

Article

Stock and supply chain issues in the UK: Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021

Analysis of the issues businesses have had with stock levels and supply chains using Quarterly Stocks Survey data and comments.

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Table of contents

1. [Main points](#)
2. [Overview](#)
3. [Retail industry](#)
4. [Construction industry](#)
5. [Motor trade industry](#)
6. [What the comments told us](#)
7. [Stock and supply chains data](#)
8. [Glossary](#)
9. [Data sources and quality](#)
10. [Future developments](#)
11. [Related links](#)

1 . Main points

- Stock has been affected over the last few years by global supply chain issues, material shortages, the EU exit and the coronavirus (COVID-19) pandemic.
- The construction industry has seen their stock levels change as much as 5% quarter-on-quarter and the motor trades industry stock level is currently 10% below the pre-pandemic Quarter 4 2019.
- Comments from the Quarterly Stocks Survey (QSS) have told us that the EU exit, pandemic, semiconductor shortage and other issues are the reason behind these changes in stock levels and supply chain issues.

2 . Overview

Over recent years, the EU exit, coronavirus (COVID-19) pandemic, higher energy and commodity prices, and events such as the blockage of the Suez Canal have presented businesses with significant challenges when acquiring and maintaining their stock. As a result of these challenges, the UK has experienced increased business uncertainty, supply chain issues across a variety of materials and products arising from worldwide shortages, and rising inflation.

Changes in inventories (the change in the level of a business's stock) for businesses has fluctuated since the start of Quarter 1 (Jan to Mar) 2018, as seen in Figure 1 below. These data are sourced from Office for National Statistics' (ONS') Quarterly Stocks Survey.

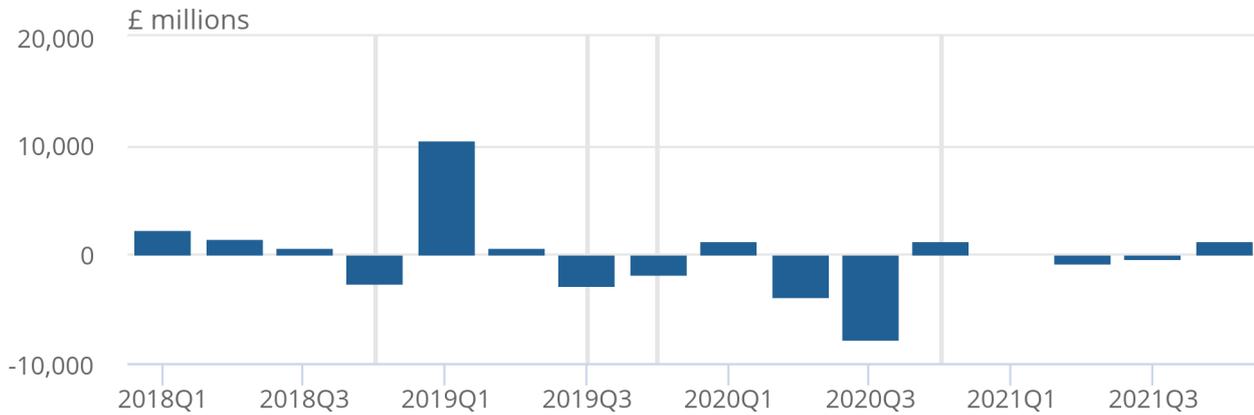
The period from Quarter 1 to Quarter 3 (July to Sept) 2020 shows the effect that the pandemic and the associated public health restrictions had on change in inventories for UK businesses. Quarter 2 (Apr to June) and Quarter 3 2020 saw large quarterly decreases in change in inventories, with the retail industry, construction and motor trades industries driving this fall in Quarter 2 and manufacturing, construction and motor trades industries in Quarter 3.

Figure 1: UK change in inventories has fluctuated since the EU exit process and coronavirus (COVID-19) pandemic began

UK change in inventories, current price, non-seasonally adjusted, Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021

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Source: Office for National Statistics – GDP data tables

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
2. "1st EU Exit date" refers to the original date the UK was expected to leave the EU on 29 March 2019.
3. "2nd EU Exit date" refers to the extension date for Article 50 to leave the EU on 31 October 2019.
4. "EU Exit" refers to the actual date the UK left the EU on 31 January 2020.
5. "End of EU Exit transition period" refers to 31 December 2020 when the UK officially left the EU customs union and single market.

3 . Retail industry

The retail industry has been hit particularly hard since the beginning of 2020. At the end of Quarter 1 (Jan to Mar) 2020, public health restrictions were introduced because of the coronavirus (COVID-19) pandemic which closed non-essential shops and stores and encouraged people to only visit essential shops where necessary. At this early stage of the pandemic, uncertainty led some customers to stockpile certain products, leading to empty shelves of certain essential goods for some retailers. In addition to public health restrictions that were implemented, retailers had to adapt to the UK's exit from the EU on 31 January 2020. With both of these events affecting the way businesses operated, many were unsure of their supply and demand and as a result experienced changes in the level of their stock. In the worst periods during the pandemic many retail shops were shut altogether as the first UK wide lockdown took place. Approximately a quarter (27%) of all wholesale and retail trade businesses paused trading from the 23 March to 9 April 2020 according to the [Business Impact of Coronavirus \(COVID-19\) Survey \(BICS\)](#). Many of those continuing to trade moved to online sales only.

Quarter 2 (Apr to June) 2020 was another quarter where retail businesses struggled as restrictions were placed on the public and businesses in the UK. Supermarkets particularly felt the strain as many were unable to keep up with consumer habits that had arisen and products such as flour and toilet paper specifically were in high demand. Retailers struggled into Quarter 3 (July to Sept) 2020, although restrictions were lifted for some months of this quarter there were other issues such as supply chain issues.

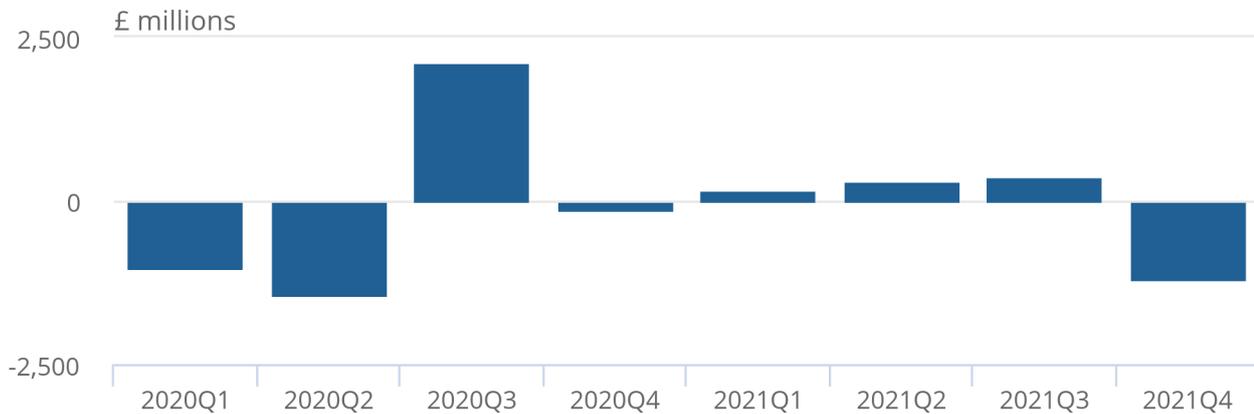
Supply chains were also affected from the second half of 2020 because of [HGV driver shortages](#) and delays receiving goods from ports as retail businesses faced uncertainty. Pressures on supply continued through 2020 and into 2021, with little reprieve to supply chain issues and levels of uncertainty. Quarter 3 would usually be a strong quarter for retailers as they begin to increase stock for the busy winter and Christmas period coming in Quarter 4 (Oct to Dec). However, this was not the case in 2021 as stock in the retail industry only grew by £380 million for Quarter 3 2021.

Figure 2: The retail industry experienced unusual stock movements

UK retail industry change in inventories, current price, non-seasonally adjusted, Quarter 1 (Jan to Mar) 2020 to Quarter 4 (Oct to Dec) 2021

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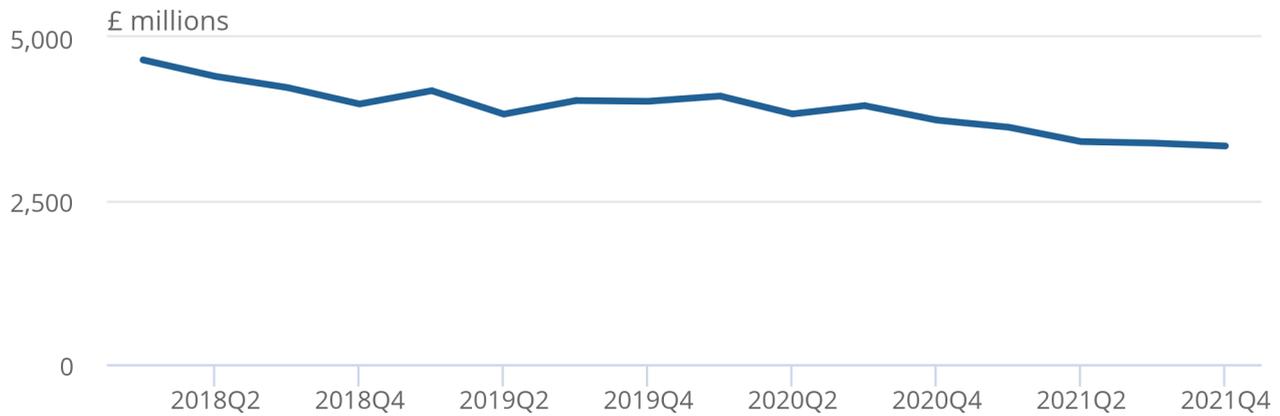
When looking deeper into the retail industry, it shows that there are a few specific areas of retail that saw the majority of the weakness in the level of stock for the latest quarter. These industries were "Other retail sale in non-specialised stores" and "Retail sale of sporting equipment in specialised stores". Figure 3 shows the slow decline in the levels of stock in other retail sale in non-specialised stores since the start of the COVID-19 pandemic. As well as the considerable decline since Quarter 3 2020, there has been a slow decline in the level of stock in "Other retail sale in non-specialised stores" since Quarter 3 2017. Changing consumer shopping habits has contributed towards this decline, with the increasing use of online shopping replacing traditional purchases at high street stores. The COVID-19 pandemic has also contributed towards this decline as non-specialised store were deemed to be "non-essential retail".

Figure 3: There was a decline in “Other retail sale in non-specialised stores”

UK “Other retail sale in non-specialised stores” retail stock levels, Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021

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UK “Other retail sale in non-specialised stores” retail stock levels, Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021



Source: Office for National Statistics – Quarterly stocks survey

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4 . Construction industry

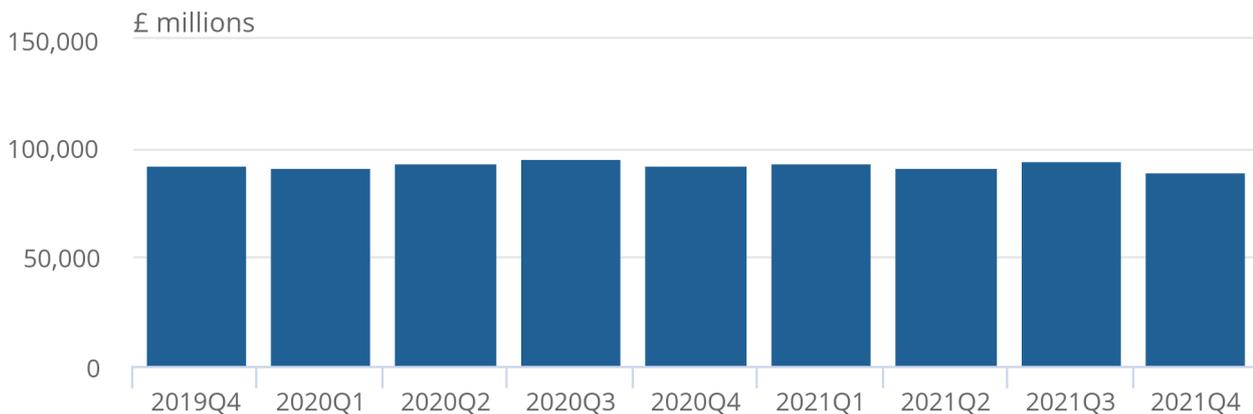
Inventories of construction industries are at their lowest point since Quarter 4 (Oct to Dec) 2019. The construction industry has seen fluctuations in stock levels since then as a result of increasing difficulty in getting products. Global supply chain issues have meant that materials such as bricks, wood and glass have been difficult to acquire. There was also a price impact because of the short supply as the price of bricks and wood rose. Not only have businesses been unable to acquire materials but there has also been a backlog of construction work (as the majority of construction work halted during the start of the coronavirus (COVID-19) pandemic), so any stock that businesses can acquire is quickly being used. To add further strain on construction materials, many homeowners embarked on DIY projects during the periods of lockdown as they reassessed their homes and gardens with more time on their hands to make changes.

Figure 4: There were changing stock levels for the construction industry as supply chain struggles led to shortages of materials

UK other Industries stock levels, Quarter 4 (Oct to Dec) 2019 to Quarter 4 2021

Figure 4: There were changing stock levels for the construction industry as supply chain struggles led to shortages of materials

UK other Industries stock levels, Quarter 4 (Oct to Dec) 2019 to Quarter 4 2021



Source: Office for National Statistics – Quarterly stocks survey

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5 . Motor trade industry

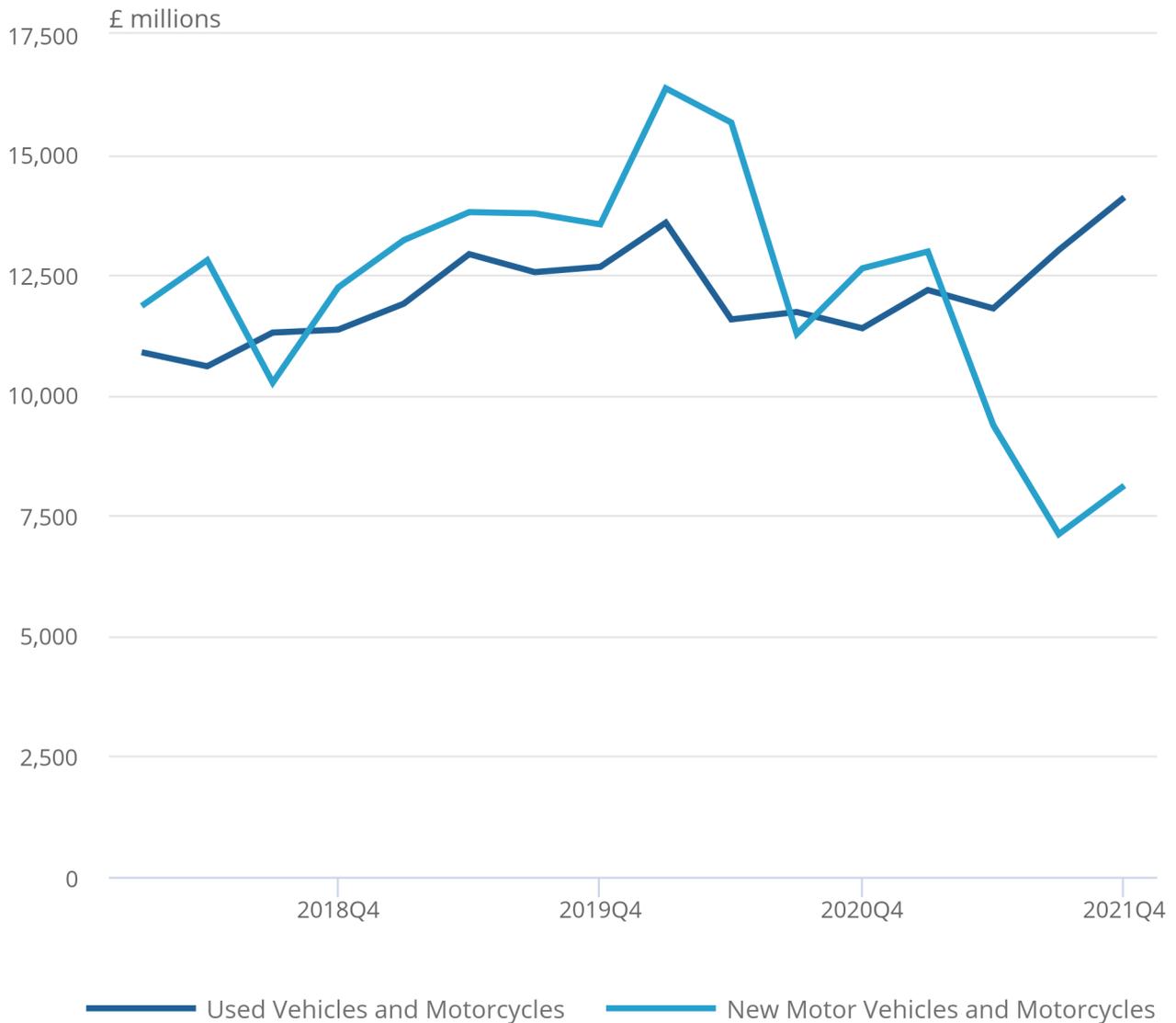
When assessing the levels of stock over recent periods, one of the industries hardest hit by supply chain issues has been the motor trade industry. An international shortage of semiconductors, caused by coronavirus (COVID-19), has been the main driving force. Semiconductors mainly produced in China and the US are a key component in the production of new cars and there has been a fall in the stock of new cars in the UK as businesses have struggled to acquire them because of production delays. Figure 5 shows the level of new and used motor vehicles held by businesses. The overall level of new cars is more erratic because of peaks around new number plates as demand increases. While the level of used cars remains relatively steady, the start of the fall in the stock of new motor vehicles begins in Quarter 2 (Apr to June) 2020 when lockdown restrictions came into full force, coinciding with the stock level increase in used cars as a result of price and quantity increases. Comparing the levels of new cars from the most recent Quarter 4 (Oct to Dec) 2021 with pre-pandemic Quarter 4 2019, we have seen a fall of 40%.

Figure 5: Stock of “New Motor Vehicles” fell drastically because of the semi-conductor shortage

UK new and used vehicle stock levels, Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021

Figure 5: Stock of “New Motor Vehicles” fell drastically because of the semi-conductor shortage

UK new and used vehicle stock levels, Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2021



Source: Office for National Statistics – Quarterly stocks survey

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6 . What the comments told us

The data in this article is based on data acquired from the Office for National Statistics (ONS) survey the Quarterly Stocks Survey (QSS). When supplying data via this survey respondents are encouraged to leave comments to explain movements in their data. After analysing these comments, we have found significant trends which backup some of the data shown above.

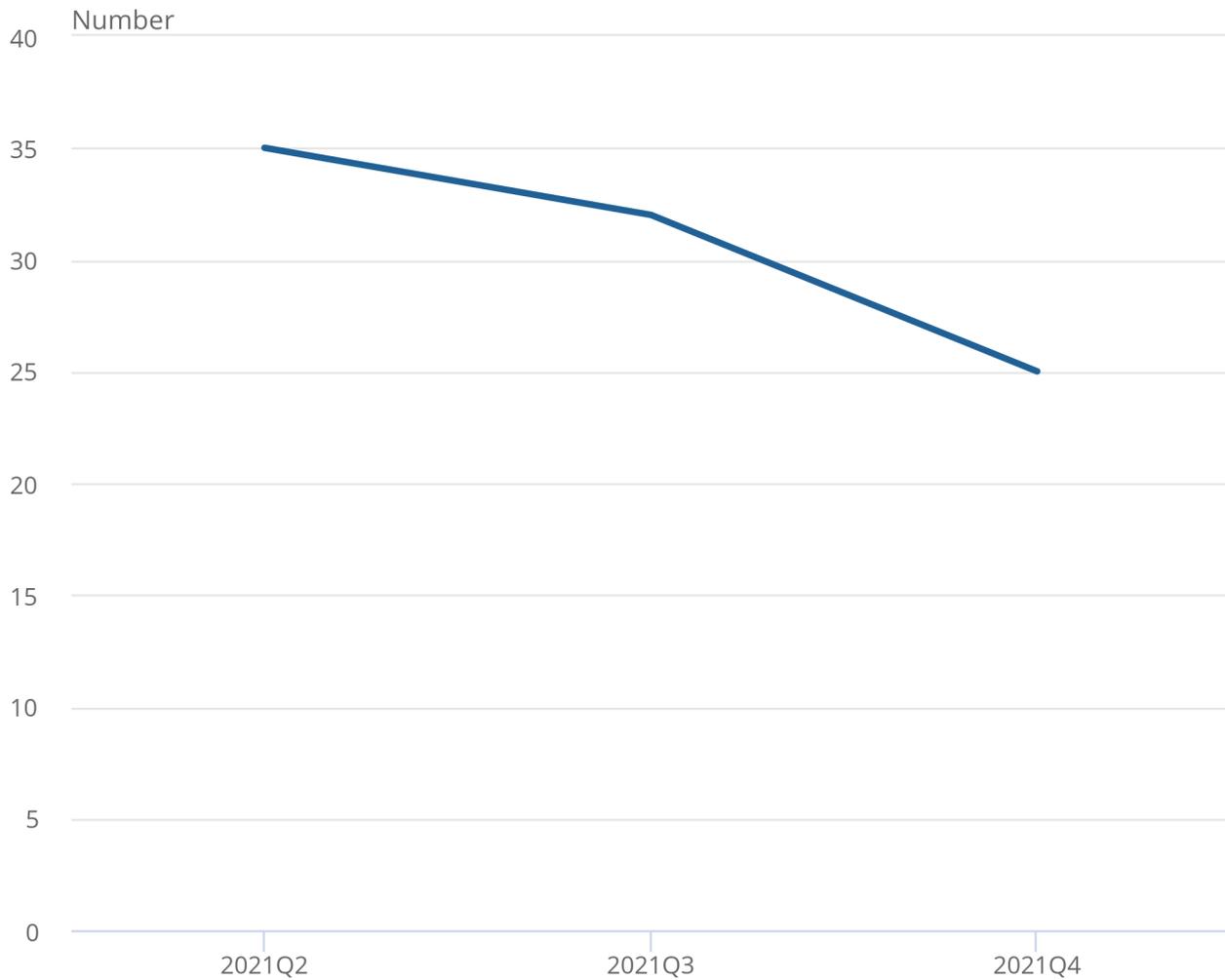
Of the comments feedback via our QSS survey, 35 mentioned the semi-conductor crisis when explaining their stock movements at its peak in Quarter 2 (Apr to June) 2021. Prior to this there was little mention of semiconductors" after this sentence "Of the comments feedback via our QSS survey, 35 mentioned the semi-conductor crisis when explaining their stock movements at its peak in Quarter 2 (Apr to June) 2021. These comments were concentrated in the wholesale and retail trade and repair of motor vehicles and motorcycles industries. This goes some way to explain why there is a divergence in the movement of stock levels of new and used motors in Quarter 3 (July to Sept) 2021 and could likely continue with the continuation of the semi-conductor crisis.

Figure 6: Semi-conductor shortages spiked as 2021 began

Number of comments referring to semi-conductors, Quarter 2 (Apr to June) 2021 to Quarter 4 (Oct to Dec) 2021

Figure 6: Semi-conductor shortages spiked as 2021 began

Number of comments referring to semi-conductors, Quarter 2 (Apr to June) 2021 to Quarter 4 (Oct to Dec) 2021



Source: Office for National Statistics – Quarterly stocks survey

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As seen in Figure 7, since the beginning of 2019 there has been a significant increase in the number of QSS comments mentioning supply chains. The number of comments mentioning supply chains trended upwards until Quarter 4 (Oct to Dec) 2021 when there was a large drop off. The initial rise in comments mentioning supply chains in Quarter 1 (Jan to Mar) 2019 coincides with the intended exit date from the EU. Initially, 29 March 2019 was the date that the UK was due to leave the EU, and stock building in anticipation of supply difficulties was observed. Stockpiling was then put on hold for the rest of 2019 as the EU Exit date was moved to 31 December 2020.

The uptick in comments mentioning supply chain issues over the last three quarters indicates that businesses are continuing to struggle. The comments also show that this is a result of the current economic conditions, the UK's exit from the EU customs union and single market, and other issues such as the coronavirus (COVID-19) pandemic and general supply chain issues.

Figure 7: Comments about supply chains rose after Quarter 1 (Jan to Mar) 2019

Number of comments referring to supply chains, Quarter 4 (Oct to Dec) 2017 to Quarter 4 2021

Figure 7: Comments about supply chains rose after Quarter 1 (Jan to Mar) 2019

Number of comments referring to supply chains, Quarter 4 (Oct to Dec) 2017 to Quarter 4 2021



Source: Office for National Statistics – Quarterly stocks survey

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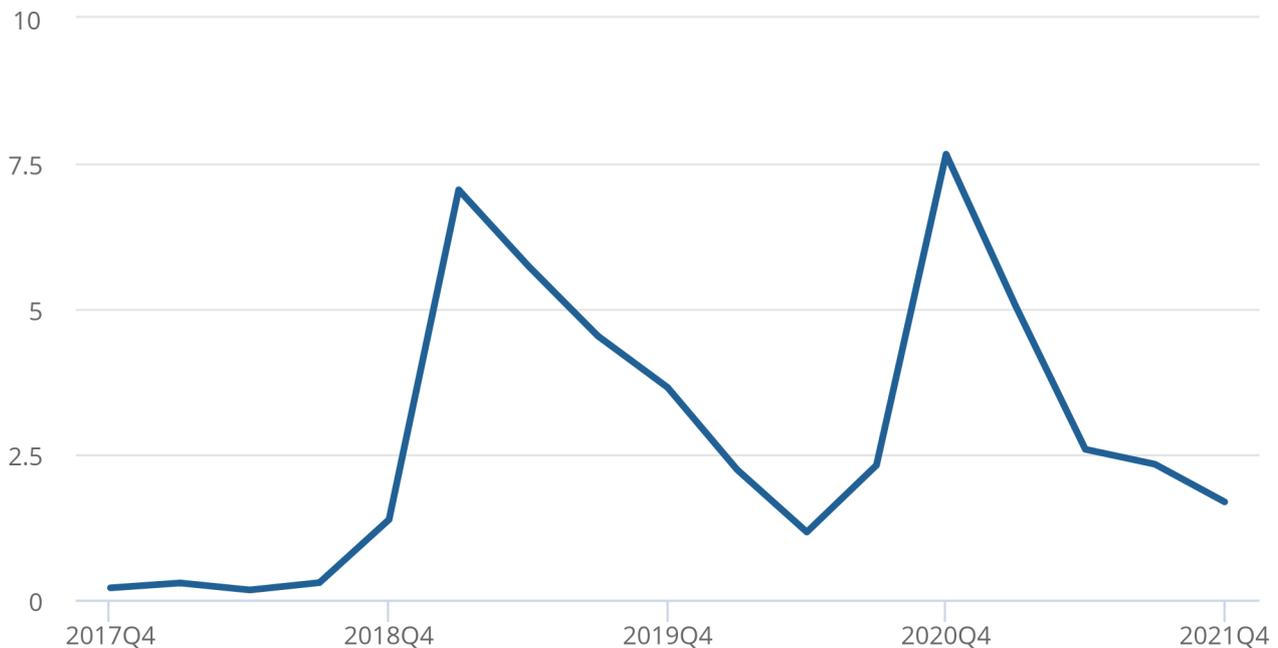
Other reasons cited by businesses in the QSS as contributing to supply chain issues in 2020 and 2021 have included the Suez Canal crisis, berths at shipping ports being full, HGV driver shortages and shipping container price increases. Figure 8 shows the drop off of comments referring to the EU Exit since Quarter 4 2020, as businesses have begun to adapt to the new economic conditions associated with leaving the EU.

Figure 8: Comments referring to the EU Exit peak in Quarter 1 (Jan to Mar) 2019 and again in Quarter 4 (Oct to Dec) 2020

Comments referring to the EU exit, Quarter 4 2017 to Quarter 4 2021

Figure 8: Comments referring to the EU Exit peak in Quarter 1 (Jan to Mar) 2019 and again in Quarter 4 (Oct to Dec) 2020

Comments referring to the EU exit, Quarter 4 2017 to Quarter 4 2021



Source: Office for National Statistics – Quarterly stocks survey

7 . Stock and supply chains data

[GDP data tables](#)

Dataset | Released 31 March 2022

Annual and quarterly data for UK gross domestic product (GDP) estimates, in chained volume measures and current market prices.

[Quarterly Stocks Survey and Capital Assets Survey textual data analysis](#)

Dataset | Released 31 March 2022

The indicators and analysis in this dataset are based on qualitative responses from comments left by responding businesses to both our Quarterly Acquisitions and Disposals of Capital Assets Survey and Quarterly Stocks Survey. [GDP data tables](#)

8 . Glossary

Other retail sale in non-specialised stores

This includes retail sale of a large variety of goods of which food products, beverages or tobacco are not predominant including activities of department stores carrying a general line of merchandise such as wearing apparel, furniture, appliances, hardware, cosmetics, jewellery, toys, sports goods etc.

9 . Data sources and quality

Quarterly Stocks Survey

Stock is a company's merchandise, raw materials and finished and unfinished products, which have not yet been sold. For the purposes of this survey, assets generally used are materials, stores and fuel and work in progress and goods on hand for sale.

Questionnaires are sent to 9,500 businesses each quarter since Quarter 2 (Apr to June) 2019, before then it was 5500. All businesses with employment of 300 or more are included permanently; smaller businesses are sampled on a random basis. No companies with less than 20 employees are selected except for in [Standard Industrial Classification](#) (SIC) Divisions 36 to 47, where those companies with employment less than 10 are not selected. This is because of a need to reduce burden on business.

Once selected, a respondent can expect to be selected for a period of five quarters (three month periods), before usually taking a break. There is no specified period that a respondent will be omitted from the survey. Automatic imputation using period-on-period movements for those respondents in the same cell who have returned data is carried out for all non-responding businesses. If a business is selected for the first time and has not responded then the data will be estimated, based on average stock by employment.

The [Quarterly Stocks Survey](#) (QSS) (formerly Quarterly Stocks Inquiry) collects data on the level of stock at the beginning and end of each period, with an asset breakdown of these totals, requested for certain sectors.

Quarterly Stocks Survey comments

The indicators and analysis in this dataset are based on qualitative responses from comments left by responding businesses to both our Quarterly Acquisitions and Disposals of Capital Assets Survey (QCAS) and QSS. These provide further insight into individual businesses' experiences over the course of each quarter in relation to investment and changes in inventories and provide anecdotal evidence to support our published estimates.

This analysis summarises the most commonly cited words that business responded with, in the context of popular phrases and themes, drilling down through multiple layers to identify how businesses are reacting to current shocks to the economy. Whilst this work features individual quarters' data, the analysis in this dataset also shows how common themes have changed in frequency over time.

Analysis tracks the use of common phrases and key word frequencies over time for QSS. These common phrases and key words have been derived from businesses' responses. For some single words, and in the prevention of business disclosure, a common phrase has been derived based on variations of instances in which the top word appeared.

The common phrases and key words which form the themes that comments are attributed to are established from two approaches. Firstly, they are primarily derived from the most frequently used words that appear in the comments from business in the latest quarter. Secondly, informed enquiries into the current economic experiences of business through research of external data sources, articles and media stories, establishes and supports themes that are likely to be common within our comments. The two approaches together inform and support the textual analysis process.

10 . Future developments

This article was written to provide insight into the movements we have seen in the levels of stock in the UK. More analysis pieces may follow.

11 . Related links

[Business investment in the UK: October to December 2021 revised results](#)

Bulletin | Released 31 March 2022

Revised quarterly estimate of business investment for the UK. Uses additional data to provide a more precise indication of economic growth than the first estimate.

[GDP quarterly national accounts, UK: October to December 2021](#)

Bulletin | Released 31 March 2022

Revised quarterly estimate of gross domestic product (GDP) for the UK. Uses additional data to provide a more precise indication of economic growth than the first estimate.