

Just-in-time and just-in-case production

This section addresses how much stock (inventory) a business should hold. Depending on the business and the conditions it faces, it might be beneficial to hold large amounts of stock, or it might be better to get deliveries of resources shortly before those resources are needed, in order to avoid holding stock.

Just-in-time (JIT) production

Just-in-time (JIT) production is the principle of placing smaller, regular orders for resources, which are delivered just in time for them to be used. This reduces storage costs and waste. You learned about just-in-time production in Subtopic 5.3 (</study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39339>).

Just-in-time production has been challenged in recent years by a variety of ‘supply shocks’ within the global supply chain. These shocks include international trade wars, a global pandemic, shipping costs and disrupted shipping routes, geopolitical tensions and shortages of key resources such as rare earth metals, which are used to make semiconductors for electronics. **Table 1** outlines the benefits and limitations of just-in-time (JIT) production. This is the same table that you met in Section 5.3.1 (</study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/lean-production-id-39484>).

Table 1. Benefits and limitations of just-in-time production for a business.

Benefits of just-in-time production	Limitations of just-in-time production
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<p>Improved cash flow and reduces costs. Businesses can reduce costs by reducing the stock (inventory) they hold. They can then use the money saved for other operations (Subtopic 3.7 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39317)).</p>	<p>Reduced economies of scale. Businesses will make smaller orders, possibly reducing purchasing economies of scale (Section 1.5.2 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/internal-and-external-economies-id-36534)).</p>
<p>Improved operations. Employees know they need to be careful in operations, because there is no spare stock (inventory) to rely on.</p>	<p>High risk. Production may halt if a small part of the supply chain breaks down. Any delay in delivery becomes critical for production.</p>
<p>Increased capacity. With less storage space needed for stock (inventory), more space can be allocated to production.</p>	<p>Reduced resilience. Businesses may be unable to adapt to changes in the internal or external environment (related to risk). JIT may not be suitable for businesses with seasonal demand.</p>

Just-in-case (JIC) production

Buffer stocks are additional quantities of stock (inventory) kept by a company in case of need. Just-in-case (JIC) stock control involves holding relatively large levels of buffer stocks so that a business can continue to operate when faced with an unforeseen event. This will result in higher storage costs, but it makes the business more resilient to disruptions.



Figure 1. Just-in-case systems hold buffer stock, making the business more resilient to disruptions.

Credit: Sasin Tipchai, Getty Images

Concept

Change

External factors, which you learned about in [Section 1.1.5 \(/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/tool-swotsteeple-analysis-id-36504\)](#) (STEEPLE), have an impact on business supply chains. For example, geopolitical conflict between countries has led to an increased number of tariffs on trade, leading some companies to switch to local suppliers that do not need to ship products across borders.

In addition, recent global events – including the COVID-19 pandemic – have exposed flaws within the supply chain. This has resulted in changes to the reliability and cost effectiveness of lean production methods such as just-in-time (JIT) systems, which you learned about in this section and in [Section 5.3.1 \(/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/lean-production-id-39484\)](#). Some businesses are changing suppliers; others are moving to just-in-case (JIC) systems in order to increase inventories. And some businesses are implementing new technologies to better monitor supply chains.

Table 2 analyses the main benefits and limitations of just-in-case (JIC) stock control systems.

Table 2. The benefits and limitations of just-in-case (JIC) stock control.

Benefits of just-in-case stock control	Limitations of just-in-case stock control
Resilience. Production can continue for a time, even with disruptions to supply chains. Unexpected orders can be filled.	Less working capital. Purchasing large quantities of stock reduces liquidity (Subtopic 3.5 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39042))); less cash is available for operations.
Economies of scale. The business can order larger quantities of supplies, resulting in lower costs through purchasing economies of scale.	Higher storage costs. Holding large quantities of stock is costly due to space needs.
Less risk. The business is less exposed to changes in the external environment, such as increases in resource costs.	Waste. A business may not be able to use all of the large quantities of stock it purchased, resulting in wasted resources, particularly with perishable goods.

Exam tip

You may be asked to evaluate whether a company should adopt a just-in-time (JIT) approach to stock control. Generally, this can be a good idea, but only if the business has a reliable supplier and demand is predictable. If these conditions are not met, then just-in-case (JIC) may be a better suggestion.

Case study

During and after the COVID-19 pandemic, bicycle manufacturers were hit by supply chain issues. Factories in China and Malaysia were closed, shipping costs increased, containers were unavailable, tariffs were implemented and semiconductors for e-bikes were in short supply.

In addition to this, there is now growing demand for bicycles, including e-bikes. With inventories falling and demand rising, just-in-time systems have been unable to operate efficiently and production has not been able to scale up. This is putting significant pressure on bicycle manufacturers, who are unable to meet demand. As shipping containers are limited, it is taking longer to receive parts. As a result, it is taking longer to deliver finished bicycles to retailers.

Bicycle businesses are trying to find ways to manage the supply chain issues. Some businesses are reshoring production because the benefits of outsourcing, such as lower labour costs, have been cancelled out by increased costs in other parts of the supply chain. Some businesses are also increasing inventories. Other businesses are looking to 'digitise' their supply chain and use timely stock information to improve ordering, rather than making a complete switch from a JIT to a JIC system.

Questions

1. Define just-in-time production. [2 marks]
2. Explain **two** external factors that have impacted the just-in-time production of bicycle manufacturers. [4 marks]
3. Analyse **one** benefit and **one** limitation of bicycle manufacturers switching from a JIT to JIC system. [4 marks]