

MANAGERIAL ACCOUNTING

Hilton Chapter 3 Adobe Connect

We change gears dramatically in managerial accounting. Because of the limited time we have, we do not cover many advanced concepts.

An overview of the material we will cover

Cost behavior (Chapters 2 and 6)

Different cost accounting systems

- Job-order or product costing (Chapter 3)
- Process costing (Chapter 4)
- Activity-based-costing (ABC) (Chapter 5)

Cost-volume-profit (CVP) (Chapter 7)

Balance scorecard only (Chapter 12)

Decision Making (Chapter 14)

Chapters 7 and 14, important topics for MBA students, will be disproportionately weighted on the final exam.

COSTING METHODS

Job-order (product) costing (Chapter 3)

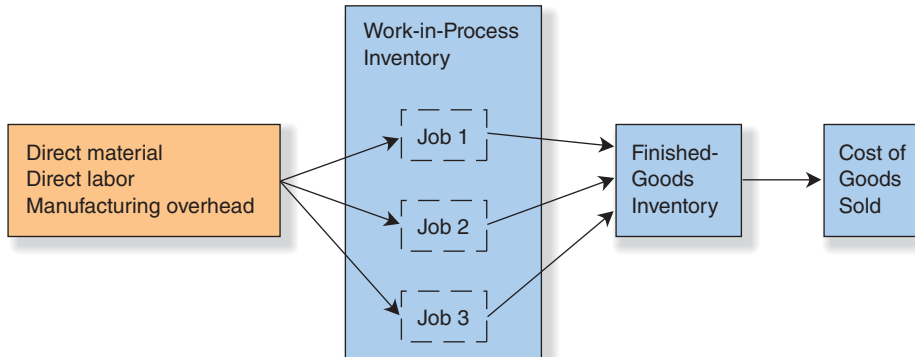
- Distinct production jobs that are significantly different.
- Usually job-order or batch production
- Costs are accumulated by job or batch
 - **Project costing** *refers to job costing in a nonmanufacturing environment.* "Jobs" in this case refer to cases, contracts, and/or programs.

Process costing (Chapter 4)

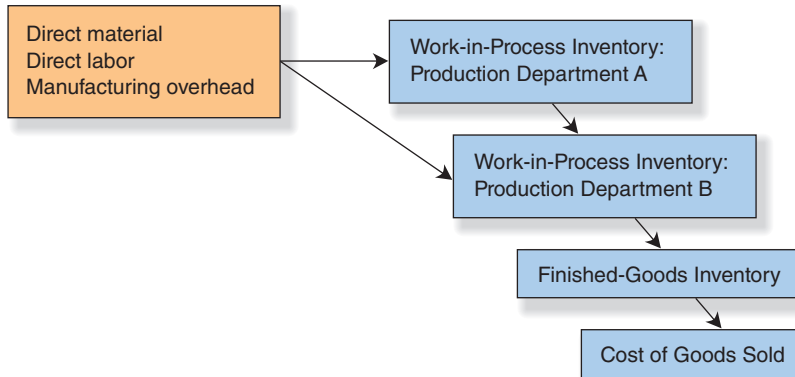
- Used by firms with large numbers of identical units
- Usually continuous production
- Costs are accumulated by department

Hybrid costing systems, e.g., Operation Costing

- Batch environment
- Conversion costs similar across product lines,
- Direct materials and direct labor significantly different across product lines

A. Job-Order Costing: Accumulates Costs by Job Order**Exhibit 4–2**

Comparison of Job-Order and Process Costing

B. Process Costing: Accumulates Costs by Production Department

These methods have been used for a long time, and they are well-established in companies. In Chapter 5, we will introduce a third method, **Activity Based Costing (ABC)**.

INVENTORIES

For manufacturing firms, the following are costs are accumulated:

- Raw materials inventory
- Work-in-process inventory
 - Direct materials
 - Direct labor
 - Manufacturing overhead
 - Indirect materials
 - Indirect labor
 - Other
- Finished-goods inventory
- Cost of goods sold

CHAPTER 3

Product Costing and Cost Accumulation in a Batch Production Environment

The purpose of the cost accounting system is to assign manufacturing costs to units produced.

- Direct materials
- Direct labor
- Manufacturing overhead

OVERHEAD

Overhead is incurred during the period. It is usually charged to (debited to) the account Manufacturing Overhead as overhead is incurred.

Overhead Application

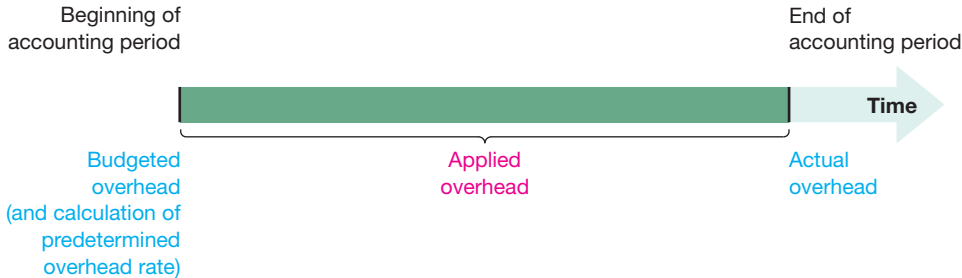
- Generally, overhead is allocated during a period using a **predetermined overhead rate** (*budgeted overhead / budgeted activity*)
- When applied, Manufacturing Overhead account is credited
- This process is called **normal costing** in the chapter

Predetermined manufacturing overhead rate per unit of activity	=	Budgeted (estimated, predicted) total manufacturing overhead cost for the year <hr style="width: 100%;"/> Budgeted (predicted) units of activity (1)
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(1) E.G., direct labor hours, machine hours

Summary of Overhead Accounting

As the following time line shows, three concepts are used in accounting for overhead. Overhead is *budgeted* at the *beginning* of the accounting period, it is *applied* during the period, and *actual* overhead is measured at the *end* of the period.



- A **single overhead rate** is commonly known as a **plantwide rate**;
- Multiple rates are often known as **departmental rates**.
- **Overhead is applied using some type of cost driver** (discussed in much more depth in Chapter 5)
 - *Direct labor* has been a very common and appropriate cost driver. Past processes were labor intensive.
 - Today, many processes are automated and less dependent on labor. Thus, firms now use **machine hours, process time, throughput (cycle) time** (the average amount of time to convert raw materials into finished goods), and **other measures** as cost drivers.
 - **Overhead may be allocated in a two-stage cost allocation process** (discussed in much more depth in Chapter 5)

Incurrence of actual overhead

- Overhead costs are recorded during the period as incurred and charged to a manufacturing overhead account

End of Period Adjustment: Applied overhead versus actual overhead

- Adjusting the *overapplied* or *underapplied* overhead at the end of the accounting period

Manufacturing Overhead

Debited for actual overhead costs incurred	Credited for overhead applied , using <i>predetermined overhead rate</i>
(1) Ending balance	(2) Ending balance

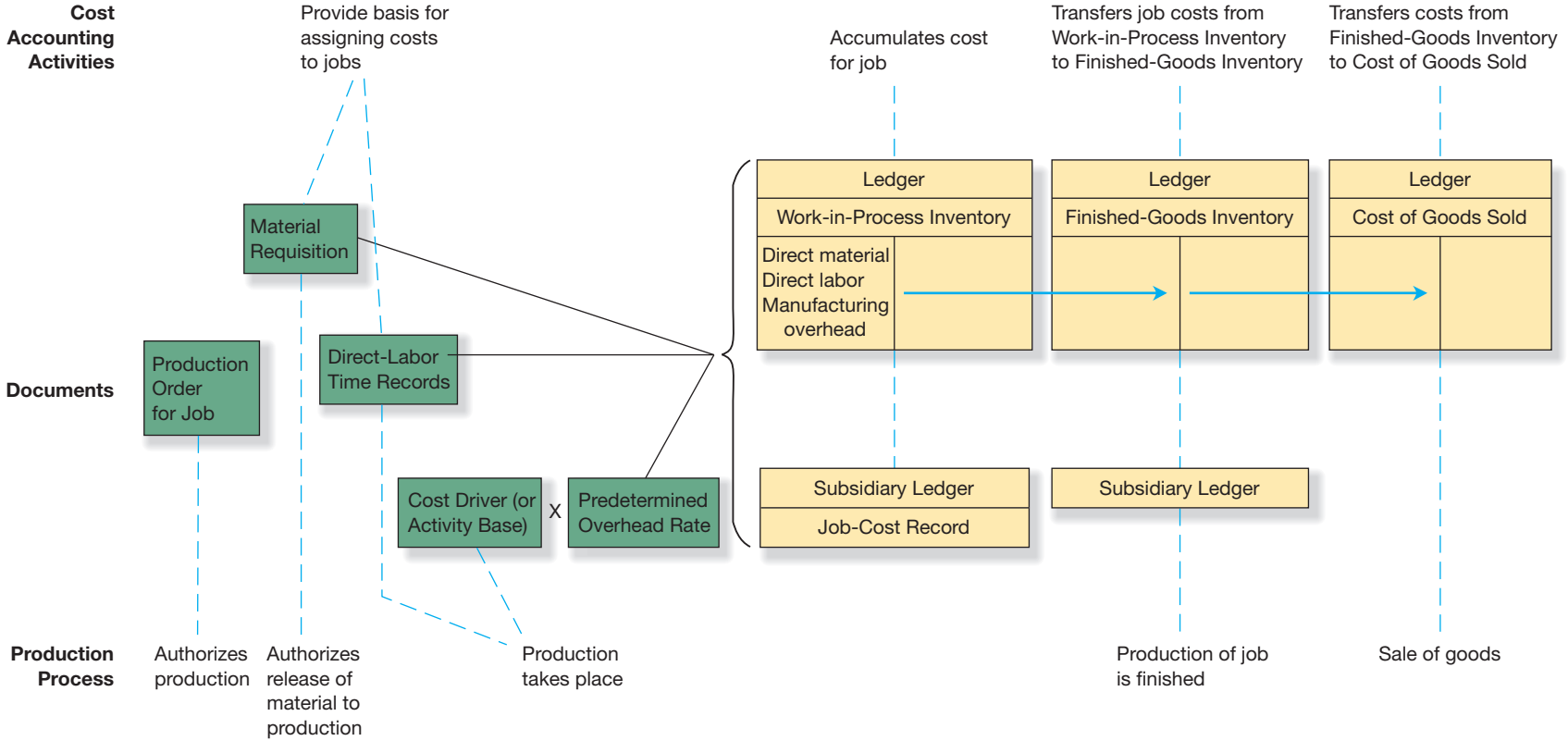
(1) If actual overhead is greater than the amount applied, then the overhead is **under-applied**

(2) If actual overhead is less than the amount applied, then the overhead is **over-applied**.

At period-end, the amount of over (under) applied is zeroed out and allocated (prorated) among

- Work in process inventory
- Finished goods inventory
- Cost of goods sold

Exhibit 3-6
Summary of Event Sequence
in a Job-Order Costing
System



TAKEAWAY

Overhead is applied using a predetermined overhead rate, which is based on budgeted (estimated) costs and volume. The budgeted figure is used solely in the determination of the predetermined rate.

Over/Under-applied overhead is the difference between actual overhead and applied overhead.

Vocabulary

- **Estimated = budgeted**
- **Applied = allocated**
- **Incurred = actual**

Predetermined OH Rate, Over/Underapplied OH

The following data pertain to the Oneida Restaurant Supply Co. for the year just ended.

Budgeted sales revenue	\$205,000
Actual manufacturing overhead	\$340,000
Budgeted machine hours (based on practical capacity)	10,000
Budgeted direct-labor hours (based on practical capacity)	20,000
Budgeted direct-labor rate	\$14
Budgeted manufacturing overhead	\$364,000
Actual machine hours	11,000
Actual direct-labor hours	18,000
Actual direct-labor rate	\$15

1. Compute the firms predetermined overhead rate using each of the following common cost drivers: machine hours, direct-labor hours, direct-labor dollars
2. Calculate the over/underapplied overhead for the year using each cost driver in part 1.

NOTE: Budgeted sales revenue, although given in the exercise, is irrelevant to the solution.

1.	Predetermined overhead rate	=	$\frac{\text{budgeted manufacturing overhead}}{\text{budgeted level of cost driver}}$
(a)	$\frac{\$364,000}{10,000 \text{ machine hours}}$	=	\$36.40 per machine hour
(b)	$\frac{\$364,000}{20,000 \text{ direct-labor hours}}$	=	\$18.20 per direct-labor hour
(c)	$\frac{\$364,000}{\$280,000^*}$	=	\$1.30 per direct-labor dollar, or 130% of direct-labor cost

***Budgeted direct-labor cost = 20,000 ´x \$14 = \$280,000**

2 .	Actual manufacturing overhead	–	Applied manufacturing overhead	=	(overapplied) or underapplied overhead
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(a) \$340,000 – (11,000)(\$36.40) = \$60,400 overapplied overhead

(b) \$340,000 – (18,000)(\$18.20) = \$12,400 underapplied overhead

(c) \$340,000 –
 (\$270,000[†])(130%) = \$11,000 overapplied overhead

[†]Actual direct-labor cost = 18,000 ´x \$15 = \$270,000