<hr/>	
15,000	
5,000	

Job 650	
<hr/>	
50,000	
19,000	

Manufacturing Overhead Costs

- Assume that depreciation for the period is \$26,000.
- Other manufacturing overhead incurred amounted to \$19,100.
- What is the journal entry?

Manufacturing Overhead Control	45,100	
Accumulated Depreciation Control		26,000
Various Accounts		19,100

- What is the balance of the Manufacturing Overhead Control account?

T- Account Representation

- \$62,000 of overhead was allocated to the various jobs of which \$12,500 went to Job 650.

- Work in Process Control

62,000

- Manufacturing Overhead Control

62,000

- What are the balances of the control accounts?

Manufacturing Overhead Control

15,000	62,000
5,000	
45,100	
Bal. 3,100	

Work in Process Control

60,000	
22,000	
62,000	
Bal. 144,000	
Job 650	
50,000	
19,000	
12,500	
Bal. 81,500	

Work in Process to Finished Goods

- Jobs costing \$104,000 were completed and transferred to finished goods, including Job 650.
- What effect does this have on the control accounts?

Work in Process Control		Finished Goods Control	
60,000	104,000	104,000	
22,000			
62,000			
Bal. 40,000			



Sale

- Job 650 was sold for \$114,800.
- What is the journal entry?

Accounts Receivable Control	114,800	
Revenues		114,800
Cost of Goods Sold	81,500	
Finished Goods Control		81,500

Marketing & Administrative Costs

- What is the balance in the Finished Goods Control account?
- $\$104,000 - \$81,500 = \$22,500$
- Assume that marketing and administrative salaries were \$9,000 and \$10,000.
- What is the journal entry?

Marketing and Administrative Costs	19,000	
Salaries Payable Control		19,000

Inventory Accounts and Cost of Goods Sold

	Direct Materials Used	\$60,000
+	Direct Labor and Overhead	\$84,000
-	Cost of Goods Manufactured	<u>\$104,000</u>
=	Ending WIP Inventory	\$40,000
	Cost of Goods Manufactured	\$104,000
-	Ending Finished Goods Inventory	<u>\$22,500</u>
=	Cost of Goods Sold	\$81,500

Underallocated and Overallocated Costs

Underallocated indirect costs:

The allocated amount of indirect costs is lower than the actually incurred amount

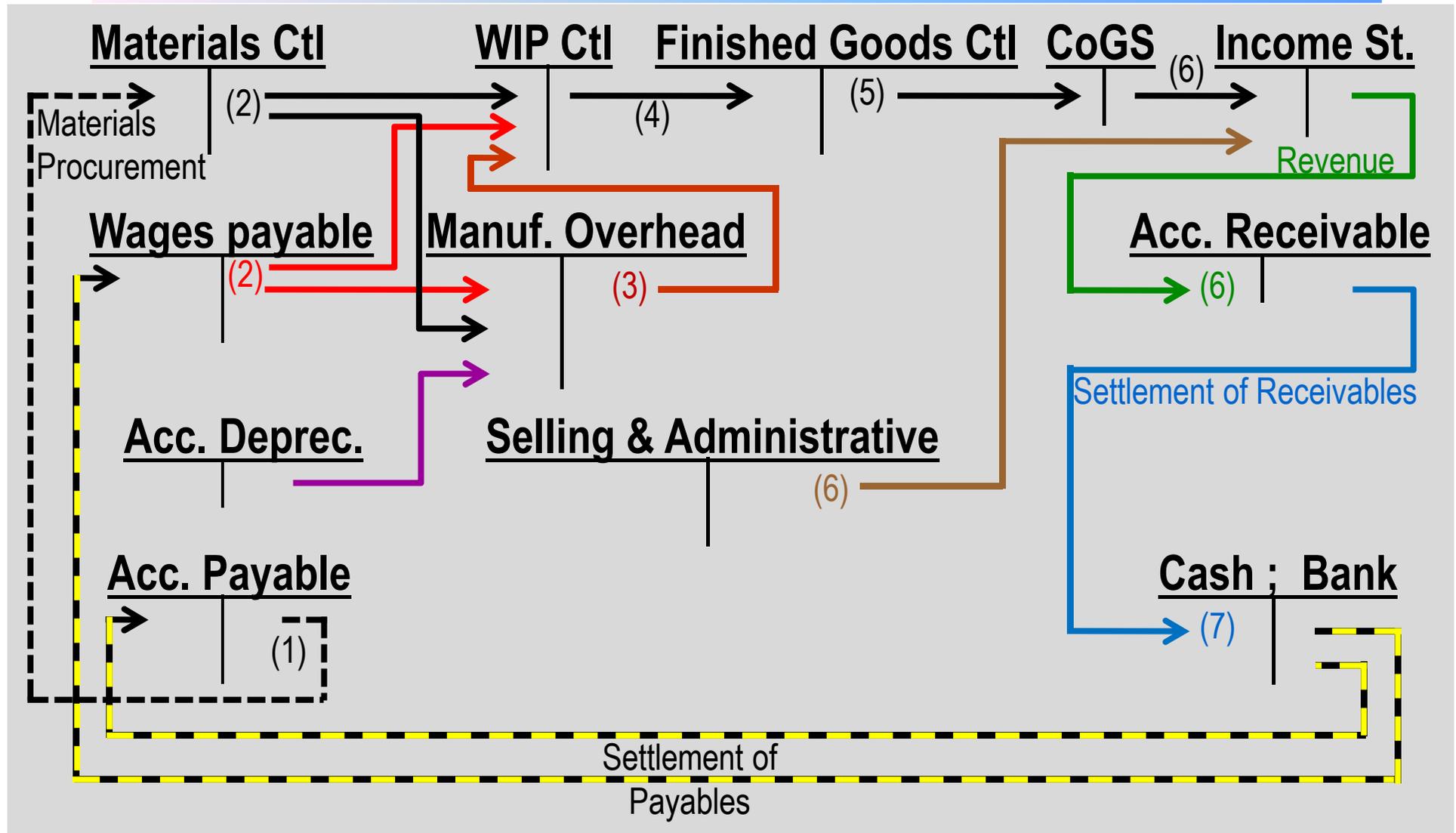
Overallocated indirect costs:

The allocated amount of indirect costs is higher than the actually incurred amount

One possibility to balance the accounts: Write-Off to Cost of Goods-Sold:

Cost of Goods Sold	3,100	
Manufacturing Overhead Control		3,100

Transactions and Flow of Costs



Absorption Costing

- **Absorption Costing allocates all manufacturing costs to individual products.**
 - **The typical “product” is a specific manufacturing job to which direct costs are traced.**
 - **For each indirect cost pool (“Overhead”) an allocation base is defined and an “overhead rate” (= amount in the cost pool / total units of the allocation base).**
 - Allocation bases are traceable to products
 - Overhead cost (in pool) allocated to the product =
= units of pool-specific allocation base traced to product
× pool-specific overhead rate.
 - Common allocation bases are e.g.
 - ◆ direct labor costs
 - ◆ machine hours used for the job

Incentive Effect of Absorption Costing

- **With Absorption Costing “cost averages can even be calculated for each product as well. Of course, this is silly, but one can do it. (Some even do.)”** (*Joel Demski, Managerial Uses of Accounting Information, 2008, p. 64*).
 - **The IFRS, e.g., require absorption cost-based unit costs for inventory valuation (see [IAS 2,10-18](#)).**
- **Incentive Effects of Absorption Costing**
 - **A manager deciding on the production volume may enhance period income by excessive production to inventory.**
 - He thus “rescues” the fixed costs from being expensed in the current period. This may make sense when the production capacity is scarce, such that the inventory enables additional sales in the next period or when variable cost is expected to rise. Inventory, however, is a risky asset. It may become obsolete or destroyed before it can be utilized. Usually, therefore, the incentive to build inventory will be unwarranted.

Two Major Cost Objects

1 Products

2 Responsibility centers

- **Overhead costs may go to separate pools according to responsibility centers for control purposes**
 - (Cost centers, Profit centers, or other)
- **Responsibility centers may participate in manufacturing products or render services for other centers.**
- **Responsibility Centers use to be responsible for one or more output(s) measured by an allocation base**
- **Later on we will treat the problem of how to determine allocation rates in the case of cycles or reciprocal services**

Exercise:

What is the total cost of the stay of patient Fred Adams?

- Cowley County Hospital uses a job-costing system for all patients who have surgery. In March, the pre-operating room (PRE-OP) and operating room (OR) had budgeted allocation bases of 4,000 nursing hours and 2,000 nursing hours, respectively. The budgeted nursing overhead charges for each department for the month were \$168,000 and \$132,000, respectively. The hospital floor for surgery patients had budgeted overhead costs of \$1,200,000 and 15,000 nursing hours for the month. For patient Fred Adams, actual hours incurred were eight and four hours, respectively, in the PRE-OP and OR rooms. He was in the hospital for 4 days (96 hours). Other costs related to Adams were:

	Pre-OP-costs	OR-costs	In-room-costs
Patient medicine	\$ 200	\$500	\$2,400
Direct nursing time	\$1,000	\$ 2,000	\$ 3,000

\$ 17 380 31

4-30 Data

Budget 2003	Machining dept.	Finishing dept.
Manufacturing overhead	\$ 10,000,000	\$ 8,000,000
Direct manuf. labor cost (allocation base for finishing)	\$ 900,000	\$ 4,000,000
Direct manuf. labor hours	30,000	160,000
Machine hours (allocation base for machining)	200,000	33,000
Job 431, 200 units of product	Machining dept.	Finishing dept.
Direct materials used	\$ 14,000	\$ 3,000
Direct manuf. labor cost	\$ 600	\$ 1,250
Direct manuf. labor hours	30	50
Machine hours	130	10
Actual amounts, end year 2003	Machining dept.	Finishing dept.
Manufacturing overhead incurred	\$ 11,200,000	\$ 7,900,000
Direct manuf. labor costs	\$ 950,000	\$ 4,100,000
Machine hours	220,000	32,000

4-30 Overview of the job-costing system

