

## 4 What operations management does – Part 2

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

### Vocabulary

*Write each word three times.*

| English              | Write it 3 times (English) |       |       |
|----------------------|----------------------------|-------|-------|
| Inventory            | _____                      | _____ | _____ |
| holding costs        | _____                      | _____ | _____ |
| just-in-time         | _____                      | _____ | _____ |
| just-in-case         | _____                      | _____ | _____ |
| Capacity             | _____                      | _____ | _____ |
| Capacity utilisation | _____                      | _____ | _____ |

### Recall

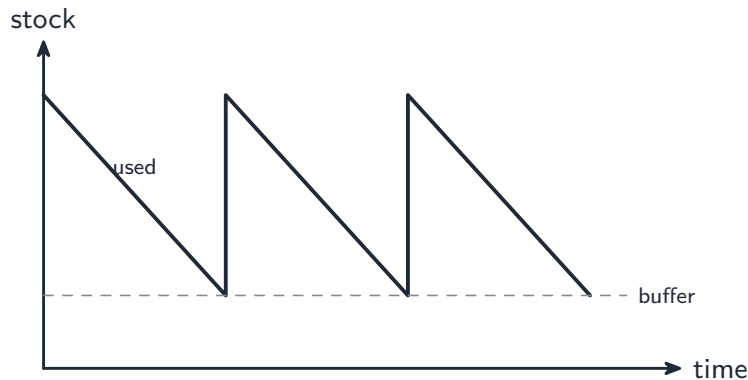
In **Part 1** you met the transformation process (inputs → process → outputs), productivity, efficiency, and the three methods of production. Part 2 looks at holding **stock**, two ways to manage it, and how fully a firm uses its **capacity**.

### New ideas

#### ■ 1 Inventory (stock)

**Inventory** (stock) is the goods a business holds: raw materials, part-finished goods, and finished goods waiting to be sold.

A firm holds stock so it can keep producing and meet orders quickly. But stock has **holding costs** – storage, insurance, and money tied up – and goods may go out of date. Holding too **little** is also risky: the firm may run out and lose sales.



**Micro-check.** Give one cost of holding too much stock.

[1]

## ■ 2 Just-in-time and just-in-case

Two ways to manage stock:

- **just-in-time** (JIT) – stock arrives **only as it is needed**, so almost no inventory is held. This cuts holding costs, but a late delivery can stop production.
- **just-in-case** – extra stock is held **in case** of problems. This is safer, but costs more to store.



just-in-time  
(low stock)



just-in-case  
(buffer stock)

**Micro-check.** Which method holds almost no stock?

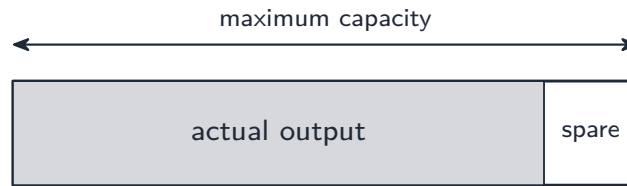
[1]

## ■ 3 Capacity utilisation

**Capacity** is the most a business can produce with its current resources. **Capacity utilisation** shows how much of that capacity is being used:

$$\text{capacity utilisation} = \frac{\text{actual output}}{\text{maximum output}} \times 100\%.$$

A **low** figure means resources sit idle (high cost per unit); **near 100%** leaves no time for repairs. Most firms aim for a high but not full level (about 85–90%).



**Micro-check.** A firm makes 800 units out of a maximum of 1000. Find its capacity utilisation. [1]

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**Watch out:** JIT holds almost *no* stock (low cost, but risky if a delivery is late); just-in-case holds *extra* stock (safer, costlier). Capacity utilisation =  $\text{actual} \div \text{maximum} \times 100\%$ ; aim high but not 100% (you need time for repairs).

## Practice

**4.1** State what **inventory** is, and give **one** cost of holding too much of it. [2]

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**4.2** State one **advantage** and one **disadvantage** of just-in-time (JIT). [2]

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**4.3** A factory can make 5000 units a week but makes 4000. Find its capacity utilisation. [2]

**4.4** State **one** problem of running at very close to 100% capacity. [1]

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**4.5** Explain why holding too **little** stock can be a problem.

[2]

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**4.6 Challenge.** A factory's capacity utilisation rises from 60% to 90%. Explain why this usually lowers the cost per unit.

[2]

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