# Businesses take stock as uncertainty goes on

In his monthly column, **Professor Frank Peck**, of the University of Cumbria's Centre for Regional Economic Development, looks at how growth has been boosted by firms stockpiling ahead of the original Brexit date in March and how that may harm longer-term productivity

As we enter June, the one certainty faced by business is the reality of continued political uncertainty regarding the UK's future relationship with Europe.

It is now clear that many businesses have developed strategies to manage the risks and we have seen evidence of this in the first quarter of 2019.

Growth figures for January to March, announced in May, showed that the economy grew by 1.8 per cent compared to the same quarter in the previous year, its fastest rate of growth since quarter three of 2017.

Closer inspection of this data shows manufacturing output, in particular, up by 2.2 per cent on the previous quarter compared with much slower growth in services of only 0.3 per cent.

This stronger performance in manufacturing has been attributed in part to the effects of contingency plans of manufacturing companies leading up to the end of March 2019.

**'Lean systems only order materials when required'**

Evidence from other sources (Markit UK Manufacturing Purchasing Managers Index (PMI)) indicate that the rate at which inventories increased in the UK was the highest of any G7 country – suggesting that companies built-up inventories in anticipation of a possible Brexit.

The Bank of England reported on these trends from its surveys, including the Decision-Makers Panel Survey where almost one

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third of respondents reported an increase in stock levels.

The results of Cumbria Chamber of Commerce survey of contingency planning in Cumbria, reported in previous issues of in-Cumbria, show that just over half of Cumbrian firms have contingency plans and, in the manufacturing sector, these are likely to include temporary building up of stock (an excellent example is provided by Playdale Playgrounds).

It is not possible to establish how much of the growth was Brexit-induced as other factors were also at work in different sectors, but available evidence suggests that Brexit has clearly had an impact.

These effects are not just related to UK manufacturers building up stocks to offset the risks of shortages of imported components and materials (goods inward), but also short-term boosts to demand created by similar risk strategies implemented within the European Union.

ONS reported, for instance, that the first quarter of 2019 saw significant growth in pharmaceuticals (+9.4 per cent) driven by exports "some of which was likely in anticipation of the UK's original exit date from the EU at the end of March 2019". It would appear that stockpiling by EU customers has also had an impact.

Building up inventory might appear straightforward, but, in fact, it can involve considerable complexity. First of all, inventory is of different types.

It obviously includes inputs of raw materials and components that go into products (goods inward) and also finished products prior to delivery to customers (goods outward).

But manufacturing systems involve complex forms of work-in-progress. Consideration of inventory requires us to break open the "black box" of production where stock can be carried right through the process.

In many production processes, there are also significant stocks of goods that are consumed but do not form parts of finished products – equipment, spares parts, consumables.

Building up stock might reduce risk but it also incurs cost, some of which are obvious but others perhaps less so. Inventory costs can include:

- Storage and employee costs
- Cost of insurance cover and security
- Costs of monitoring and administration
- Risk of depreciation and obsolescence
- Opportunity costs – capital tied up that could be used for other purposes.

While the need to reconsider the approach to management of inventory might seem self-evident, it is important to note that carrying stock on a "just-in-case" basis is a very different mindset from the one that has pervaded manufacturing philosophy in recent decades.

In the 1980s, Far Eastern investors in Europe demonstrated the productivity gains associated with just-in-time production systems. Since then, UK manufacturing has been transformed by the application of principles subsumed under the term lean manufacturing.

Modern manufacturing systems are designed to achieve stock minimisation (or perhaps "optimisation"), as one element in an approach to improve efficiency and raise levels of productivity.

Management texts inform us that lean production involves producing on demand – not for stock.

Often referred to as a "pull system", products are only produced in response to customer orders.

Lean systems only order materials when required, so inventories are minimised at all stages in the work process. There are implications for quality as parts that fail cannot quickly be replaced.

Lean systems therefore require investment in technologies and skills in the workforce that are all aligned to this objective.

Managing changeovers are significant in industries that are set up to deliver customised production and small batch sizes. Reducing batch sizes becomes a key objective as this generates productivity gains, partly by reducing the amount of work-in-progress inventory. Shorter production cycles tend to increase "inventory turn".

These basic principles associated with lean production demonstrate how the reduction of inventory can be a key contributor to productivity gains and competitiveness in the manufacturing sector.

These system only operate, of course, in an economic environment where there is some degree of (short-to-medium-term) certainty or predictability surrounding market demand and reliability of supply.

It seems ironic indeed that Brexit-induced increases in carrying buffer stocks should coincide with demands for productivity improvement that forms a key component in UK Local Industrial Strategies (LIS).

A recent CBI survey of 270 manufacturing firms showed unprecedented acceleration in the growth of stocks, growing at the fastest rate on record (CBI quarterly Industrial Trends Survey, to April 2019).

Stocks of raw materials were up 39 per cent, work-in-progress up 21 per cent and finished goods up 25 per cent.

Manufacturers now face choices regarding how to manage stocks in the future – the CBI survey indicates that manufacturers expect stocks to be run down in the second quarter and that may have a dampening effect on reported levels of growth.

Looking ahead, manufacturers will need to assess market demand and decide how best to manage inventory in the coming months leading up to the next critical moment at the end of October.