

State of Competition

Annexes

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Annex A: Metrics of industry structure¹

Background

1. Measures of market structure are an intuitively simple way to assess the level of competition across an economy. They do not provide a view on the outcomes of markets for consumers, or on the underlying forces which determine the level of competition within a market, but may indicate the way in which a market is functioning, especially when combined with other metrics. For example, where a market has a small number of firms with high market shares (a highly concentrated market), this may indicate a lack of competition caused by high barriers to entry, or may be the result of very strong competition with only the most efficient firms surviving.
2. Concentration is a widely used competition indicator, and we have calculated a number of concentration metrics at the industry level. These metrics measure how concentrated industry turnover is among a small number of firms. Care must be taken with industry results as the industries identified by the Standard Industrial Classification (SIC) system of industrial classification, used throughout the data sources this report relies on, are unlikely to represent markets in the economic sense.² Still, industry concentration is widely used and the stylised facts it reveals about trends in the structure of the economy may be informative of the state of competition.
3. Concentration measures do not tell us how dynamic an industry is – ie whether the same firms take the same industry shares year after year, or whether there is a lot of change in the composition of an industry in terms of the firms within it. Measures of industry dynamics, therefore, can augment concentration metrics and improve our understanding of competition. Rates of firm entry and exit are widely-used dynamic measures of competition – in competitive markets we expect to see that new firms are able to enter, and that less efficient firms exit. We have also estimated the degree of churn among the top firms (ie whether the same firms stay at the top or are frequently replaced) in industries to complement this.

¹ This work was produced using statistical data from ONS. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

² This is discussed in the Chapter 2, paragraph 2.9. Evidence indicates that SIC codes are likely to be far broader than economic markets in product scope. This means that the results of this analysis would not be informative for any analysis of competition required in exercise of the CMA's enforcement functions.

4. It is important to consider market structure metrics (both concentration metrics and dynamic metrics) carefully and with the caveats (set out in detail at paragraphs 2.6 to 2.9 in Chapter 2) in mind.

Data sources

5. This analysis primarily uses the Business Structure Dataset (BSD), maintained by the ONS. This dataset includes all businesses in the UK which are registered in the VAT³ or PAYE⁴ taxation system (approximately 50% of UK businesses by count, and over 99% of UK business turnover).⁵ The dataset includes public sector entities, such as NHS⁶ trusts and local authorities, which have been excluded from the analysis.
6. This dataset classifies firms according to the primary industry they operate in, according to the SIC system. This system divides the activities of business into 21 sectors (denoted by letters), 88 2-digit divisions and 615 4-digit classes (some of which are further divided into 191 5-digit subclasses). Table A.1 shows an example from this classification system.

Table A.1: Example of SIC classification

Sector	C	Manufacturing
2-digit division	13	Manufacture of textiles
3-digit group	139	Manufacture of other textiles
4-digit class	1393	Manufacture of carpets and rugs
5-digit subclass	13931	Manufacture of woven or tufted carpets and rugs

7. Our analysis calculates market structure metrics primarily at the 4-digit level. We focus on the 4-digit level, as this is the greatest level of granularity possible over a 1998 to 2018 time series (the longest possible span with the BSD data).⁷ Where we consider our metrics at the SIC 2-digit, sector, and whole economy level these are created in most cases by aggregating metrics of the underlying 4-digit SIC codes that they contain.

³ Value Added Tax

⁴ Pay As You Earn

⁵ The BSD is described in detail in its documentation, available on the [UK Data Service website](#).

⁶ National Health Service

⁷ Methodological problems are caused by the changes to the UK SIC system which happened in 2003 and 2007. Converting pre-2007 SIC codes to the 2007 SIC code system can only be done at the 4-digit level.

8. However, we note that even the 4-digit SIC codes are unlikely to match up to any economic markets which may be defined by the CMA in, for example, a market review, merger inquiry or Competition Act 1998 investigation. In particular, when defining the relevant market as part of casework the CMA considers both the relevant product market and relevant geographic market and:
- (a) 4-digit SIC codes are likely to be far broader than any 'product market' the CMA would define in any case.⁸ For example, 'Manufacture of pharmaceutical preparations' is a single 4-digit SIC code despite consisting of a vast number of individual products which are not substitutable for each other; and
 - (b) data within the BSD is only available at the national level, but geographic markets are not necessarily national and can be either local or international. For example, it might be the case for some products that bricks-and-mortar retailers would only compete with other bricks-and-mortar retailers if they are both within a reasonable travelling distance of each other for consumers.⁹
9. Where results are presented at a sector level, we present two sets of sectors separately to avoid there being too many lines on a single chart, making it unreadable. Higher total-turnover sectors (a proxy for those of most economic importance) are presented on one chart and lower total-turnover sectors are presented on another. Also, some sectors are combined with each other as they contain similar industries.¹⁰ The list of sectors used and how they are split is in Table A.2.

⁸ Following the OFT (2004) [Market Definition guidance](#), the CMA attempts to define product markets as the narrowest possible market, or group of products, over which a hypothetical monopolist could profitably sustain supra competitive prices – also called a hypothetical monopolist test. It should be noted that 'product' can refer to either a good, service or property right.

⁹ Retailers may often compete both at the local level and the national level. As set out in CMA (2017), [Retail mergers commentary](#), the CMA assesses at what geographic scope competition is taking place. In certain markets, the lines between local and national competition are blurred, with certain aspects being decided centrally, while others are set locally. For example, in Ladbrokes/Coral the CMA found that betting odds were decided nationally, while prices were based on local competition.

¹⁰ These combinations of SIC sectors follow those used in House of Commons Library (2019), [Industries in the UK](#), Research Briefing

Table A.2: Higher- and lower-turnover sectors

Higher-turnover sectors	
	Total turnover, 2018, £bn
Finance and Insurance	1,686
Wholesale and retail trade; repair of motor vehicles and motorcycles	1,302
Professional and support services	612
Manufacturing	553
Construction	305
Information and communication	258
Lower-turnover sectors	
	Total turnover, 2018, £bn
Transport and storage	207
Utilities	163
Other services	135
Accommodation and food services	106
Real estate activities	77
Agriculture, forestry and fishing	44
Mining, quarrying and utilities	32

Source: CMA analysis of ONS BSD data

Note: Utilities includes Electricity, gas, steam and air conditioning supply, and Water supply, sewerage, waste management and remediation activities. Other services includes Arts, entertainment and recreation, and other services (including the repair of goods, and personal services). 'Government, education, health and defence' – which included the SIC sectors for Public administration and defence; compulsory social service, Education, and Human health and social work sectors – has been excluded from the table and from charts in this report because only a small proportion of this SIC code represents market activity by private businesses.

10. In places we have supplemented the BSD data with data on approximate Gross Value Added (GVA), derived from the Annual Business Survey.¹¹
11. Imports data (ie data on total imports and total domestic production) from Eurostat is used to assess the importance of international trade for competition within industries.

Concentration

12. Concentration is perhaps the most widely used competition indicator in academic research and by competition authorities and other organisations internationally. The existing work by the Department for Business, Energy and Industrial Strategy (BEIS) and the Resolution Foundation (see Chapter 2 of the main report) focused on concentration as the main metric they used.

¹¹ This data may be found on the [ONS website](#).

13. Estimating concentration within individual markets is an intuitively simple way to measure the level of competition across an economy. However, there are some caveats to note with the measurement of industry concentration that we have undertaken, and the underlying causes of observed changes industry concentration may be unclear:
14. Concentration metrics do not measure market power directly; they are one step removed. For example, an increase in concentration can be the result of a firm using anti-competitive behaviour to gain market share and exclude a rival, but it can also be the result of fierce competition, with less efficient firms being forced to leave the market.
15. We must rely on data gathered at an industry level and use these as stand-ins for economic markets. As competition occurs at a market level, changes in an industry's relative market composition may alter aggregate measures of competition without reflecting any changes in competition in individual markets.¹²
16. The mismatch between industry sectors defined by the SIC system and economic markets can be significant.¹³ Similarly, only national data is available on business turnovers whereas economic markets may be regional or local. For example, if a retail chain entered multiple local areas then there may be an increase in the measured national concentration as it is likely that the retail chain would make more sales nationally. However, there may be no increase (and possibly a decrease) in the concentration of any local markets it enters into as existing retail stores in those local areas face an additional competitor.¹⁴
17. Enterprises may perform multiple activities which are covered by multiple SIC codes. Despite this, all of an enterprise's revenues must be ascribed to a single SIC code – the one which is most important in terms of revenue. Some enterprises on the BSD list a secondary SIC code, but this is inconsistent and there is no way of judging how much of the enterprise's revenue should be ascribed to the secondary SIC code, so we have not attempted to do this. This data issue may lead to concentration being overestimated across the

¹² For example, a SIC code that includes multiple economic markets may conceal an increase in concentration in one of these markets by aggregating it with other markets where concentration did not significantly change.

¹³ Werden, G. J., & Froeb, L. M. (2018), [Don't Panic: A Guide to Claims of Increasing Concentration](#), *Antitrust Magazine* examine the defined markets in US Department of Justice merger investigations during the 1980s and find that 17 of the 47 defined markets accounts for less than 1% of the commerce of the industry code they are in.

¹⁴ Rossi-Hansberg, E., Sarte, P. D., & Trachter, N. (2018), [Diverging trends in national and local concentration](#) (No. w25066), *National Bureau of Economic Research*

economy, as firms' revenues will be overestimated in their primary SIC codes, and their secondary SIC codes will be recorded as containing fewer firms than they in fact do.

18. Our concentration metrics are based on domestic production, which means that, in an industry of international scope, they will provide a misleading view of the actual structure of the market. When charting changes in the estimated level of concentration over time, this poses a particular problem – many markets in developed countries, particularly those for manufactured goods, have seen increasing levels of imports and the closure of domestic manufacturers. This trend will cause levels of industry concentration to appear to grow as they are based on measuring an increasingly small section of the true industry, while the actual level is unknown.¹⁵

Economy-wide

19. To begin with we look at the results when aggregating all the individual 4-digit SIC codes to look at the concentration picture cross-economy from 1998 to 2018. Throughout our analysis we use C10 – the market share of the top ten firms in a given industry as our measure of concentration.¹⁶ This is an easy-to-understand measure but we should take care not to over-interpret the absolute level as underlying differences, such as the level of investment necessary to enter an industry, will mean that the optimally competitive level of C10 will vary between industries.
20. While it may be thought that a lower C10 is always better that is not necessarily the case. Due to the inherent natures of different industries, the observed level of concentration, even in competitive and well-functioning markets, will vary widely (for example, industries with very high fixed costs will be more concentrated). We are more interested in looking at changes over time, especially when looking across the whole economy.
21. There are two ways to perform this aggregation from 4-digit SIC industry to the overall economy and both are shown in Figure A.1 below:
 - (a) weighting by turnover – which is a theoretically appealing approach as turnover is also used to calculate concentration within industries and,

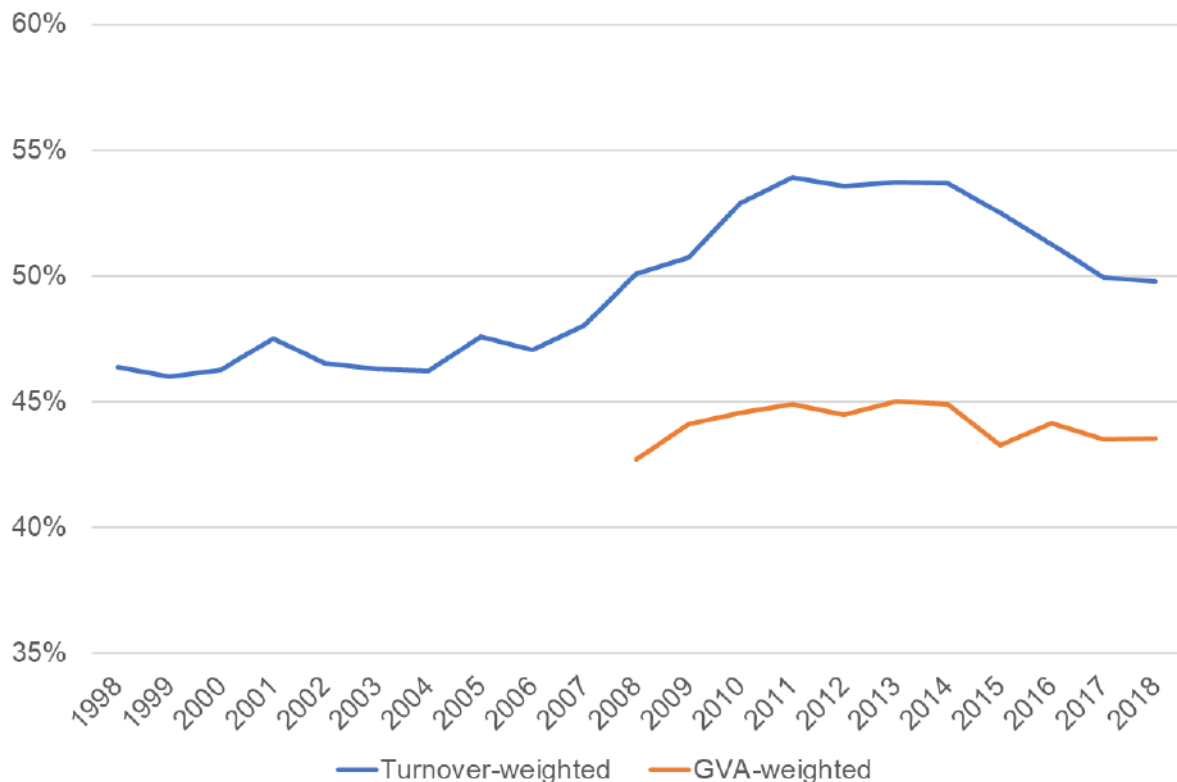
¹⁵ A similar caveat applies in industries where a large proportion of UK output is exported.

¹⁶ We also estimated the C5, C20 and HHI (the Herfindahl-Hirschman Index, explained at paragraph 2.5 of the main report) measures of concentration. The same trends are observed over time using these measures as with C10.

given the data we have, allows us to calculate concentration back to 1998. However, it places disproportionate value on industries which have high-turnovers relative to their economic importance, such as wholesaling;¹⁷ or

- (b) weighting by GVA – this approach only allows us to go back to 2008, but avoids the issue of giving disproportion weight to intermediary sectors.¹⁸

Figure A.1: Average C10, aggregated across the whole UK economy



Source: CMA analysis of ONS BSD data

Note: Excludes non-market sectors such as government services. Turnover-weighted figure excludes Finance and fuel wholesale as they have outsize effects on the aggregate figures, due to having turnovers well in excess of their economic importance. GVA figures exclude Finance and some sectors for which GVA estimates are unavailable, including several primary agricultural product sectors (coverage is similar in business count and total turnover to turnover-weighted).

¹⁷ Turnover-weighting was used by the Resolution Foundation in their analysis of UK concentration. They chose to exclude the financial sector and the fuel wholesaling industry as they both have very high total turnovers and so an unduly large effect on the overall results. Resolution Foundation (2018), [Is everybody concentrating? Recent trends in product and labour market concentration in the UK](#)

¹⁸ Figures on approximate Gross Value Added are not available for the financial sector or certain primary agricultural production industries. Publicly available data is used for this, meaning that approximate Gross Value Added figures for certain sectors with small numbers of firms are redacted by the ONS to prevent the disclosure of confidential data. Approximate Gross Value Added figures are available for 85% of non-finance, non-agriculture firms by revenue (in 2018). Approximate Gross Value Added is calculated by the ONS using [Annual Business Survey data](#).

22. Looking at the period 2008 to 2018, we can see that the two measures are fairly consistent in the trend they tell over time – both show relatively stable concentration from 2008 to 2018 (although they differ in terms of the absolute level).
23. The turnover-weighted approach (blue line in Figure A.1) shows concentration increasing between 2009 and 2011, then declining from 2014 onwards. This increase coincides with the financial crisis and the recession in its aftermath (Q2 2008 to Q2 2009). The GVA-weighted concentration since 2008 is essentially flat.
24. The turnover-weighted measure allows us to look at concentration as far back as 1998 and suggests that while concentration has declined slightly from its peak in 2011 it is still at a slightly higher level than seen from 1998 to 2008. While it is hard to compare C10 ratios (or other concentration metrics) over a 20 year period due to the inevitable drift of the actual activities of businesses away from the categorisation that the SIC classification system places them in,¹⁹ there is evidence that the peak in concentration that coincided with the financial crisis has taken some time to fall away. The trends we have found are consistent with the findings of the Resolution Foundation and BEIS reports.²⁰

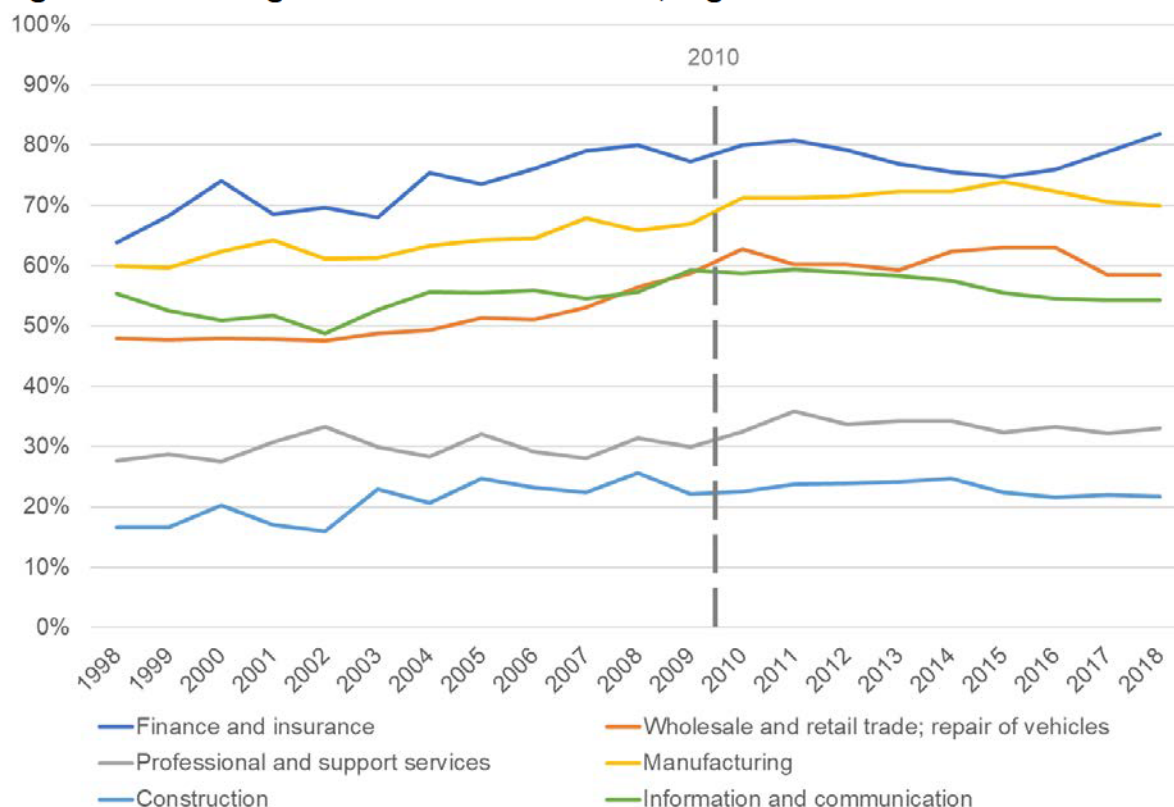
Sector-level concentration

25. There are individual trends apparent at a sector-level (ie when we aggregate all the individual 4-digit SIC codes in a specific sector) that differ somewhat from the whole economy picture. It should also be reiterated that ‘natural’ levels of concentration in different sectors will vary due to differing cost structures and other parameters. Therefore, we focus on trends in the concentration of particular industries over time, and differences in these trends between sectors.
26. Figure A.2 shows the average C10, weighted by turnover, within each sector for the six sectors in the UK economy with the highest total business turnover for the period 1998 to 2018 (the results weighted by GVA are in Figure A.4 below). These sectors account for 86% of the combined turnover of firms in the BSD.

¹⁹ Similarly, the natural level of concentration in industries will change over the longer term as technology and the firms’ cost structures evolve over time. For example, if technological advancements means that firms need to make large initial investments to compete efficiently then concentration will increase, without necessarily harming consumers.

²⁰ See paragraphs 2.21 to 2.34 of Chapter 2.

Figure A.2: Average C10 within each sector, higher-turnover sectors



Source: CMA analysis of ONS BSD data

Note: Data issues mean that figures for 1997 have been dropped and figures for 2007 may be anomalous. C10 is calculated at 4-digit SIC code level and then aggregated to sector level using a weighted average by total firm turnover.

Professional and support services includes both Professional, scientific and technical activities, and Administrative and support service activities.

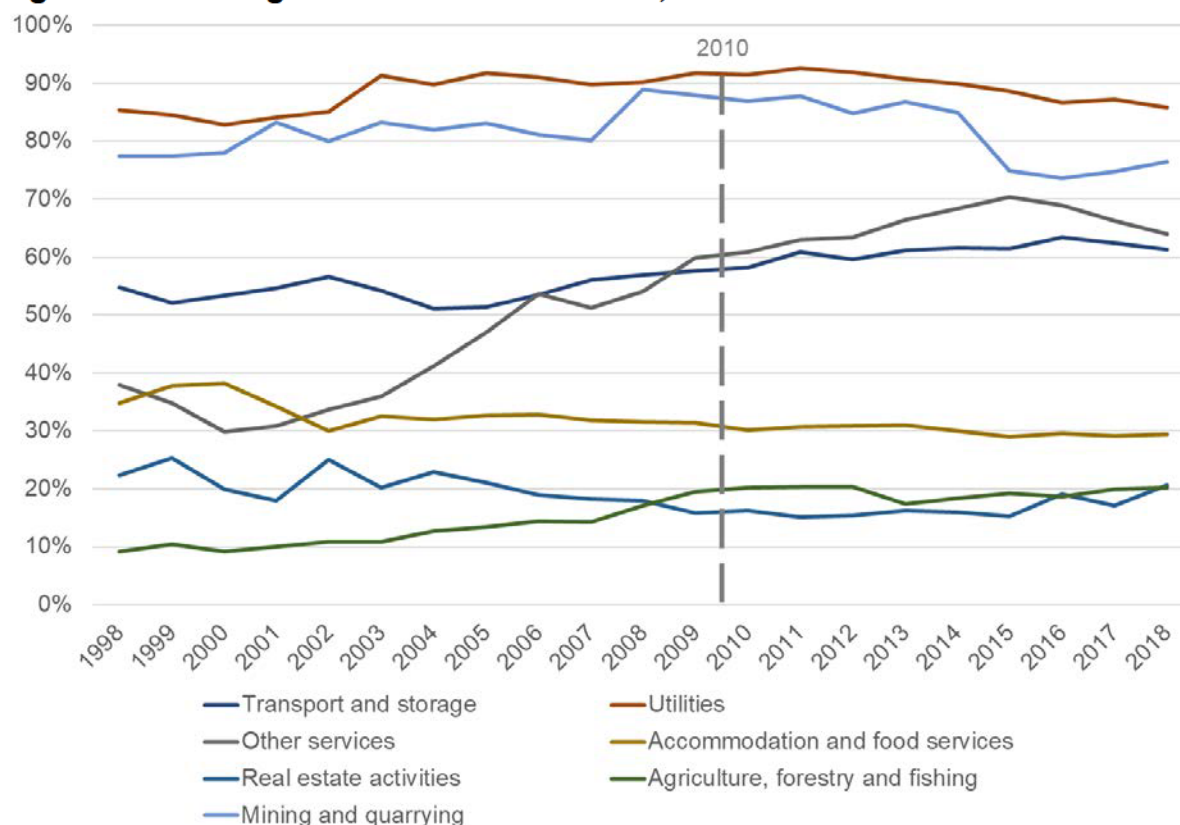
27. Figure A.2 shows that concentration (as measured by average C10 within each sector) has increased over the period for most of these key sectors, with some showing a relative peak around 2010 in the aftermath of the financial crisis. The sectors differ in the degree to which they become more concentrated prior to the financial crisis; with concentration stabilising across most sectors following that point. It is unsurprising that these trends mirror the overall picture given these sectors accounted for 86% of total turnover in 2018. Finance and insurance²¹ stands out as a sector where concentration increased the most in the run-up to the financial crisis, as do Manufacturing and Wholesale and Retail trade.
28. Changes in the structures of industries over time (while the definitions of SIC industries stay the same) mean that direct comparisons of concentration level across long periods of time may be misleading, as the SIC system will

²¹ Care should be taken in interpreting the Finance and insurance figure in particular, as the recorded turnovers of financial firms will depend heavily on the exact type of business the firm is doing and will represent a different concept to the turnover of a manufacturing or retail firm.

become poorer at describing the current activities of businesses as time passes. However, the direction and magnitude of change from one year to the next is likely to be a reliable indicator of changes taking place.

29. Most of the sectors in Figure A.2 saw an increase over the entire period. There also appears to be a relative peak around 2009/10 in the aftermath of the financial crisis, although the degree to which each becomes more concentrated differs. The concentration of the Manufacturing, Wholesale and retail trade, and Information and communication sectors all saw decreases in concentration in recent years. Concentration appears to be more stable across most sectors following the financial crisis.
30. Figure A.3 shows the average C10, weighted by turnover, within each sector for the lower-turnover sectors (the results weighted by GVA are in Figure A.5 below). This second set of sectors account for 14% of the combined turnover of firms in the BSD.

Figure A.3: Average C10 within each sector, lower-turnover sectors



Source: CMA analysis of ONS BSD data

Note: Data issues mean that figures for 1997 have been dropped and 2007 figures may be anomalous. C10 is calculated at 4-digit SIC code level and then aggregated to sector level using a weighted average by total firm turnover.

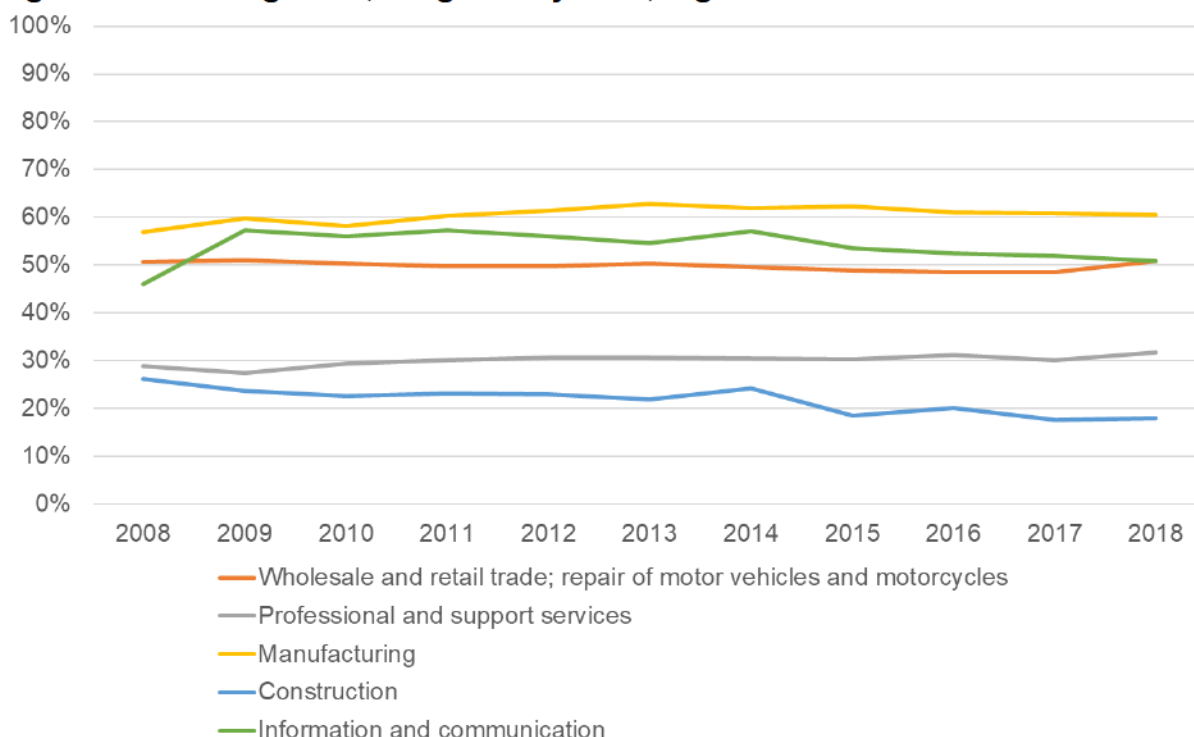
Utilities includes Electricity, gas, steam and air conditioning supply, and Water supply, sewerage, waste management and remediation activities. Other services includes Arts, entertainment and recreation, and Other services (including the repair of goods, and personal services). Public administration and defence; compulsory social service, Education, and Human health and social work sectors have been excluded as they are dominated by the public sector.

31. Some of these lower-turnover sectors exhibit similar patterns to the higher-turnover sectors as they show a relative peak around 2010 (e.g. Mining and quarrying; Agriculture, forestry and fishing; and Utilities) – albeit concentrating to a lesser extent. In contrast in some sectors concentration increases significantly throughout the period (Transport and storage, and Other services)²² while others become less concentrated over the period (Accommodation and food services, and Real estate activities).
32. When looking at sectors weighted by GVA, because we only have GVA data going back to 2008, we are unable to observe as long a time series as in the turnover-weighted charts.
33. The finding of relatively stable concentration following the financial crisis is present using either weighting. Weighting by GVA in fact appears to show more stability in concentration over time than weighting by turnover.
34. Figure A.4 shows the concentration for the higher-turnover sectors. These account for 54% of UK Gross Value Added²³ and so it is unsurprising that the stability seen at an economy-wide level is replicated here. Concentration does appear to have decreased in the Construction sector over the decade.

²² 'Other services' principally includes Arts, entertainment and recreation, and personal services.

²³ 2018 figures. No GVA figures are available for Finance and Insurance, and GVA figures are highly incomplete for Agriculture, forestry and fishing

Figure A.4: Average C10, weighted by GVA, higher-turnover sectors

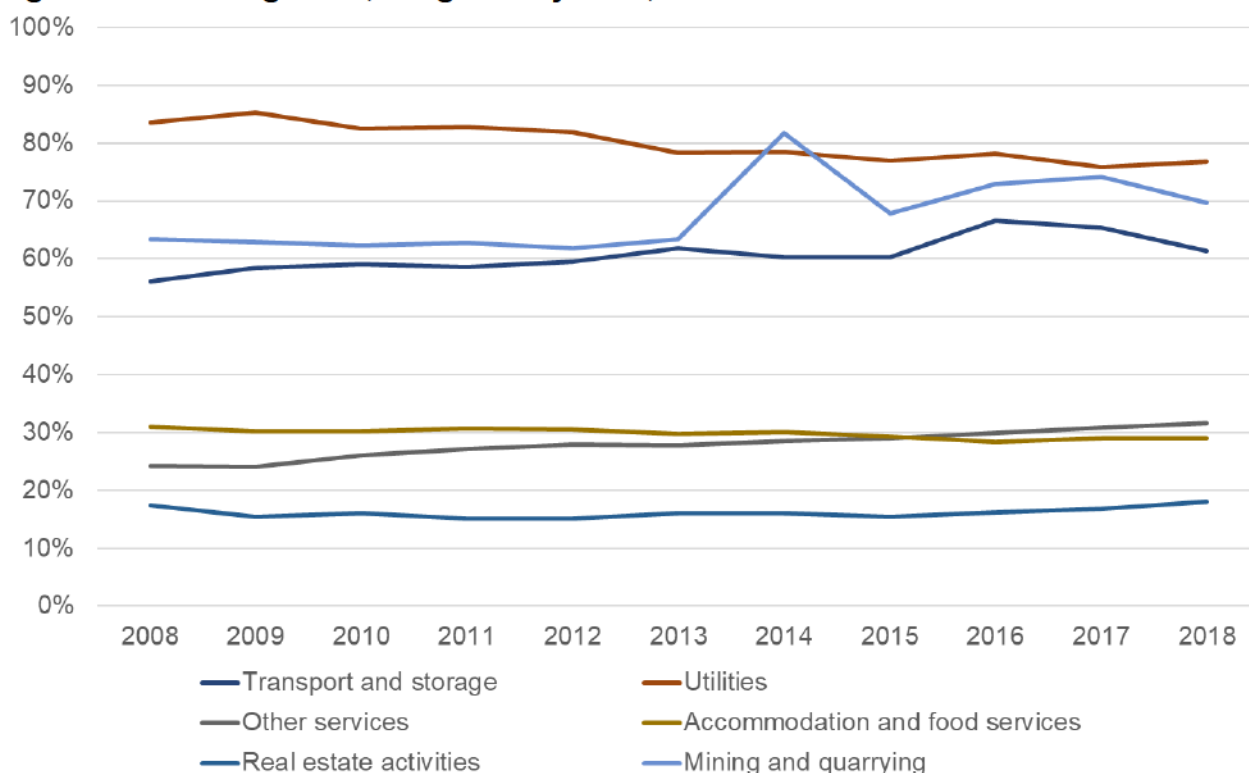


Source: CMA analysis of ONS BSD data

35. Figure A.5 shows the trend for the lower-turnover sectors, representing 15% of UK Gross Value Added.²⁴ There is slightly more variance in the lower-turnover sectors, but the picture post-2008 is still one of relative stability. However, Mining and quarrying, Transport, and Other services do show signs of increased concentration since then. In the cases of Transport and Other services this a finding common across both weightings; in the case of Mining and quarrying this contradicts the turnover-weighted findings.

²⁴ 2018 figures. An additional 13% is accounted for by real estate, but this is primarily from rents and the imputed rents of owner-occupied homes rather than the activities of businesses. Government services, including health and education, account for an additional 18% of UK Gross Value Added.

Figure A.5: Average C10, weighted by GVA, lower-turnover sectors



Source: CMA analysis of ONS BSD data

Note: Agriculture, forestry and fishing sector excluded due to very low coverage of GVA data.

Import penetration within SIC codes

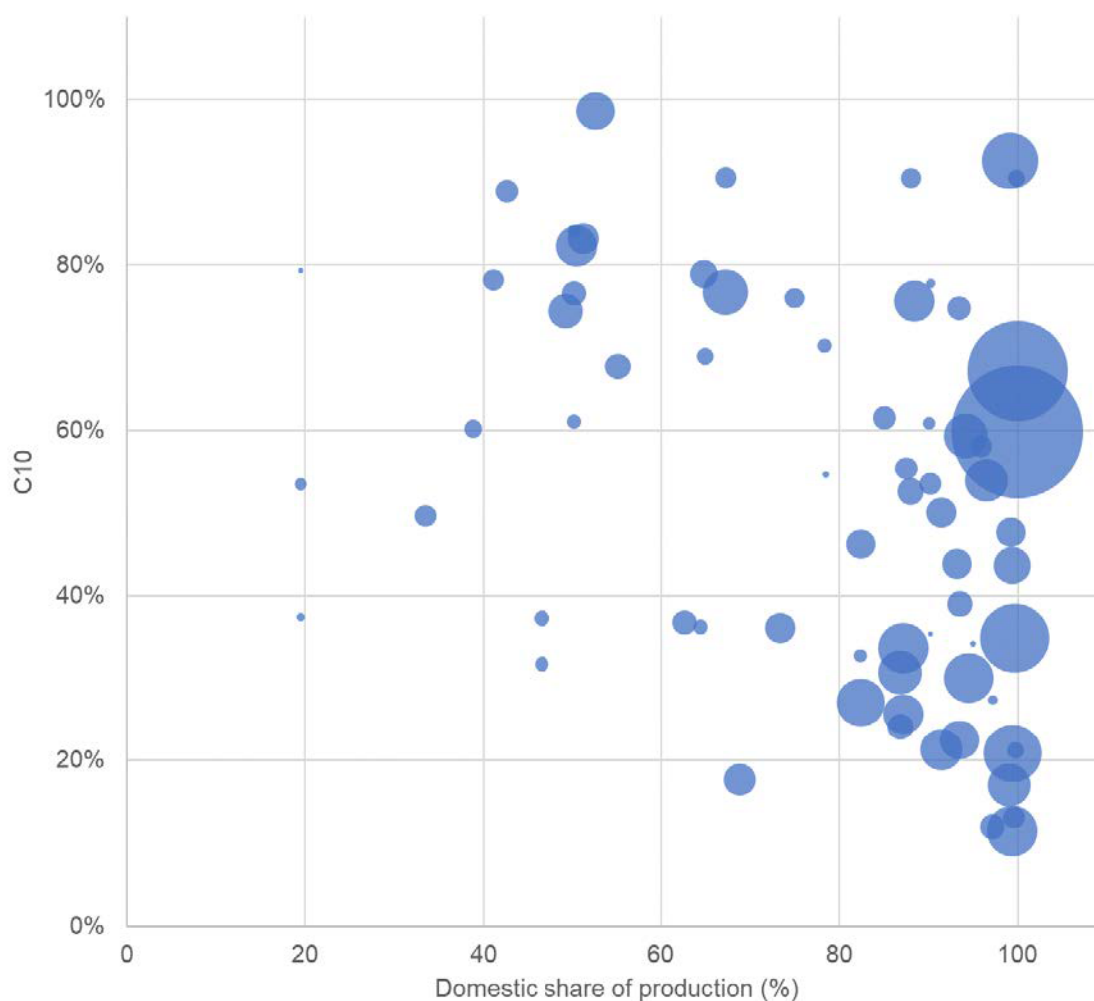
36. We may be less concerned about high or rising concentration in an industry if that sector is open to trade. Our concentration figures often do not show the effect of imports on competition, especially for primary resource extraction and manufacturing industries.²⁵ In such industries, imports may²⁶ represent competitors to the domestic firms which are not reflected in the concentration figures. The level of exports may also affect the level of competition in a sector – if an industry contains a large firm that exports the majority of its output then measured concentration will be misleadingly high – but unfortunately since firm-level data on exports are not available it is not possible to estimate this effect.
37. Figure A.6 shows concentration (as measured by C10, averaged across 4-digit industries to produce 2-digit figures) on the vertical axis, and the domestic share of production on the horizontal axis to show the possible

²⁵ In sectors such as retail, the revenues of UK-registered business from selling goods that have been manufactured abroad will be captured.

²⁶ Some recorded imports may be being performed by UK-registered firms and so be recorded in the BSD data. It is not possible to tell when this is happening.

importance of imports for competition in these industries. Each bubble represents a single 2-digit SIC code and its size indicates the total turnover of businesses in that SIC code. Bubbles on the right-hand-side of the chart represent industries with a high domestic share of production (low imports), and those on the left are industries where imports represent a greater share of domestic consumption.

Figure A.6: Concentration and domestic production share in 2-digit SIC codes, 2017



Source: CMA analysis of ONS BSD data; imports data from Eurostat

Note: Imports data is available only at a level which approximately corresponds to the 2-digit SIC code level. Some 2-digit SIC codes share the same imports figure. This is apparent in the chart where points are arranged in a vertical line.

38. The first thing we can observe from the chart is that the majority of industries have very high shares of domestic production. More interestingly for our purposes there are a number of industries that are concentrated but also have a relatively high level of imports. This is important because it highlights that while an industry may appear concentrated when looking at domestic production, domestic producers may in fact face a competitive constraint from imports.

39. Figure A.2 shows that average C10 within the manufacturing sector increased over time, from 60% in 1998 to 70% in 2018. However, imports are relatively high for many manufacturing sic codes, and increased over time with the result that industries in the manufacturing sector had domestic shares of production between 20% and 80% in 2018. This indicates that the actual level of concentration in these industries may not have increased as much as the concentration figures suggest.
40. We note it is not possible to account fully for the effects of imports on concentration because the data on degree of concentration among the importers is not available. There are also a number of highly concentrated industries with low levels of imports (top right of figure A.6) which we may be more concerned about.

Concentration within individual SIC codes

41. These economy-wide and sector-wide trends are derived from the estimated concentration at the 4-digit SIC code level. It is ultimately the changes in these that drive the sector, and whole economy, trends. It is also possible that economy-wide and sector-wide concentration can increase because higher-concentration sectors increase in size relative to lower-concentration sectors, giving them greater weight in the aggregation.²⁷ Here we discuss the broad trends and some of the most important 4-digit sic industries, but do not attempt a systematic account of all individual industry results.
42. When examining individual 4-digit SIC codes, the data issues involved in this analysis become more apparent. Because the BSD ascribes all of an enterprise's turnover to the single SIC code in which it is most active, the secondary activities of that enterprise in another SIC code may not be counted in that second SIC code, causing concentration in the secondary SIC code to be higher than it actually is. Where large enterprises change their primary SIC code from one year to another, a large change in the concentration of the SIC code it has left and which it joins may be apparent, despite the actual change in industry structure which caused the reclassification being small.
43. It is also worth reiterating that some SIC codes are considerably wider than product markets. The work by Werden and Froeb²⁸ showed that for the

²⁷ The Resolution Foundation found that a large proportion of the changes in concentration they observed were caused by such composition effects.

²⁸ Werden, G. J., & Froeb, L. M. (2018), [Don't Panic: A Guide to Claims of Increasing Concentration](#), *Antitrust Magazine*.

markets that were identified in the 1980s by the US Department of Justice in merger investigations, 17 of the 47 markets identified accounted for less than 1% of the turnover of the industry classification code they fell under. Only 14 markets accounted for more than 10% of an industry code's commerce. Defining the relevant geographic market is arguably even more important at individual SIC code levels.

Persistence of market structure over time

44. Figure A.7 looks at how the C10 for each 4-digit SIC code industries has changed over time – each represented by a bubble. The x-axis represents concentration in 2008²⁹, and the y-axis concentration in 2018. The size of the bubble indicates the total turnover of all businesses in that sector.

²⁹ We have chosen 2008 due to the SIC code change in 2007,

Figure A.7: Changes in 4-digit SIC code concentration between 2008 and 2018, bubble size indicating total sector turnover



Source: CMA analysis of ONS BSD data

Note: Financial sectors are excluded as SIC codes in finance have very high turnovers which do not reflect their actual level of economic activity

45. We can see that many sectors lie close to a line running from the origin to the top-right corner. This tells us there has been relatively little change in concentration between 2008 and 2018 – a pattern we also saw back in our cross-economy chart.
46. We can conclude from a number of large bubbles in the top-right corner that there are a number of high-turnover sectors that were highly concentrated in both 2008 and 2018. Whilst there are limitations to using turnover as a measure, it is concerning if large sectors are stubbornly and highly concentrated over time. Table A.3 below shows the five highest-turnover 4-digit SIC codes in the top right corner of the chart (with C10 greater than 80%)

in both 2008 and 2018).³⁰ Note that in the case of some of these industries there may be reasons not to be too concerned – eg Distribution of electricity is heavily regulated, and Manufacture of motor vehicles has a high share of imports.

Table A.3: Five highest-turnover persistently concentrated 4-digit SIC codes

4-digit SIC code	C10 2008	C10 2018	Total turnover 2018	Business Count 2008	Business Count 2018
Wholesale of solid; liquid and gaseous fuels and related products	88%	90%	£234bn	1,463	1,422
Retail sale in non-specialised stores with food; beverages or tobacco predominating	83%	86%	£164bn	30,721	30,878
Gambling and betting activities	94%	95%	£70bn	1,756	1,072
Distribution of electricity	99%	97%	£57bn	78	83
Manufacture of motor vehicles	93%	93%	£57bn	1,181	1,001

Source: CMA analysis of ONS BSD data

47. There are some industries where large changes in concentration have been observed. For example, the sector at the very bottom of figure A.7 – Plumbing; heat and air-conditioning installation – where C10 has fallen from 55% in 2008 to 5% in 2018. The larger sector in the upper left of figure A.7 is Manufacture of non-domestic cooling and ventilation equipment, where C10 rose from 28% to 86%.
48. Overall, concentration is a useful first metric in assessing the state of competition in the economy. Subject to the caveats mentioned at the start of this section, an industry with very low concentration may be less likely to raise major competition concerns especially where the SIC industry definition matches a product market relatively well. In concentrated sectors, more detailed examination is needed to judge whether competition is working well.

Dynamic measures

49. Dynamic measures of market structure go beyond what static measures such as concentration can tell us. In a well-functioning market, we would expect to see that the positions of top firms are contestable by other top firms and by newer entrants. We would also expect to see new firms entering the market, and replacing incumbent firms which exit. If a lot of this dynamism is apparent in a market, then even a market with consistently highly concentration may, in fact, be competitive.

³⁰ Note that this only includes sectors for which data has not been suppressed due to ONS disclosure rules.

50. In measuring dynamic competition, there is a potentially limitless range of dynamic indicators which could be estimated – indicators can focus on different aspects of firm position (turnover, rank within industry, etc), and can be measured over different time ranges. We have chosen to focus on a small group of metrics which capture different aspects of dynamic competition.
51. The rates of entry and exit provide an indication of one part of healthy markets – the ability of brand-new firms to enter a market and the propensity for less efficient firms to be displaced, though these rates alone cannot tell us how successful the new entrants become, or whether it is indeed less efficient firms which exit.
52. The mean ages of large firms (those with more than 250 employees) indicates the extent to which older firms are displaced from industries. As such, it is a measure of contestability – the propensity for established firms to have their positions taken.
53. The likelihood of the top firms in an industry remaining the top firms in the industry three years later, which we term ‘rank persistence’, is an indication of how contestable the positions of the very largest firms in the UK economy are.

Entry and exit rates

54. The most widely used dynamic measures of competition are the rates of entry and exit. The link between firm exits and the level of competition is more indirect. In a well-functioning market with healthy level of firm entry, it may be expected that less efficient firms will exit the market as they are replaced and outcompeted by more efficient firms.
55. However, high entry and exit do not necessarily indicate dynamism; it could be the case that new firms are failing to challenge the incumbent firms, and the firms which exit represent recent (effectively failed) entrants rather than older, less efficient firms. In addition, entry and exit rates may not tell us much about dynamism in parts of markets occupied by large firms, as the entry and exit of larger firms will be overwhelmed in the statistics by small firms (which is why we also consider metrics focused on larger firms). Finally, the exit of too many firms from a market may lead to there being too few firms remaining to sustain strong competition; this is especially likely to be the case where firm exits are caused by external factors such as financial crises.
56. It is also worth noting how the way in which the BSD database works may affect the measurement of entry and exit rates. The entry and exit rates we calculated can only measure instances when entire enterprises are

established and dissolved. Entry into a market by a firm already operating in another market, or exit by a firm that continues to operate in another market will not be captured by these measures because they do not result in the formation or closure of a recorded enterprise.

Methodology

57. The BSD records the dates of the formation and closure for each of the enterprises on the dataset. The number of recorded entrants and exiting enterprises in each year may be counted and divided by the number of active enterprises in that year to give percentage rates of entry and exit. Often, firms become inactive (and so effectively exit even though an enterprise is not removed from the BSD) but this technique does not take account of whether firms are active or inactive, in contrast to other metrics estimated in this report which only include active firms.³¹ For this reason, entry rates tend to be consistently higher than exit rates.
58. While the static concentration analysis groups enterprises recorded on the BSD into enterprise groups, this correction is not used in the dynamic analysis. This is because it is not possible to consistently and accurately trace the ownership of enterprise groups over time due to events such as mergers and takeovers.³² This means that the continuity of ownership of a given enterprise or enterprise group may be unclear over time. This may bias the results, though it is not clear in which direction.

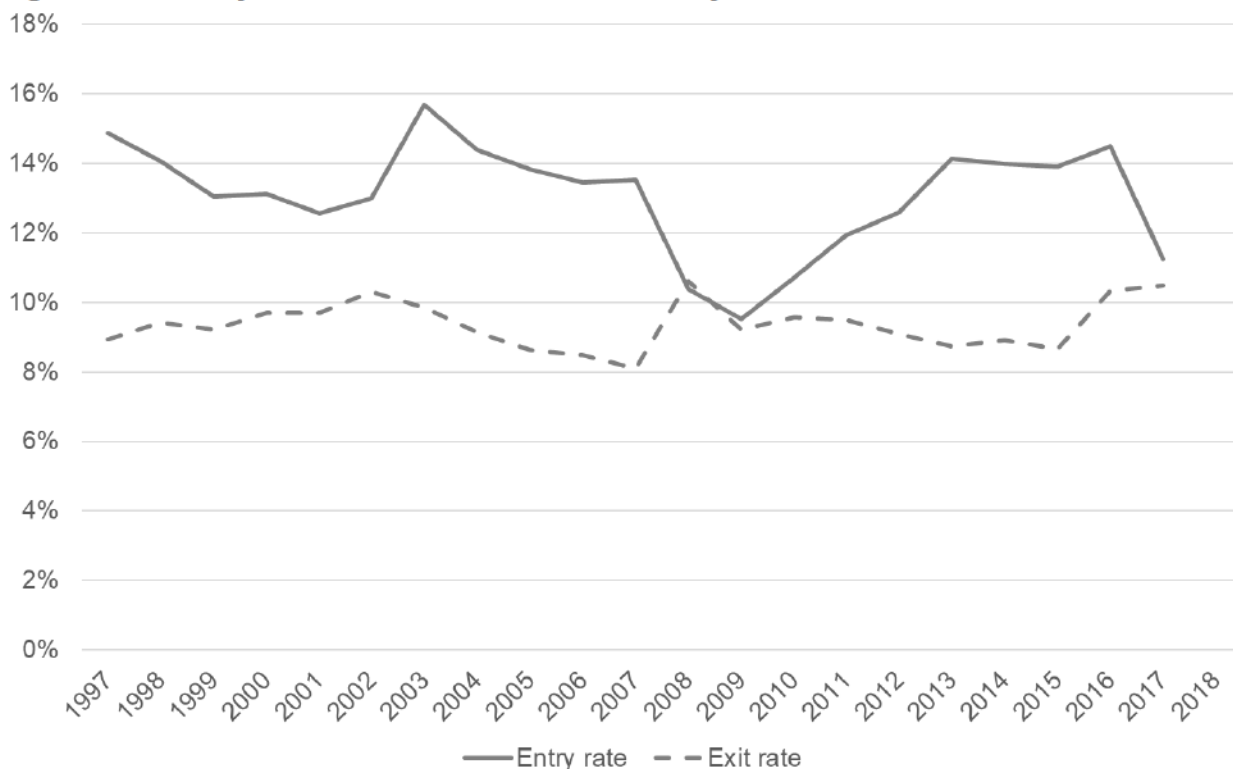
Economy-wide results

59. Entry and exit rates for the whole UK economy are shown in Figure A.8. The tendency in the data of entry rates to be higher than exit rates, reflecting firms becoming inactive but not ceasing to exist, is apparent here.

³¹ An alternative methodology which relied on the first and last years when an enterprise was recorded as being active in the BSD was also used to calculate entry and exit rates. The same trends in entry and exit rates are apparent. This methodology was not chosen as the primary one because it appears to be noisier, reflecting the data lags which can occur from the way in which the BSD is updated each year.

³² Demographic events such as these are not consistently identified in the BSD, preventing the estimate of ownership-corrected dynamic measures.

Figure A.8: Entry and exit rates, whole economy



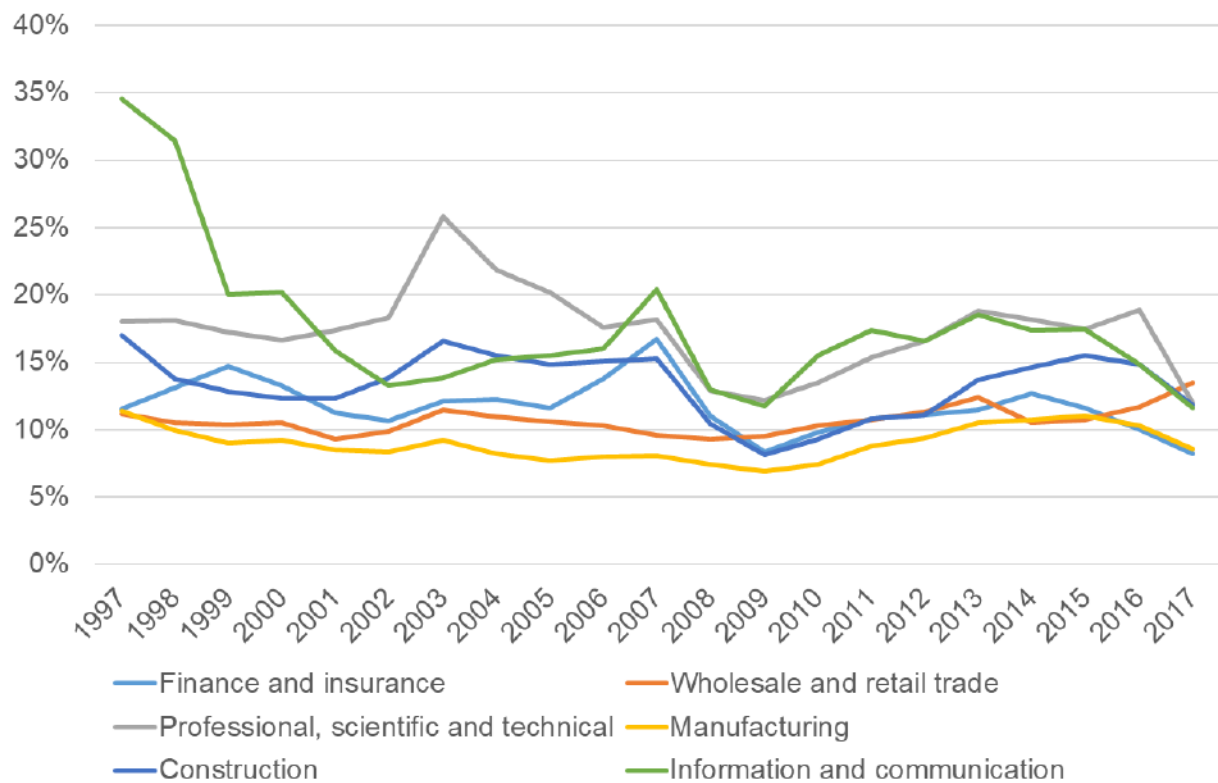
Source: CMA analysis of ONS BSD data

60. The main visible event in entry and exit rates is the financial crisis in 2008. This caused the entry rate to fall, before it gradually recovered to its previous levels in 2013/14. A sudden spike in the exit rate is also seen during the financial crisis as well as a small increase in 2016/17. Other than this, the exit rate is broadly stable over time at approximately 9%. The entry rate is more volatile, including a brief increase in 2002/03, but usually reverting to around 13 or 14%.

Sector level results

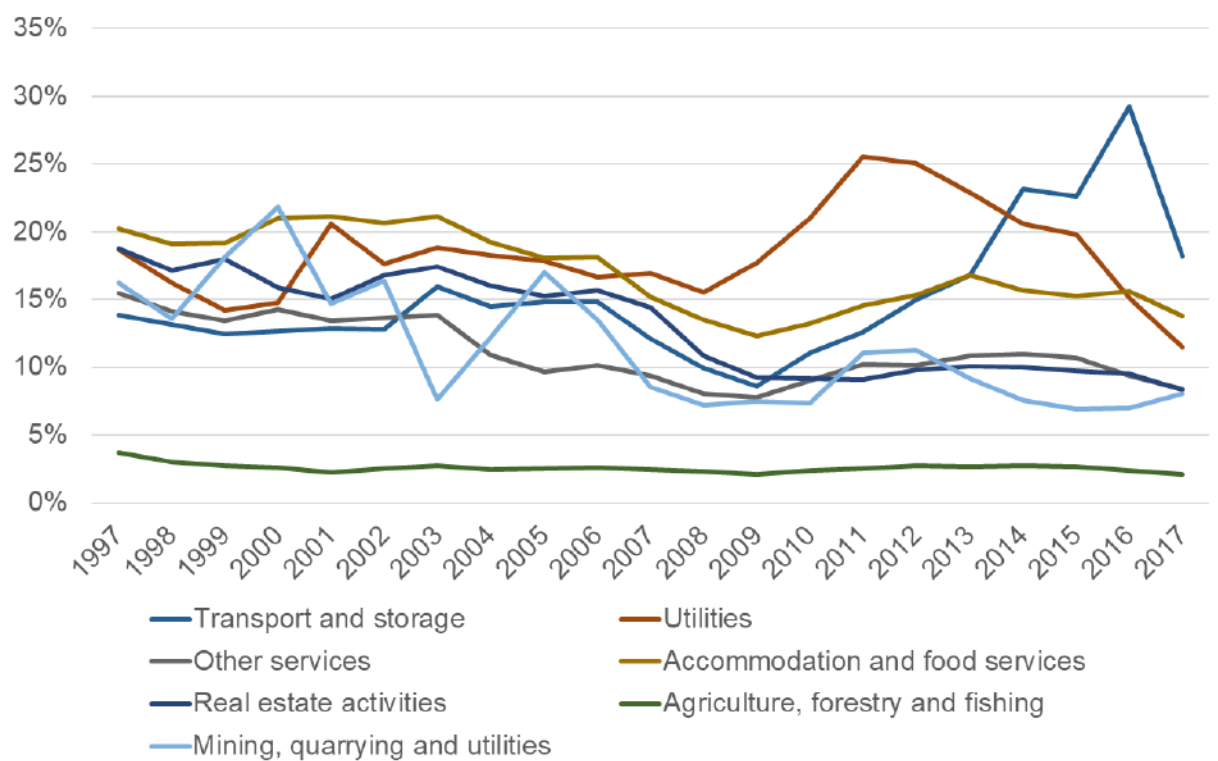
61. Entry and exit rates for the higher and lower-turnover sectors are shown in Figures A.9 to A.12.

Figure A.9: Entry rates, higher-turnover sectors



Source: CMA analysis of ONS BSD data

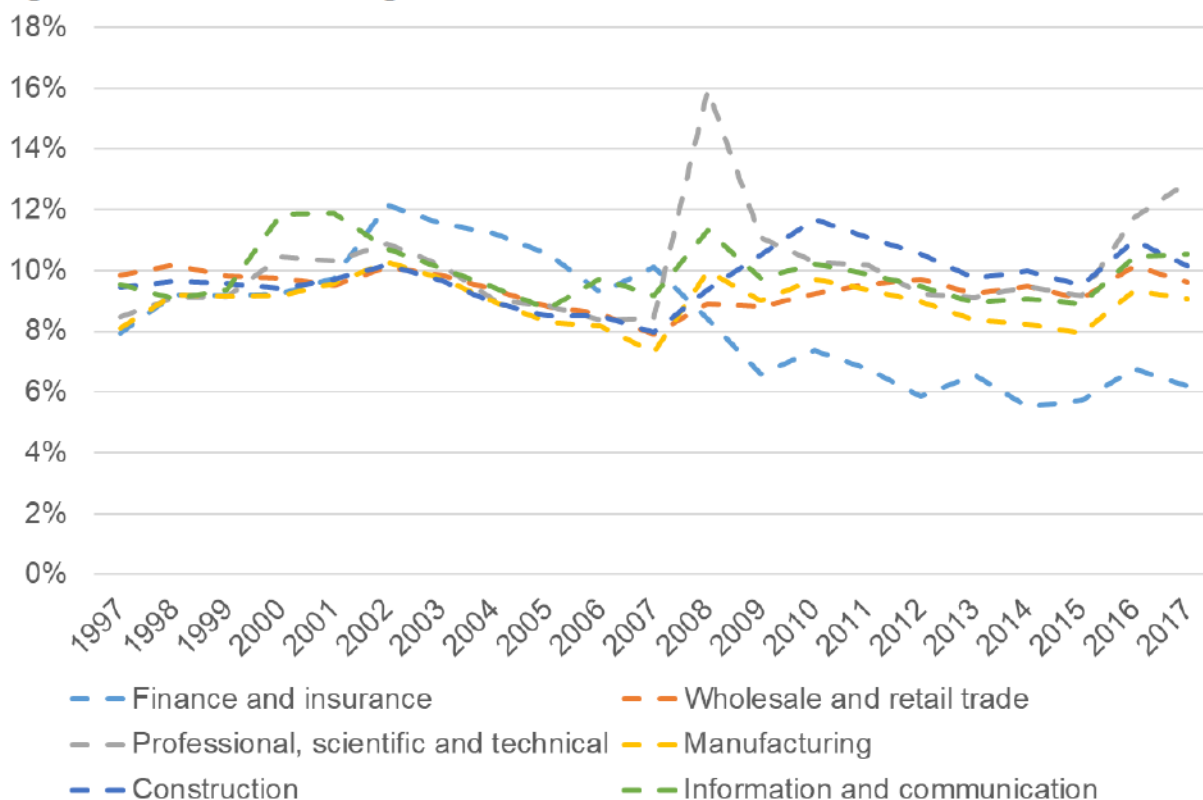
Figure A.10: Entry rates, lower-turnover sectors



Source: CMA analysis of ONS BSD data

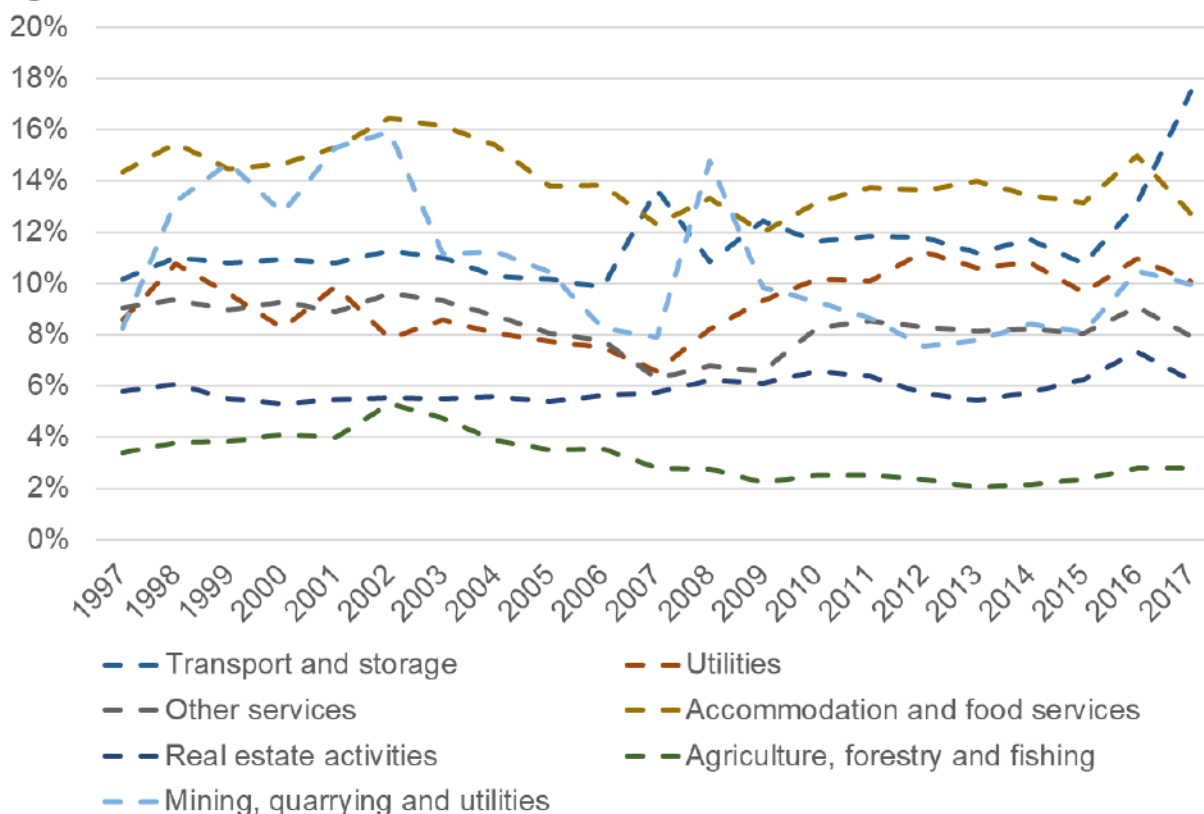
62. In the sector-level entry rates we can see that the decrease in the economy-wide entry rate during the financial crisis was driven by a particular group of sectors – Information and communication; Professional, scientific and technical services; Finance and insurance; and Construction. Information and communication; and Professional, scientific and technical services have notably high rates of entry earlier on in the time series. Wholesale and retail trade, and Manufacturing maintained very stable entry rates over time (though lower than other large sectors), without any significant dip being observed during the financial crisis.
63. Among the lower-turnover sectors, there are varied trends including several sectors which experienced a decline in entry rates following the financial crisis. Utilities and Real estate activities experienced higher entry rates in the years following the financial crisis. The entry rate in Agriculture, forestry and fishing is consistently low compared to other sectors.

Figure A.11: Exit rates, higher-turnover sectors



Source: CMA analysis of ONS BSD data

Figure A.12: Exit rates, lower-turnover sectors



Source: CMA analysis of ONS BSD data

64. Among higher-turnover sectors, exit rates are relatively similar and stable over time for the early part of the time series. Professional, scientific and technical services experienced a large spike in its exit rate during the financial crisis, and Information and Communication a smaller increase. Finance and insurance had a relatively high exit rate in the years prior to the financial crisis, falling to a level below that of the other higher-turnover sectors afterwards. Other sectors continued on a constant and similar exit rate for the most recent ten years.
65. Exit rates among the lower-turnover sectors are far more varied. Accommodation and Food Services consistently had the highest or near-highest exit rate of all sectors, followed by Mining and quarrying, and Transport and storage. Real estate activities, and Agriculture, forestry and fishing consistently had the two lowest exit rates.
66. Overall, at the whole economy level, entry and exit rates appear to be cyclical – with entry decreasing and exits spiking during the financial crisis. The individual sector trends show that these cyclical trends are driven by only some sectors. The large variability between the entry and exit rates of different sectors is also notable.

Average age of large firms

67. While the rates of entry and exit are informative about an important part of dynamic competition, these metrics focus principally on the smallest firms in the economy. Firms are likely to be small when they are first established, and a large proportion of exiting firms are likely to be small also. Given this, there is value in metrics that examine larger firms in the economy. The average age of large firms (those with more than 250 employees) is one such metric and here we focus on the change in mean firm age from year to year.³³
68. In a completely undynamic economy, the mean age of firms may be expected to increase at a rate of one year per year, as the stable group of large firms increases in age. A rate of increase slower than this indicates that the population of large firms is becoming younger. This could be either through older firms exiting or becoming smaller, or through younger firms entering or becoming larger – or, more likely, a mixture of these two effects.

Methodology

69. The age of a firm on the BSD dataset may be calculated by subtracting the current year from the date when it is recorded as having been formed. This is done only for firms which are active and which employ at least 250 people. This prevents the mean age being skewed by inactive or very small firms.
70. A data issue with the BSD is that many firms are recorded as having been formed in 1973 and almost no firms as being born before this. This indicates a problem with the recording of the years that businesses were formed prior to 1973. This type of data issue is known in econometrics as ‘left censoring.’ A solution to this is to estimate a Tobit model using the data,³⁴ and derive a mean from this – essentially treating the firms recorded as having been born in 1973 as having being born in or prior to that year, and estimating what the mean would have been if this data issue did not exist.

Results

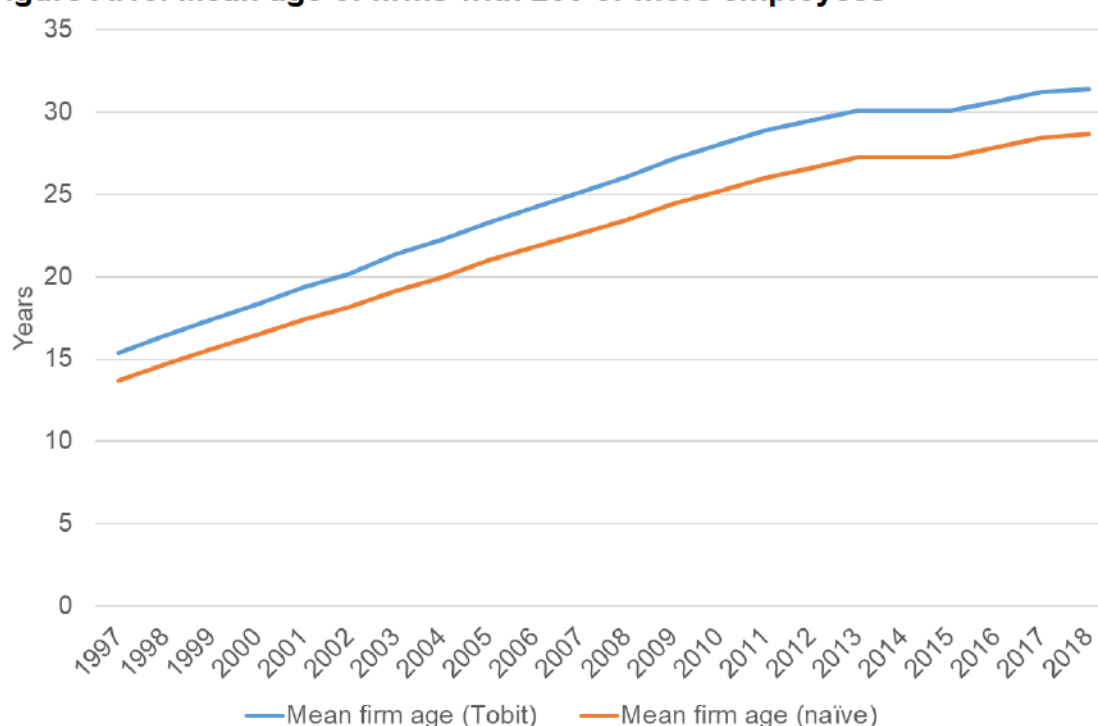
71. The mean age of firms with at least 250 employees is shown in figure A.13. Both the ‘naïve’ method, which does not account for the left censoring

³³ This metric was estimated for individual sectors by BEIS in their indicators of concentration and churn, released alongside the commissioning of the State of Competition report from the CMA.

³⁴ A Tobit model is a kind of regression models which is designed to estimate linear relationships between variables where there are censoring issues in dependent variables. Discussions of Tobit models may be found in many econometrics textbooks. A discussion of implementing Tobit models in Stata may be found [here](#).

problem and so treats firms recorded as having been formed in 1973 as having been formed in 1973, and the Tobit method, which corrects for this, are shown.

Figure A.13: Mean age of firms with 250 or more employees



Source: CMA analysis of ONS BSD data

72. The Tobit method finds a consistently higher mean firm age, as expected because it acknowledges that many of the firms recoded as being formed in 1973 actually formed prior to 1973. Regardless, both methods show that the mean age of large firms in the UK has steadily increased over time.
73. The 'naïve' mean age of firms rises from 14 to 27 between 1997 and 2013, a rate of increase of between 0.6 and 1 years per year between 1997 and 2013. This indicates that large firms in the UK economy were a relatively stable group over this period. After 2013, the 'naïve' mean firm age of large firms increased at a much slower rate – between zero and 0.6 years per year (rising to 29 in 2018). The cause of this requires further investigation, though it coincides with a sharp increase in the number of large firms, following this figure being relatively stable previously (see Table A.4 below).

74. Among individual sectors, the same trend of steadily increasing firm ages may be observed. There is a lot of variation between sectors, however. The mean age of firms in the Wholesale and retail trade sector is 34 years in 2018, compared to 22 years for Accommodation and food services. Table A.4 shows the mean ages of firms with at least 250 employees in 2018 in each sector.

Table A.4: Mean ages of firms with 250 or more employees, across 20 years in different sectors

Sector	Mean firm age			
	1998	2008	2013	2018
Finance and insurance	14	23	26	29
Wholesale and retail trade	16	27	31	34
Professional, scientific and technical	14	21	24	25
Manufacturing	15	26	31	34
Construction	16	26	29	29
Information and communication	13	22	26	27
Transport and storage	13	24	29	31
Utilities	13	23	28	26
Other services	15	23	27	29
Accommodation and food services	14	21	23	22
Real estate activities	12	17	22	24
Agriculture, forestry and fishing	15	22	29	32
Mining, quarrying and utilities	14	26	30	31
Overall	15	23	27	29
Number of UK firms with 250+ employees	6,818	6,597	6,505	7,754

Source: CMA analysis of ONS BSD data

Note: Mean firm ages are calculated using a simple average. There is a data issue around the ages of firms founded prior to 1973. The alternative specification using a Tobit model accounts for this issue. This specification increases the estimated mean ages of firms slightly, but otherwise shows the same results over time and between sectors.

75. Similar trends are apparent in the changes over time at the sector level to those observed at the economy-wide level, with no sectors clearly bucking the trend or particularly driving it. The period where the mean age of large firms slowed in its growth corresponds to when economy-wide concentration started falling, and to when entry rates recovered.
76. This metric shows a clear trend, but its interpretation is relatively untested. We are not aware that this has been estimated in other countries – the figures released by BEIS, also for the UK, are the only other time this has been estimated as a metric of dynamic competition that we are aware of. An academic interrogation of what this metric can tell us, especially with respect to its level rather than just its change, would be valuable.
77. The underlying causes behind the observed trends are not currently well understood. It is unclear whether the post-2012 shift is driven primarily by the

effects of older firms exiting (or becoming smaller) or by newer firms growing. The latter is consistent with the fact that the change we observe coincides with a sharp increase in the number of large firms (a number that had been relatively stable previously) and would perhaps be a more clearly positive sign for the state of competition.

Rank persistence

78. The extent to which the largest firms in an industry are the same over time is an intuitively simple way of considering dynamic competition. In a well-functioning competitive market, it may be expected that firms will shift in and out of the top positions over time.

Methodology

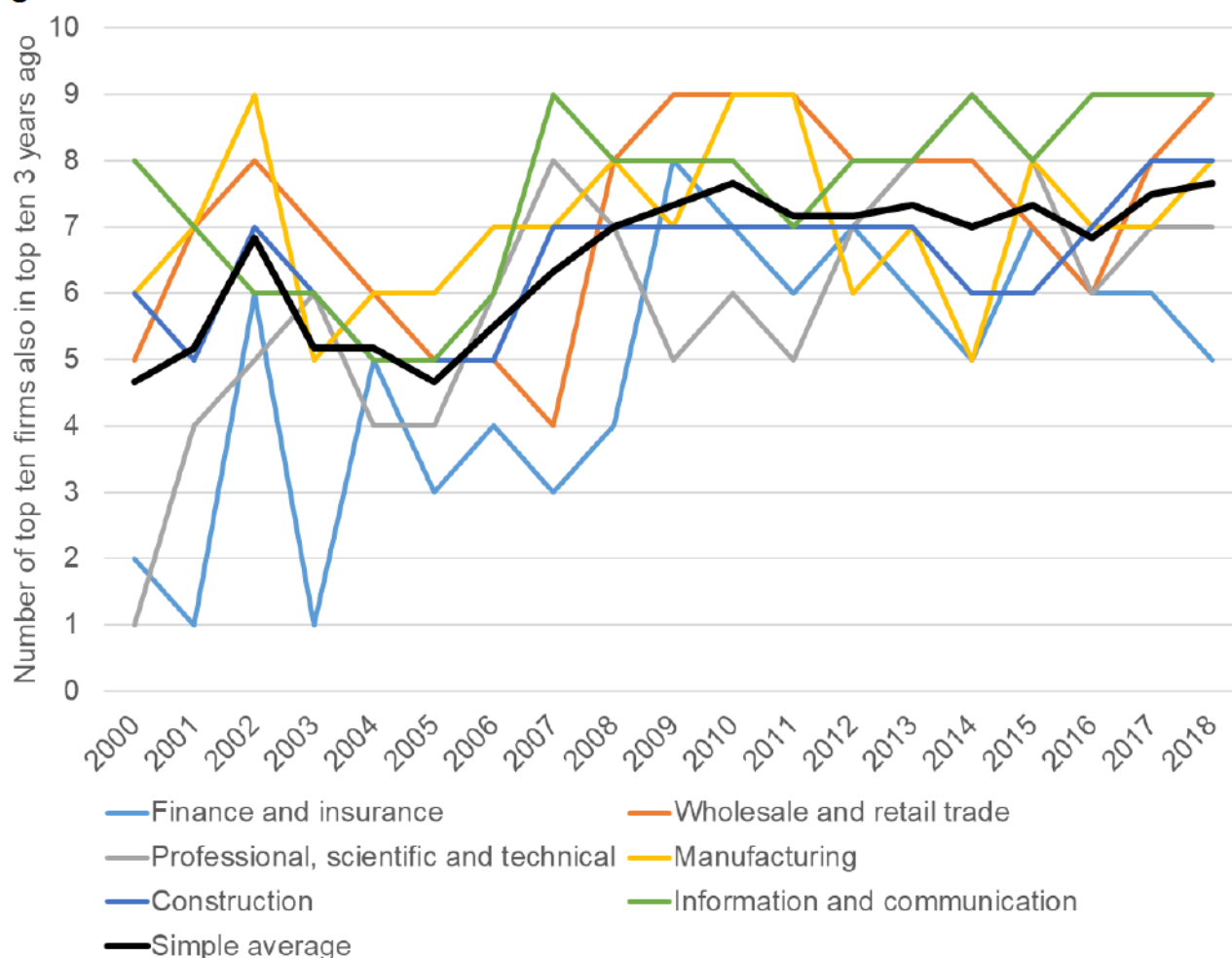
79. We chose a relatively simple approach to estimating the tendency of top firms to remain the same over time. The top ten firms by turnover within each sector in each year are identified and compared with the top ten firms three years previously. The number of firms which were in the top ten in both years is then counted. This approach parallels one used by Philippon in 'The Great Reversal',³⁵ which counts the proportion of top ten firms which are in the same rank position as three years ago.
80. In the BSD data, firms often change their primary SIC code from year to year. This reflects the fact that many large firms engage in multiple activities across different SIC codes, and which activity represents their primary business may change over time. In some contexts, this switching of SIC codes over time does not represent a problem (though the broader issue of the secondary activities of firms being excluded from the analysis is significant). In this metric, however, it is necessary to assign each firm to a single SIC code so the changes in firm ranking over time can be observed. This has been done by assigning each enterprise in the BSD to the SIC code in which they generated the most turnover over the whole time period. In the sector level results, this data issue is less apparent as firms are less likely to change their primary sector.

³⁵ Philippon, T. (2019), *The Great Reversal: How America Gave Up On Free Markets*, Harvard University Press.

Sector-level results

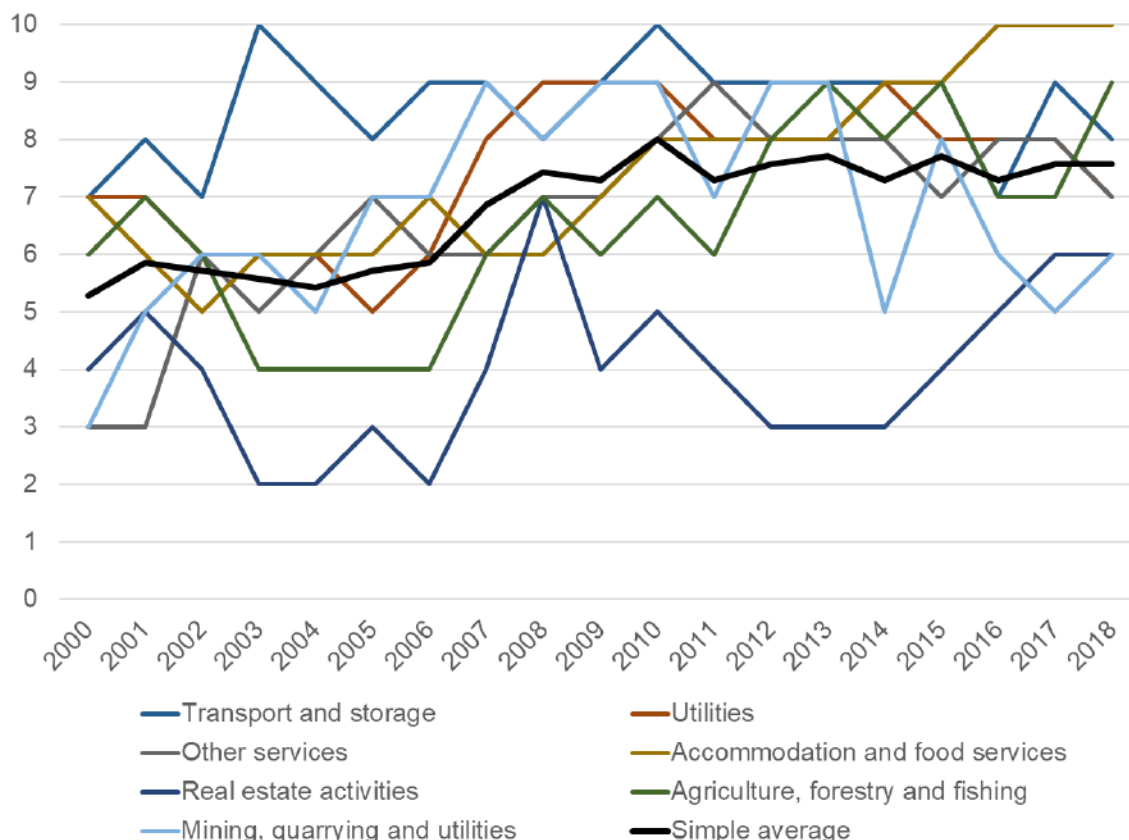
81. The numbers of top ten firms in each sector which were also top ten firms three years previously in each sector over time are shown in Figure A.14 and Figure A.15.

Figure A.14: Rank persistence over three years of top ten firms in each sector, higher-turnover sectors



Source: CMA analysis of ONS BSD data

Figure A.15: Rank persistence over three years of top ten firms in each sector, lower-turnover sectors



Source: CMA analysis of ONS BSD data

82. An overall increase in rank persistence over time is visible (bold black line) among the higher-turnover sectors (Figure A.14), with particularly large increases observed in the Professional, scientific and technical services (grey line), and Finance and insurance sectors (light blue line). These sectors saw rank persistence as low as one in the early years of the time series, but consistently above five and sometimes as high as eight or nine in later years. Several prominent sectors observed high rank persistence over the most recent ten years, including Wholesale and retail trade, and Information and communication, both of which had rank persistence of nine in several years, indicating a great deal of stability in the identities of the top businesses in the sector.
83. Among the lower-turnover sectors, no consistent trend is visible. Some of these sectors have consistently higher rank persistence – such as Transport and storage – and others consistently lower – such as Real estate activities. Accommodation and food services is notable for its steady increase over time.

Annex B: Partial ownership

1. In Chapter 2 and Annex A we calculated concentration metrics that took account of majority ownership links identified in the ONS's dataset.³⁶ We treated enterprises that belong to the same enterprise group as being just one competitor in the relevant industry.³⁷ While companies with common majority ownership do not commonly compete against one another and majority-owned subsidiaries do not commonly compete with their parents,³⁸ the degree to which partial ownership links weaken competition is more difficult to gauge.
2. In this annex we consider the issue of partial ownership, discuss some empirical studies, and present preliminary findings from an analysis of ownership data from Companies House. Finally, we set out the areas for further work and our recommendations.

Partial ownership and competition

3. In this section we set out the potential impact of two types of partial ownership, cross and common ownership, on competition.
4. For these purposes, cross ownership refers to market participants directly owning shares in one or more of their competitors in the same market. In contrast, common ownership generally refers to investors (mostly, but not only, of the large institutional kind) who own stakes in a number of competitors in the same market.³⁹

³⁶ We have used 'Who Owns Who' data from the ONS to link enterprises that are part of the same group. An enterprise group is a cluster of legal units under the same majority control, direct or indirect (for example, owning 50% plus 1 of the voting shares, or indirectly controlling a majority of the voting rights). See: BSDG/DMES (2015) Notice of intention on the consistent implementation of Council Regulation (EC) No 696/93 on statistical units.

³⁷ 'The enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. [...] An enterprise group is an association of enterprises bound together by legal and/or financial links. A group of enterprises can have more than one decision making centre, especially for policy on production, sales and profits. It may centralise certain aspects of financial management and taxation. It constitutes an economic entity which is empowered to make choices, particularly concerning the units which it comprise.' See: ONS (2006), [BSD user guide](#), p7.

³⁸ Wharton Business School (2009), [Competing Subsidiaries: The Enemy Within?](#)

³⁹ For the avoidance of doubt, the use of the terms 'partial ownership', 'cross-ownership' and 'common-ownership' in this annex are not intended to reflect the approach taken by the CMA to control in the context of merger control. Use of these terms in this chapter is distinct from the concepts of common control, and from the assessment of whether a person is able materially to influence the policy of a body corporate, under section 26 of the Enterprise Act 2002. It is not intended that statements in this paper regarding minority control should be interpreted as relevant to the basis for, or the assessment of, control or material influence under the Enterprise Act 2002.

5. While competition authorities have considered the impact of cross ownership in a number of merger cases in recent years (eg in the UK cross ownership has been considered in Ryanair/Aer Lingus,⁴⁰ BSkyB/ITV,⁴¹ Amazon/Deliveroo⁴²), the impact of common ownership has been considered to a much lesser extent.⁴³ While this is the case, recent literature argues that common shareholdings can also reduce competition, including when the stakes held in common are relatively small (see paragraphs 15 to 20 of this annex).

Reduced incentives to compete

6. Cross ownership and common ownership can both reduce the incentives for firms to compete. When deciding how hard to compete, a firm trades off the benefits (eg growth in the volume of sales) against the costs of doing so (eg reduced profit per sale).
7. Under cross ownership there is an additional cost to a firm when competing as, by competing harder, the firm will reduce the volume and profits of its competitors thus reducing the value it derives from the stakes it has in any rivals. This reduces the incentives of the firm to compete and thus, all else being equal, one should expect less competition in a market characterised by cross ownership compared to a market where there is no cross ownership.
8. Similarly, under common ownership, where an investor's portfolio contains multiple firms active in the same market, stronger competition would be expected to reduce overall profits (and therefore dividends and other payoffs) across the portfolio. This reduces the investor's incentives to push for the firms to compete. Again, this means that, all else equal, one should expect

⁴⁰ The Competition Commission investigated the acquisition by Ryanair of a 29.8% stake in Aer Lingus and required Ryanair to sell its stake down to 5%. For further information see the [case page](#) on the CMA's website.

⁴¹ The Competition Commission investigated the acquisition by British Sky Broadcasting (BSkyB) Group PLC of 17.9% of the shares in ITV PLC and concluded that the acquisition was likely to result in a significant lessening of competition arising from a loss of rivalry between ITV and BSkyB in the all-TV market. For further information see the [case page](#) on the CMA's website.

⁴² The CMA cleared the anticipated acquisition by Amazon.com NV Investment Holdings LLC of certain rights and a minority shareholding in Roofoods Ltd (trading as Deliveroo). For further information, see the [case page](#) on the CMA's website.

⁴³ In the Dow/DuPont merger the European Commission noted that market shares tend to underestimate concentration and considered that common shareholding is to be taken as an element of the context in any appreciation of any significant impediment to effective competition raised in the Decision. See the European Commission's [final report](#) on the Dow/DuPont merger dated 27 March 2017.

less competition in a market characterised by common ownership compared to a market where there is no common ownership.⁴⁴

9. The degree of any weakening of competition will be highly dependent on the extent and nature of the cross ownership and common ownership. Formally, partial ownership typically consists of two elements: financial interest; and control/influence rights.⁴⁵ In practice, these formal elements may be complemented by softer forms of influence.⁴⁶ It is all of these factors that need to be considered in specific cases to understand the implications of cross ownership and common ownership.
10. For example, in relation to common ownership, if the same investors held minority shareholdings of, for example, between 5 and 10% in each firm, this could lead to a dampening of competition where owners have a degree of influence. In such a situation an investor's ability to affect the decisions and competitive incentives of a firm will be affected by, among other things, upon:
 - (a) the size of its shareholding relative to other investors and the composition of the remainder of investors; and
 - (b) the governance structure of the firm, the investor's voting abilities and its relationship with management.
11. The overall impact of all of these factors would need to be considered in the round. For example, shareholders' voting rights, which allow investors to vote on specific strategic decisions and to influence a firm's governance, may understate the influence an investor is able to exercise where that investor's shareholding alone is used as a proxy for control. Many with the right to vote fail to exercise it, particularly where their share is relatively small. This means that those who do actively vote have a much greater 'effective share' than is implied by their individual shareholding.⁴⁷ Consequently, minority shareholders' influence in decisions regarding executive pay and the

⁴⁴ This view, which some might portray as controversial, is supported by an increasing body of evidence which we discuss in paragraphs 15 to 20 of this annex.

⁴⁵ O'Brien, D., and Salop, S., (2001), [Competitive Effects of Partial Ownership: Financial Interest and Corporate Control](#)

⁴⁶ Investors may also meet management directly to express opinions on business strategy. By way of example, the annual report of Vanguard, an investment management company states: 'We meet with portfolio company executives and directors to share our long-term orientation and principled approach and to learn about companies' corporate governance practices. We characterize our approach as deliberate, constructive, and results-oriented' and 'Our team votes proxies at public company shareholder meetings on behalf of each of our global equity funds. Because of our advocacy and engagement efforts, by the time our funds' votes are cast, companies should be aware of the priorities and governance principles we deem most important to the creation and protection of long-term shareholder value.' ([Vanguard Investment Stewardship Annual Report 2020](#), p5)

⁴⁷ For example, see Competition Commission (2015), [Ryanair/Aer Lingus merger inquiry](#)

appointment of board members, for example, may provide sufficient incentive for firms to act in the interests of those shareholders.⁴⁸ Thus, institutional investors that hold stocks passively may still be able to achieve a reduction in competition within a market through their engagement with management and voting.⁴⁹

Facilitating tacit collusion

12. Cross ownership and common ownership both have the potential to facilitate tacit collusion between firms.⁵⁰ For example, cross ownership and common ownership can facilitate communication between firms and incentivise coordination to maximise profits.⁵¹ In theory it can also make collusion more stable – for example, with cross ownership a firm that deviates will reduce the profits it makes from competitors in which it has a shareholding.
13. As with reduced incentives (outlined at paragraph 9), the exact impact will depend on the extent and nature of the cross ownership and common ownership. In addition, the actual impact of cross and common ownership on the likelihood of tacit collusion in a given situation is likely to depend heavily on whether a market's characteristics make it susceptible to collusion (eg those where a firm's offerings are homogenous, and where there are high barriers to entry).
14. The framework set out at paragraphs 6 to 13 shows how cross and common ownership can lead to a reduction of competition in theory. Whether such effects are felt in practice depends on the ability and incentives of firms and investors to dampen competition. Those, in turn will depend on all of the relevant facts, including the nature and extent of the cross ownership or common ownership, as well as other features of the market and companies in question.

⁴⁸ See for example Anton et al (2020) paper, summarised below under the empirical studies heading.

⁴⁹ See Shekita, N. (2020), [Interventions by Common Owners](#), which compiles 30 cases of intervention by common shareholders to demonstrate how they influence firm behaviour.

⁵⁰ Tacit collusion occurs where firms choose to adopt a certain strategy (ie keeping prices high) without explicitly agreeing between themselves to do so

⁵¹ That is, it incentivises coordination at the profit-maximising equilibrium. See, for example, Gilo, D. and Spiegel, Y. (2003), [Partial Cross Ownership and Tacit Collusion](#).

Empirical studies

15. We are not aware of any systematic assessment of the extent to which there is cross ownership or common ownership in the UK.⁵² There are only a few assessments of specific markets. One of the CMA's predecessor bodies, the Office of Fair Trading (OFT), looked at common ownership in infrastructure markets (energy, water, waste, communications and transport) and considered whether and how ownership might affect outcomes for consumers. The OFT found that 'there is cross-ownership both within and across markets', but that, from a competition perspective, it had 'no immediate concerns about overall levels of concentration and cross-ownership'.⁵³
16. At EU level, the European Commission's Joint Research Centre found that 67% of listed companies had common shareholders involving stakes of at least 5% in 2016.⁵⁴ The researchers also analysed in detail the impact of a 2009 merger between BlackRock and Barclays Global Investors, which led to a sudden increase in common shareholding for a number of companies in the beverages sector. The results 'appear to suggest a positive association between common shareholding and the market power of firms'.⁵⁵
17. In the US, studies have considered both the extent to which there is common ownership and the effect of that common ownership to a much greater extent. Studies found significant levels of common ownership in listed firms across a range of US industries. Indeed, BlackRock, Vanguard and State Street (collectively, the 'Big Three' investment managers) combined shareholdings are larger than those of any other shareholder in at least 40% of all listed companies in the US.⁵⁶ When restricted to the S&P 500 stock index, the Big Three's combined shareholding is larger than that of any other shareholder in 438 of the 500 member firms (or 88%). This encompasses sectors as diverse as tech companies, soft drinks, airlines and kitchen appliances. As such, markets are likely to be more concentrated than traditional measures of concentration often suggest.

⁵² The CMA conducted a high-level assessment of common ownership in retail banking and insurance as part of a submission to an OECD roundtable on Common ownership by institutional investors and its impact on competition. See CMA (2017), [Common ownership by institutional investors and its impact on competition – Note by the United Kingdom](#).

⁵³ OFT (2010), [Infrastructure Ownership and Control Stock-take](#), p5

⁵⁴ European Commission (2020), [JRC Technical Report: Common Shareholding in Europe](#). The authors state: 'To the best of our knowledge, this is the first comprehensive study on this topic in Europe, including not only listed firms but also a series of relevant unlisted corporations in select industries' (p2).

⁵⁵ European Commission, (2020), [JRC Technical Report: Common Shareholding in Europe](#), p14.

⁵⁶ Fichtner, J., Heemskerk, E., and Garcia-Bernardo, J. (2017), [Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership and new financial risk](#)

18. In relation to the effect of common ownership, a number of empirical studies examining the relationship between common ownership and prices have been published in the last five years. These studies mainly use a modified version of the Herfindahl-Hirschman Index (MHHI)⁵⁷ as a measure of common ownership.
 - (a) Two of these papers, one looking at the banking industry and one looking at the airline industry,⁵⁸ regressed the MHHI against prices and other performance measures. These papers found that, under common ownership, prices are higher than would be the case under separate ownership despite investors' financial interests being relatively small.⁵⁹
 - (b) An additional paper assesses the effects of changes in the MHHI on prices in the seed sector.⁶⁰ After controlling for other supply and demand side factors, it finds that common ownership is responsible for roughly 6% to 15% of price increases for various seeds between 1997 and 2017.
19. Other empirical studies have examined the relationship between common ownership and a range of other metrics.
 - (a) One study looked at the relationship between common ownership and executive pay in the US. It found that where common ownership was higher, managers tended to be rewarded based on industry performance, not firm-specific performance. The authors found that higher levels of common ownership are associated with (i) lower sensitivity of pay to own-performance; (ii) higher sensitivity of pay to rival performance; and (iii) higher unconditional CEO pay. This, they argue, provides a mechanism through which common ownership affects competition: investors 'influence management to partially internalize the externalities that their corporate conduct imposes on other firms in the same investors' portfolio' (in other words, influence management to take on some of the costs that their corporate conduct imposes on other firms in the same investors portfolio).⁶¹

⁵⁷ MHHI is composed of two parts: the standard HHI plus the 'MHHI delta', which measures the additional concentration due to common ownership, based on the size of the shareholdings of common owners. The HHI is index is explained at paragraph 2.5 of the main report.

⁵⁸ The banking and airlines industries were used as case studies for this work due to the high levels of common ownership observed in these sectors in the US.

⁵⁹ See Azar, J., Raina, S., and Schmalz, M (2017), [Ultimate Ownership and Bank competition](#), and Azar, J., Schmalz, M., and Tecu, I. (2017), [Anticompetitive effects of Common Ownership](#)

⁶⁰ Torshizi, M. and Clapp, J., (2019), [Price Effects of Common Ownership in the Seed Sector](#)

⁶¹ Anton, M., Ederer, F., Gine, M., Schmalz, M. (2020), Common Ownership, Competition, and Top Management Incentives, *Ross School of Business/European Corporate Governance Institute*

- (b) Another study looked at the relationship between common ownership and gross margins among listed companies in the US. The paper found that the effect of common ownership varies depending on firms' product market characteristics; for firms with similar products, an increase in common ownership increases profitability and reduces their R&D⁶² expenditure – which may indicate that these companies compete and innovate less than they otherwise would.⁶³
 - (c) Another paper looked at the relationship between common shareholdings and stock market returns. The authors found that several different metrics of common ownership predict increases in cumulative abnormal returns, which is consistent with a hypothesis that common ownership raises profits.⁶⁴
20. Therefore, these empirical studies provide evidence that the incentives created by common ownership may negatively impact competition. However, academics, commentators and industry participants have argued that these studies have a number of weaknesses.⁶⁵ Much debate is ongoing in this area.

The CMA's analysis

21. The unit of analysis that underpins studies of concentration in the UK is the enterprise. In this report, we consider how the measurement of concentration may be refined by using additional data to link enterprises that are cross-owned or owned in common. The reason is that enterprises that are linked may not compete as fully as enterprises with no links (see paragraphs 6 to 13).

⁶² Research and Development

⁶³ Bindal, S. (2019), *When Does Common Ownership Matter?*

⁶⁴ Boller, L. and Scott Morton, F. (2020), [Testing the Theory of Common Stock Ownership](#), NBER working paper 27515

⁶⁵ The weaknesses that the critics describe include: endogeneity (arguing that the relationship between price and MHHI need not reflect a causal link between MHHI and price, or indeed that causality may operate the other way around, with common shareholdings a result of oligopoly pricing rather than the driver of it); that shareholdings are not a good proxy for actual control; that the mechanism conferring influence/control on common shareholders remains unexplained; that the markets on which market shares and MHHI are calculated are not well defined; that studies have focused on prices without considering other parameters of competition such as quality; that the wider applicability of results based on small sub-markets (e.g. airline routes) is unproven. See for example: Rock, E. B. and Rubinfeld, D. L. (2017), [Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance](#), *NYU Law and Economics Research Paper*; O'Brien, D. P. and Waehrer, K. (2017), [The Competitive Effects of Common Ownership: We Know Less than We Think](#); and KPMG (2020), [Common ownership and competition - Where does the debate stand?](#)

22. For this report, we have considered the impact of ownership and control links in the UK economy, by looking at two datasets:
- (a) we used 'Who Own Who' (WOW) data from the Office for National Statistics (ONS) to link enterprises that are part of the same group, and this adjustment is included in the analysis of concentration in this report (see Chapter 2 and Annex A); and
 - (b) we used 'Persons with Significant Control' (PSC) data from Companies House to gauge the potential extent of further links. This analysis is more experimental, its implications for how concentration should be assessed is less clear, and there is no historical data. It is therefore not included in the concentration analysis in this report, which focuses on trends over time.
23. We note that the examination of these datasets and the discussion of concepts of ownership, control, links and/or independence are not intended to reflect the approach taken by the CMA to control or material influence in the context of merger control. Our use of these terms in this report is distinct from the how they are used for the purposes of merger control under the Enterprise Act 2002. For the avoidance of doubt, the CMA's approach to control and material influence in establishing whether a relevant merger situation exists is set out in its published guidance on jurisdiction and procedure,⁶⁶ and nothing in this report should be interpreted as relevant to the basis for, or the assessment of, control or material influence under the Enterprise Act 2002.

Persons with Significant Control data

24. The UK Government introduced provisions to establish a register of beneficial ownership for companies, administered by Companies House, as part of the Small Business, Enterprise & Employment Act 2015. The PSC register was created in 2016. The PSC register reports persons, both legal (eg another company) and natural (ie an individual), who, directly or indirectly:
- (a) own more than 25% of the shares in the company;
 - (b) control more than 25% of the voting rights;
 - (c) hold the right to appoint or remove the majority of the board of directors of the company; or

⁶⁶CMA (2014), [Mergers: Guidance on the CMA's jurisdiction and procedure](#), paragraphs 4.12 to 4.41

(d) otherwise have the right to exercise, or actually exercise, significant influence or control.⁶⁷

25. A company's immediate PSC may itself have PSC(s) to report to Companies House. In principle therefore, it is possible to keep tracing up in order to establish, where relevant, the identity of the final PSCs in the form of individuals or listed companies (whose shares are publicly traded on the stock market). Where certain links in the ownership chain would prevent users from reaching the ultimate PSC(s), for example because the chain involves overseas entity that do not report PSCs, these links are leapfrogged and the register reports the next link that continues (or ends) the chain. Therefore, it should always be possible, in theory, to follow the chain all the way up to the ultimate controlling party or parties (where a controlling party or parties exist).
26. The main difference (for our purposes) between the ONS's WOW data that we have used to adjust the concentration analysis in Chapter 2 and the PSC data is that the PSC data includes minority ownership and control links above 25% of the shares or voting rights, whereas the WOW threshold is set at above 50%.⁶⁸
27. Another important difference concerns the availability of the data. WOW data is available historically along with the rest of the Inter-Departmental Business Register (IDBR) and BSD data. That is not the case for the PSC data, where we can only look at the present picture.

Approach to analysis

28. We linked enterprise groups by matching PSC data from Companies House with enterprise data from the IDBR. We connected the two datasets through the company registration numbers that are associated with enterprise groups. Having done that, we linked up enterprise groups through the PSCs they share, thus creating clusters comprising one or more enterprise groups.
29. The main challenge in this process concerns matching PSC names in the absence of reliable, unique identifiers. This is a challenge because names of the same persons can be inconsistently reported. Relatedly, two enterprises

⁶⁷ Companies House (2017), [Guidance for People with Significant Control](#), p8

⁶⁸ By minority control we mean any situation where an entity holds a stake of above 25% in another entity as set out in the PSC data. For the avoidance of doubt, the use of minority control in this paper should be read only in the context of PSC. As such, it is distinct from the concept of common control, and from the assessment of whether a person is able materially to influence the policy of a body corporate, under section 26 of the Enterprise Act 2002. It is not intended that statements in this paper regarding minority control should be interpreted as relevant to the basis for, or the assessment of, control or material influence under the Enterprise Act 2002.

might show PSCs that, though different, belong to the same ownership chain; for example, one enterprise might be linked to a UK holding company while another enterprise might be linked directly to the foreign parent of that UK holding company.

30. For these reasons, PSC names need to be cleaned if these links are to be captured. Examples of our cleaning include removing frequent suffixes from company names such as 'limited' or 'ltd' so that the remainder of the name can be matched, and removing titles from the names of individuals so that different titles do not prevent matching individuals with otherwise identical names, birth month and birth year (day of birth is not available).
31. Overall, however, we have adopted a cautious initial approach to matching the names of PSCs, with the aim of minimising false positives. For example, with regard to matching individuals, we required a perfect match of first, middle and last names (as well as birth month and year). In a future analysis, we could adopt a more flexible approach where persons with uncommon first and last names but no middle names are matched to entries that are identical but for the inclusion of a middle name. That would enable us to match persons who were reported with and without their middle name in different entries. A similar caution has been exercised in matching company names, meaning that the analysis is likely to have missed a significant number of links.
32. At the same time, the analysis may well have created false positives too. For example, the removal of suffixes and special characters sometimes generated company names that are not representative of the original name and cause some terms to be grouped together when they should not be. If the result happens to match another company's real name, then that would create a false match. However, we believe at this stage that false matches are likely to be far fewer than missed matches.

Preliminary findings

33. The PSC data identifies further links over and above WOW for the following three reasons:⁶⁹
- (a) it picks up joint ownership and control links (50:50), which fall just below the majority threshold (above 50%) set for WOW;⁷⁰
 - (b) it picks up minority ownership and control links above 25% of the shares or voting rights, which fall below the majority threshold set for WOW;⁷¹ and
 - (c) it picks up majority links that appear to have been missed by the WOW dataset such as some enterprises that are subsidiaries of foreign multinationals⁷² and some that are majority owned-by the same private equity fund.
34. While further refinement is necessary, the links identified in the PSC data appear to decrease the number of fully independent⁷³ competitors by 42,000⁷⁴ (out of 2.6 million enterprise groups⁷⁵). While this number of links may not materially change our view of concentration at the whole economy level, links appear to be particularly prevalent in a minority of industries. If this were applied to our concentration analysis, it likely would increase concentration in those industries.
35. For example, at the 4/5-digit SIC level, the number of fully independent groups in the 'retail sale of hearing aids' drops by nearly a third; the count of fully independent groups in 'human resources provision and management of human resources functions' drops by 12%; and the count for 'dispensing chemist in specialised stores' drops by 8%. Of 672 industries with 10 or more enterprises active in them, 35 register a drop of 3% or more.

⁶⁹ In addition to these three reasons, the PSC data also picks up links that materialised after 2018 (the last year of IDBR data).

⁷⁰ For example, we found hundreds of joint ventures (50:50 ownership) between a certain chain and the individuals who run the shops locally.

⁷¹ However, we are currently not able to count the number of majority links identified by the PSC data separately from minority links, and so we are not able to quantify the size of the potential gap in the WOW data. This is because a simpler implementation than is necessary to account for the degree of control was chosen for this exercise.

⁷² For example, we found two enterprises that were subsidiaries of the same US multinational and two owned by the same Swiss multinational.

⁷³ By 'fully independent', we mean enterprise groups that do not share any PSC links with another enterprise group.

⁷⁴ At the 2-digit SIC division level.

⁷⁵ Most of these groups are made of just one enterprise.

Further work

36. The PSC links identified appear substantial for only a minority of industries. However, our analysis requires refinement as, at present, we may not have identified all of the links in the UK economy that may be captured by the PSC data. For example:
- (a) The identity of PSCs is not verified by Companies House, and they are not assigned a unique key so that entries belonging to the same person can be recognised reliably and automatically. Therefore, our ability to link companies relies on our ability to match the names of PSCs, which can be reported inconsistently and/or inaccurately.⁷⁶
 - (b) Further, our cautious approach to matching the names of PSCs, with the aim of minimising false positives, is likely to mean that we have missed many links.⁷⁷ Future analysis of this data should consider ways to match with confidence more variants of the name of the same person or entity.
 - (c) Finally, this analysis has only matched the immediate PSCs reported by companies. Therefore, any links between companies occurring at higher levels of the ownership chain are missed. Any future analysis might consider how to capture links between enterprises at whichever level of the ownership chain they occur.
37. Another step for any potential future analysis is to calculate concentration metrics that take due account of PSC links. This raises the difficult methodological question of how to treat minority links in the calculation of these metrics. If a company has a minority link with a competitor, it may have a reduced incentive to compete, as well as potentially being able to reduce the competition it faces from its competitor, for example thanks to vetoing rights.⁷⁸ However, unlike in the case of full control, we cannot assume that the minority shareholder is able to eliminate that competition fully, such that the two companies act as one.
38. One possible approach is to use the modified HHI (MHHI), which has been used in empirical studies on common ownership, as explained earlier.

⁷⁶ See paragraphs 28 to 32.

⁷⁷ Ibid.

⁷⁸ Such minority interests have been considered by the CMA in a range of mergers (e.g. Ryanair/Aer Lingus, BskyB/ITV). Some empirical studies have also found an empirical link between common ownership (where institutional investors own minority stakes in multiple companies in an industry) and higher prices in US retail banking and airline markets. Azar, J., Raina, S. and Schmalz, M. (2016), [Ultimate Ownership and Bank Competition](#), and Azar, J., Schmalz, M. and Tecu, I. (2017), [Anti-Competitive Effects of Common Ownership](#), *IESE Business School Public-Private Sector Research Center, Working Paper, No. WP-1169-E*.

However, calculating the MHHI in this context would possibly require very broad assumptions due to the fact that the PSC data does not include the exact size of ownership or control and will not give visibility over any means of exercising control other than via shareholding, or of other factors that may affect one company's ability to influence another. For example, links at 25.1% are reported in the same band as 50.0% links, so it is not possible to differentiate between different degrees of minority control, and indeed between minority control and joint control.

39. A similar piece of analysis focusing on common directorships may also prove useful (assessing, for example, whether directors are sitting on the boards of companies that are possible competitors), as would further work on ensuring shareholding transparency.

Annex C: CMA analysis of UK mark-ups and profitability

1. Measures of both mark-ups and profitability have been used in the economics literature as indicators of the state of competition at the global level, or at the level of a country's economy. As set out in Chapter 3, the CMA has therefore considered trends in both mark-ups and profitability (based on Earnings before Interest and Taxes (EBIT) margins and Return on Capital Employed (ROCE)) across the UK economy.
2. In this annex we set out the data that we have used to assess mark-ups and profitability across the UK economy. While a firm's EBIT margin and ROCE are directly observable,⁷⁹ a firm's mark-up is not and has to be estimated. Therefore, we also set out in detail the approach we have taken to estimating mark-ups.
3. Finally, as set out in Chapter 3 it is important to compare trends in ROCE to trends in the cost of capital. In our analysis we have used a measure of the cost of debt as a proxy for the cost of capital, as explained in detail here from paragraph 27.

Data

4. Our analysis is based on the FAME database⁸⁰. The database contains firm-level information on their financial statement submitted to Companies House in the UK. We have annual data for the period 1999 to 2018, which enables us to analyse the recent development of mark-ups and profitability the UK economy.
5. Our main variables of interest are turnover, cost of sales, EBIT and capital, as well as industry classifications. The cost of sales are all costs directly associated with the creation of good and services sold.⁸¹
6. The data covers firms of 250 or more employees and includes listed and unlisted firms. This is different from De Loecker, Eeckhout and Unger (2020) and Aquilante et al. (2019), who use data for listed firms only. Rather, our data are more comparable to Diez et al. (2019), who also have unlisted firms

⁷⁹ EBIT is reported by firms. We therefore use this variable and divide it by turnover to calculate the EBIT-margin and divide it by capital employed to get ROCE.

⁸⁰ The FAME (Forecasting Analysis and Modelling Environment) database is a time series database from SunGard

⁸¹ For example, cost of sales do not include indirect costs of sales such as marketing.

in their data (although they include firms with less than 250 employees in their data).

7. In the data we find that not all firms have cost of sales reported. For example, Shell and BP do not actually publish a cost of sales figure in their financial statements, but report EBIT.⁸² Excluding financial services, FAME data does not report a cost of sales for around 20% of UK-listed companies in 2017.⁸³ This means that for calculating mark-ups we will be left with fewer observations compared to solely basing our analysis on, for example, EBIT margins.
8. We use the unconsolidated accounts instead of consolidated accounts of firms. Unconsolidated accounts can offer better SIC classification, because the parent's consolidated accounts might be registered as a 'holding company', not in the actual industry the group is active in. Also, large groups can have subsidiaries active in different industries, information we would miss if consolidated account were used. Finally, consolidated accounts may include overseas turnover whereas we want to focus on UK turnover, to the extent possible, so we can assess mark-ups and profitability in the UK.
9. Finally, we decided to exclude certain SIC codes from the analysis. For example, we excluded 'Libraries, archives, museums and other cultural activities' and 'activities of sports clubs' because firms in these SIC codes are likely operate a different business model compared to the rest of the economy. We also dropped observations for industry classifications codes where we have a small number of observations in our dataset.⁸⁴

Calculation of mark-ups

10. As outlined in Chapter 3, De Loecker and Warzynski (2012) proposed a production approach to estimating mark-ups.⁸⁵ This approach⁸⁶ is based on the assumption that if firms minimise their costs then mark-ups can be estimated using information on the cost of an input as a share of a firm's revenue (the 'input cost revenue share') and the extent to which the firm's

⁸² See: [Shell Annual Report 2017](#), Income statement, p138; [BP Annual Report 2017](#), Income statement, p125

⁸³ CMA analysis of Fame data.

⁸⁴ We exclude the following list of 2-digit sic codes: 91 (Historical Sites, Zoos and Botanical Gardens), 93 (Sports Clubs and Facilities and Amusement Parks), 96 (Personal Services), 85 (Education), 37 (Sewerage), 36 (Water), 12 (Manufacturing of Tobacco) and 7 (Manufacture of Iron Ore).

⁸⁵ De Loecker, J. and Warzynski, F. (2012), [Markups and Firm-Level Export Status](#), *The American Economic Review*, 102(6), pp2437-2471.

⁸⁶ This is referred to as the production approach and is based on an equilibrium relationship between mark-ups, the cost of a variable input as a share of a firm's revenue, and output elasticity.

output varies based on changes in the quantity of that input used (the ‘output elasticity’).⁸⁷

11. More formally, the mark-up is composed of the output elasticity and the cost share in output:

$$\mu_{ijt} = \theta_{jt} \frac{P_{ijt} Q_{ijt}}{P_{ijt}^V V_{ijt}},$$

where θ_{jt} is the output elasticity of the input in industry j at time t , and the second term is the inverse of the input cost revenue share of firm i operating in industry j at time t .⁸⁸

12. To calculate the output elasticities, the academic literature has used different approaches. In this section we review two of them: the approach suggested by De Loecker, Eeckhout and Unger (2020) and the one based on a cost-share calculation.

De Loecker, Eeckhout and Unger (2020) approach

13. De Loecker, Eeckhout and Unger (2020) econometrically estimate output elasticities based on a production function approach. A fundamental problem when estimating production functions is that a firm’s productivity, which is only observed by the firm but not by the analyst, determines the amount of inputs it uses in production. For example, a firm with high productivity may decide to use less labour or intermediate inputs. This would introduce a bias when learning about the general proportion of inputs used in production.⁸⁹
14. The econometric literature has addressed this by using a two-stage instrumental variable approach.⁹⁰ De Loecker, Eeckhout and Unger (2020)

⁸⁷ The input must be a variable input, and this is referred to as the elasticity of output to a variable input which is measured as the percentage change in output resulting from a change in the quantity of input used. In addition, the methodology can be adopted using any variable input and should in theory lead to the same mark-up estimate irrespective of the input used. See De Loecker, Eeckhout and Unger (2020).

⁸⁸ $P_{ijt} Q_{ijt}$ is the revenue of firm i operating in industry j at time t based on P_{ijt} which is the price of firm i operating in industry j at time t and Q_{ijt} which is the quantity of firm i operating in industry j at time t . $P_{ijt}^V V_{ijt}$ is the input cost of input V for firm i operating in industry j at time t based on the P_{ijt}^V which is the price of the input V for firm i operating in industry j at time t and V_{ijt} is which is the volume of input V for firm i operating in industry j at time t . For a derivation of the mark-up please see De Loecker, Eeckhout and Unger (2020).

⁸⁹ This is a simultaneity bias. The error term is correlated with the inputs and thus using OLS to estimate the production function coefficients is inconsistent.

⁹⁰ For example, see Olley, G., & Pakes, A. (1996), [The Dynamics of Productivity in the Telecommunications Equipment Industry](#). *Econometrica*, Levinsohn, J. and Petrin, A. (2003), [Estimating Production Functions Using Inputs to Control for Unobservables](#) *Review of Economic Studies* 70: 317-342; or Akerberg, D. A., K. Caves, and G. Frazer (2015), [Identification properties of recent production function estimators](#), *Econometrica*, 83(6), 2411–2451.

build on those approaches when estimating output elasticities. A point of departure from existing work is that De Loecker, Eeckhout and Unger (2020) do not observe outputs but use revenue instead in their estimation of the elasticities. In fact, frequently the output of a firm is not directly observed, but revenue is observed. The approach suggested by De Loecker, Eeckhout and Unger (2020) is therefore attractive for a wider range of empirical applications.

15. Recently, Bond et al. (2020) provided a critique of the approach used by De Loecker, Eeckhout and Unger (2020). They highlight three points related to the use of the output elasticity, the identification of the output elasticity and the estimation of the output elasticity.⁹¹ First, Bond et al. (2020) argue that it is important to use the output elasticity, not the revenue elasticity. Second, they argue that if the input faces adjustment costs (eg labour market frictions) or the input is used to shift demand (e.g. through advertising), the mark-up cannot be identified.⁹² Finally, Bond et al. (2020) argue that the instrument used in the literature is not valid if revenue is used as the dependent variable and therefore the estimated output elasticity is inconsistent.
16. The points raised by Bond et al. (2020) suggest fundamental critiques of the estimation approach in De Loecker, Eeckhout and Unger (2020) which may result in inconsistent estimates of the output elasticity and thus inconsistent estimates of the mark-up.
17. An additional issue highlighted in the literature is that the estimated output elasticities depend on the variable cost that is used. For example, Raval (2020) use intermediate inputs instead of cost of sales and show that the elasticities differ.

Cost share calculation approach

18. The second approach we are considering approximates the output elasticity of an input factor by calculating that input factor's share of total variable costs (in our case cost of sales as a share of total variable costs). This approach has been used in the literature, for example by De Loecker, Eeckhout and Unger (2020), Syverson (2004), Foster et al. (2004, 2008) and Raval (2020).
19. The cost-share approach is derived from a theoretical model in which firms minimize costs and there are constant returns to scale.⁹³ When this is the

⁹¹ Bond et al. (2020) highlight additional issues which are important to consider. However, we focus here on the most relevant aspects to our analysis.

⁹² While the first and third point are specific to the estimation approach, the second issue cuts across the two approaches we are considering.

⁹³ The approach also builds on the assumption that firms are cost takers in input markets.

case it can be shown that the output elasticity of an input is equal to the share of the input in total expenditures. As is common in the literature, we assume that the first order cost minimisation condition holds on average. However, this assumption means there may exist some firms for which this assumption is not met. For example, an input may have some adjustment friction. Thus, not all firms in an industry may follow the first order condition due to the adjustment costs, but, on average, firms will do so.

20. To implement the cost share approach, we need information on costs and revenue, but not on quantities. As a result, the critique of Bond et al. (2020) with respect to the De Loecker, Eeckhout and Unger (2020) approach to estimating the output elasticity does not apply. A further clear advantage of the cost share approach is its simplicity to implement.⁹⁴
21. However, the cost-share approach has some caveats.⁹⁵ The approach follows from a theoretical model, not a statistical model. Therefore, the cost-share approach is deterministic and does not allow us to take into account issues such as measurement error in the cost variable.⁹⁶ However, in practice, it is likely that there is some measurement error. This means that the theoretical model may not be an exact fit for the data.
22. Moreover, for the derivation a specific functional form of the production function is assumed. This assumption may not be met in all or some industries. For example, most applications assume that technology is not factor specific. However, Raval (2020) points out that assuming labour augmenting technology provides a better fit to the data.⁹⁷ Thus, the assumption on the functional form of the production function may affect estimated elasticities.⁹⁸
23. Comparing the two approaches, we have decided to initially focus on the cost-share approach, mainly due to the ongoing discussion about the appropriateness of the De Loecker, Eeckhout and Unger (2020) approach in the academic literature. We will consider the approach suggested by De Loecker, Eeckhout and Unger (2020), and its critique, in any future work.

⁹⁴ When calculating TFP, Van Biesebroeck (2004) shows that the cost share approach is accurate in comparison with other methods including a similar approach to De Loecker, Eeckhout and Unger (2020).

⁹⁵ As mentioned about a caveat of the approach is that it assumes constant returns to scale.

⁹⁶ See Van Biesebroeck (2008) for a related discussion on index models of productivity.

⁹⁷ Raval (2020) shows that using different inputs results in different elasticity estimates. He also demonstrates that using a factor-augmenting production function addresses this issue.

⁹⁸ Given time constraints we use a standard approach and leave it to any future work to test the sensitivity of the results to different functional forms assumptions.

24. To implement the cost-share approach, we follow the recent literature in calculating the elasticity. We calculate the elasticity as the average cost share in each 2-digit SIC code. More precisely:

$$\theta_{jt} = N_{jt}^{-1} \sum_{i \in j} \frac{P_{it}^V V_{it}}{P_{it}^V V_{it} + r_t K_{it}}$$

where θ_{jt} is the output elasticity in industry j at time t , N_{jt} is the number of firms in industry j at time t , P_{it}^V is the price of the input combination V of firm i at time t , and r_t is the user cost of capital K_{it} of firm i at time t .

25. We base our calculation of the elasticity on the following data. We calculate the user cost of capital, r_t ,⁹⁹ using the UK's interest rate, subtracting inflation and adding depreciation.¹⁰⁰ For depreciation, we assume a 12% rate, similar to De Loecker, Eeckhout and Unger (2020).¹⁰¹
26. For capital we used the fixed assets reported in our main specifications. However, this may not accurately reflect firms' capital stock. In the recent decades, intangible capital seems to have gained prominence (De Loecker and Collar-Wexler (2020)). With the ongoing digitalisation of the economy, fixed capital stock may not accurately reflect capital expenditures of firms. While we have intangible capital in the data, the interpretation of this variable is not clear cut. For example, intangible capital may include the brand value of an acquired brand, but not the value of the firm's own brand.¹⁰² We consider that using fixed assets is a pragmatic approach for this report. However, accurately capturing a firms' capital stock is a very important issue which may need further research.¹⁰³

⁹⁹ This is consistent with the approach used in this academic literature and as noted in paragraph 28, the examination and discussion of cost of capital concepts within this report, and the use of specific cost of debt proxies, are intended only to provide broad context and aid debate. None of the concepts or calculation approaches discussed, nor the individual metrics used, are intended to reflect the CMA's view of best practice in the estimation of a cost of capital. Nothing in this report should be considered as relevant to any current or future CMA interpretation of a suitable level of, or calculation approach for, the cost of capital of any business or industry.

¹⁰⁰ We obtained the information on interest rates from the Bank of England and on inflation from the ONS.

¹⁰¹ While we do not report the results, we tested the robustness of this assumption by using different depreciation rates. While the absolute magnitudes of the calculated mark-up changes, the time pattern in the data remains robust.

¹⁰² For example, Coca Cola has a strong brand name, but this may not be reflected in its intangible capital.

¹⁰³ De Loecker and Collar-Wexler (2020) recognise this issue, which also holds for the production function approach.

Cost of debt: measure used to benchmark CMA analysis of ROCE

Cost of capital

27. As set out in Chapter 3 of the main report, the trend in ROCE in the economy forms, conceptually, only half the story of the economic profits that UK businesses and their owners are earning. The other half is the 'opportunity cost' of the capital that is generating these returns. Businesses fund their capital employed through a mix of debt and equity, and there are costs associated with both of these sources of finance.
28. It is not possible to perfectly calculate the opportunity cost of capital across the economy, so instead we have used an estimate of the cost of debt as a benchmark. This section explains the benchmark that we have used, and why we have chosen it. The examination and discussion of cost of capital concepts within this report, and the use of specific cost of debt proxies, are intended only to provide broad context and aid debate. None of the concepts or calculation approaches discussed, nor the individual metrics used, are intended to reflect the CMA's view of best practice in the estimation of a cost of capital. Nothing in this report should be considered as relevant to any current or future CMA interpretation of a suitable level of, or calculation approach for, the cost of capital of any business or industry.
29. The purpose of our estimate is to understand the context in which to consider the trends in ROCE that we have found. In order to do this, it is helpful for us to understand the direction of travel and some sense of the scale of trends in the cost of capital.
30. Conceptually, the cost of capital is made up of the cost of debt and the cost of equity. The cost of debt is largely tangible and observable. Business debt service costs, be it interest on bank loans or coupons on bonds, are largely unavoidable without placing a business into financial distress (in a similar way that consumers have to meet their mortgage or credit card payments). We can measure the average cost of debt either by looking at interest costs in company accounts or by using external benchmarks of debt costs.
31. The cost of equity is not a tangible cost that we can observe in company accounts, and so is much more difficult to measure accurately. Equity holders (be they private owners or shareholders of listed companies) generally only earn returns once the costs of debt (described in paragraph 30) have been paid, and risk receiving no return. However, in compensation for this additional risk, equity returns are not limited in the way that interest costs are.

32. As a result, the cost of equity is more 'conceptual', and can be described as the return that the owners *expect* to receive in order to compensate them for the risks associated with their investment. As such, without being able to ask every equity owner within a business what their expected return is – it can only ever be an estimated cost.¹⁰⁴
33. While unexpected falls in interest (debt) rates may increase equity valuations in the short-term (and vice versa), over the long-term returns to debt and equity can reasonably be expected to trend in the same direction.¹⁰⁵ As we are looking for aggregate trends rather than trying to assess the exact difference or ratio between ROCE and the cost of capital, we will use trends in the (observable) cost of debt to infer trends in the overall cost of capital in the economy.

Cost of debt

34. When assessing the overall cost of capital in the economy, we look at broad trends in debt metrics.
35. Figure C.1 shows the Bank of England base rate,¹⁰⁶ which is commonly used as a reference rate for bank loan pricing, the effective interest rate (yield) on 5-year nominal UK government bonds (known as gilts, longer maturities of which are often used as a proxy for the 'risk-free' rate of return), as well as the

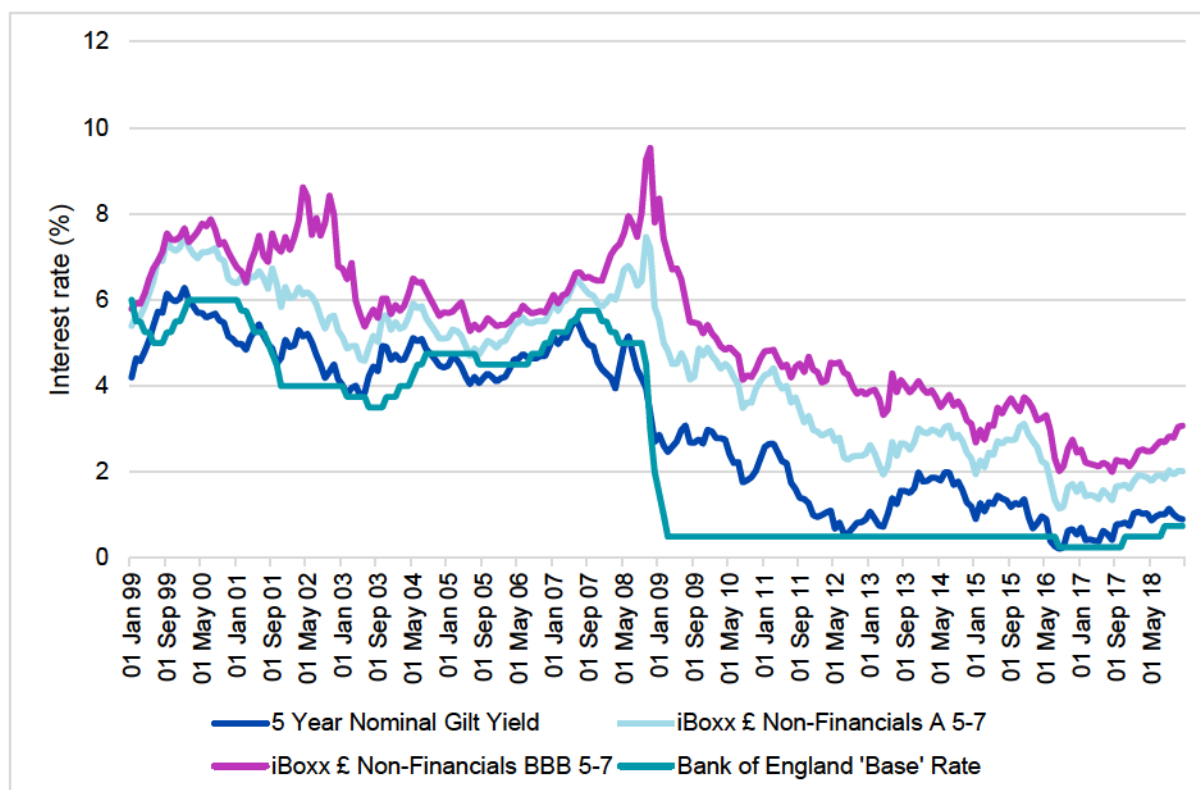
¹⁰⁴ The cost of equity is typically estimated using the Capital Asset Pricing Model, known as the CAPM. This model calculates the cost of equity in the following way: $K_e = R_f + \beta(R_m - R_f)$, where K_e is the cost of equity, R_f is the risk-free rate of return, β is beta, a specific investment's (or group of investments') relative exposure to systematic (undiversifiable) risk and R_m is the expected return of the 'market' (all relevant equity returns). This model attempts to estimate the cost of equity of a business (or group of similar businesses) by assessing the return available when taking little or no risk (R_f), and then calculating the additional return needed to encourage investment in equity ($R_m - R_f$) with a specific exposure to broad risks that can't be diversified away (β). As we can see from the CAPM equation, if we're trying to estimate the cost of equity for the whole of the UK, we may be able to reasonably assume that $\beta=1$ (beta is a measure of relative exposure to broad risks, which should be the same as the absolute exposure of the whole economy). On this basis, the equation simplifies to $K_e = R_m$, or the cost of equity is the expected returns to equity. In practical terms, we generally predict R_m using past returns (adjusted for inflation) and surveys of experts as a guide to what equity investors reasonably expect to earn. However, actual future equity returns are unknowable and are likely to be subject to a range of exogenous shocks and unforeseen events (for example, aggregate UK equity returns in the last two decades are likely to have been influenced by issues such as the global financial crisis, Brexit and the impact of the pandemic – issues that are unlikely to have been anticipated in advance).

¹⁰⁵ Lower discount rates may increase the net present value of future cashflows when measured today (and so increase the current 'price' of equity), but without higher growth prospects this return is largely 'brought forward' - reducing returns in future periods. Lower discount rates are also associated with lower future growth, which may exacerbate the reduction in future returns.

¹⁰⁶ Since 2006 the 'Official Bank Rate' and prior to this the 'Repo Rate'.

yields on indices of A-rated and BBB-rated UK non-financial debt at similar maturities.¹⁰⁷

Figure C.1. Proxies for (and inputs into) average borrowing costs since 1999



Source: CMA analysis of Bank of England and iBoxx data

36. While only indicative of borrowing costs faced by the wider spectrum of UK companies, the chart does show a reasonably consistent trend across measures of debt costs over time. Borrowing costs appear broadly stable with some fluctuation during the late 1990s and most of the 2000s.
37. This relative stability was interrupted by the global financial crisis in 2008 – with business debt costs rising as investors' perception of risks rose and, conversely, government borrowing costs falling, potentially as a result of a 'flight to safety' as investors looked to protect their capital by investing in lower-risk instruments. We can also see the monetary policy reaction to the crisis, with the Bank of England slashing its base rate in 2008 and 2009, with little in the way of increases since

¹⁰⁷ 'A' and 'BBB' are investment grade debt, considered appropriate for a range of investors and with limited risk of default. 'BB' or lower credit ratings are known as 'high yield' or 'junk' bonds and are considered to have higher risks of default. Relatively few companies have 'AA' or 'AAA' ratings currently. In Figure C1, the current average maturity of instruments in both the A-rated and BBB-rated index is 5.8 years.

38. Since the peak of the global financial crisis, we have seen a steady decline across these indicators of borrowing costs, although with a slight increase through late 2017 and into 2018.
39. While the path varies from year to year, the overall trend shows a distinct fall in all borrowing cost indicators over the period. The debt cost indicators in Figure C.1 appear to have fallen by between 3 and 5 percentage points over the last two decades.¹⁰⁸ If we make the assumption that costs of equity have moved in at least the same direction (and actual UK-listed equity total returns have lagged the long-term average over the last 20 years),¹⁰⁹ we can better contextualise the decrease in average weighted ROCE we observe (see Figure 3.5 in Chapter 3) over the last two decades.
40. In our analysis which is set out in Chapter 3, we have chosen the BBB trend line as our proxy for the cost of capital, as the companies making up BBB are likely to be more representative of the credit worthiness of those in the FAME dataset.¹¹⁰ However, it is important to note that the companies in the BBB-rated index and those in the FAME dataset may still be very different. It is generally only larger and more established companies that issue listed bonds, with smaller and newer companies likely to use bank loans or other revolving or temporary credit facilities to meet their debt needs. Nevertheless, the fact that the trend in the cost of debt for BBB rated firms is in line with the other measures of the cost of debt here, suggests that it is a reasonable measure to use for our purposes.

¹⁰⁸ For the purposes of this exercise, we use nominal historic debt costs (not adjusted for inflation) in line with the nominal data used in our ROCE analysis.

¹⁰⁹ Actual CPI-real (adjusted for inflation) UK equity market total returns in the period between 1999 and 2020 averaged approximately 4% per year, and recent regulatory price controls have assumed estimates of real returns in the 6 to 7% range. However, it should be noted that equity returns tend to move in very long cycles, and a complete cycle may be around 20 to 30 years.

¹¹⁰ In addition, bond yields at lower 'junk' credit ratings increased significantly in the global financial crisis, which may not have been indicative of longer-term cost of capital trends.

Annex D: Consumer and business surveys: summary of existing survey evidence on competition indicators

Introduction

1. Much of the work that we have done has focused on data about the performance of firms across the economy and in specific sectors (eg profitability). This annex, which summarises survey evidence on consumer and business experiences in the main markets for goods and services in the UK, attempts to bring in the experience of consumers into the analysis by looking into how they and businesses actually experience markets and what outcomes markets are delivering for them.
2. We expect competitive markets to deliver good outcomes for consumers (and uncompetitive markets to deliver sub-optimal outcomes). As such, we can use reported outcomes as an indicator of effective competition. Indeed, we care about competition as a means to achieving good consumer outcomes, rather as an end in itself.
3. However, consumers cannot, and should not be expected to, judge whether the outcomes they experience are the optimal result of perfectly competitive markets or the restricted sub-optimal outcomes of uncompetitive ones.¹¹¹ Differences in reported outcomes across industries, and trends over time, may reflect competition conditions or may reflect other unrelated factors.
4. Further, in using existing consumer and business survey evidence to inform a comprehensive assessment of competition across the economy, the approach we take is different to that the CMA would normally take to survey evidence. It would not be practical nor realistic to commission in-depth surveys of every product market across the economy; and no one existing survey covers all the topics we are interested in.
5. Therefore, the survey evidence analysed in this annex may appear on the surface to contrast with evidence elsewhere in this report or indeed to other surveys. This reflects the fact that the various pieces of analysis carried out for this report are approaching the question of assessing the overall state of

¹¹¹ To take the standard monopolist example, consumers cannot be expected to know if a producer is restricting supply (or limiting quality) and charging higher prices than would be reached at equilibrium.

competition in the UK economy in different ways.¹¹² To attempt to make such an assessment, we must utilise these different approaches to piece together a more complete picture.

6. There is relevant survey evidence that looks over time, and in some instances across countries, to assess performance across a broad range of markets. Combining multiple sources allows us to paint a broad picture of how consumers and businesses experience markets, the outcomes those markets provide, and what this might imply (although not determinatively conclude) about how competition in the UK has developed.
7. Our analysis has also highlighted limitations (from the perspective of this report) specific to the survey sources we have identified in terms of their ability to inform our analysis. When consumers are answering questions about how much they trust suppliers, or how often they have had cause to complain, we must remember that they are not doing so in order to establish a collective judgement on the state of competition in any market. Far from it; they are answering a specific question on one aspect of a market's performance. This is useful to us, but we should not be surprised if some of the results seem to paint a picture of performance over time that is different to other economic or financial indicators. Responses may well be context-specific (and in some instances we may be comparing two different samples of consumers); we should therefore exercise caution in over interpreting small differences, but instead limit our conclusions to assessing broad trends over time and identifying consistent patterns.

Methodology

Themes

8. In compiling our summary of existing survey evidence, we looked for evidence covering the areas listed at paragraphs 9 to 17. As with all the metrics in our report, those we consider here are subject to certain caveats which mean they should be interpreted with caution. In particular, they do not typically give a direct indication of the level of competition in the economy or a given market (although evidence of poor consumer outcomes will often indicate a failure of either competition or consumer protection, and can provide a starting point for a more accurate diagnosis of a problem). At paragraphs 9 to 17 we set out the

¹¹² As well as reinforcing the point that this work is not a substitute for a detailed competition assessment of individual markets, such as would be carried out in a market study or investigation.

rationale for each area and specific caveats in terms of how results should be interpreted.

Consumers (and business as consumer)

9. **Choice** – whether consumers (including businesses when they are the customers in upstream markets) feel like they have sufficient choice¹¹³ in terms of products/services and suppliers is a well-established and important indicator of the state of competition in a market (noting that perceptions may change amongst different groups of consumers). Choice gives consumers the credible threat of taking their custom elsewhere, placing competitive pressure on producers and driving good market outcomes; it is therefore a facilitator of competition. Choice is also likely to be something that consumers value inherently, although the threat of ‘choice overload’ and too many confusing options is something to be wary of. Therefore, while in aggregate a useful metric, consumers feeling they have sufficient choice in any particular market does not necessarily indicate that market is working well (and absence of choice is a useful starting point for identifying where problems might lie).
10. **Shopping around** – the seeking of information by consumers to compare different products and services on both quality and price before purchasing (and their ability to assess this information) is both crucial for driving future market outcomes and a barometer for how markets are operating. It is worth noting that levels of shopping around are likely to differ between sectors for reasons other than different competitive conditions. Low engagement by particular groups of consumers (especially if they are identifiable by firms) can be a sign of markets not working well (perhaps relevant information is hard to come by or difficult to assess) and is likely to lead to poorer consumer outcomes going forward with less competitive pressure applied to businesses.
11. **Switching** – is another indicator of healthy competition. In perfectly competitive markets, regular switching would not be necessary because the threat of switching alone would generate competitive pressure that would drive down price, increase quality and ensure consumers are getting the best deal. However, the CMA’s work on the Loyalty Penalty shows that, at least in certain sectors (such as energy and telecoms), switching by consumers is an important driver of competition and is central to many consumers’ ability to get

¹¹³ Noting that sometimes consumers may believe they have a choice of alternatives when they really do not.

a good outcome.¹¹⁴ In such sectors, low levels of switching is an indication of high actual or perceived barriers to doing so, relative to the benefits of doing so. Over time, this risks leading to worsening consumer outcomes as prices rise and quality declines (as consumer inertia reduces the incentive to price keenly or to improve quality), and, in the long-term, reduced incentives to innovate.

12. However, it is not easy to establish for any particular sector what the optimal proportion of consumers switching provider or shopping around would be – we would want it to be relatively higher in markets where there is low product differentiation and the possibility of price discrimination, compared to markets where those characteristics were not present, for example. There can be many different reasons not to switch provider. While a lack of switching could be because switching is perceived to be too difficult or costly, equally consumers may be satisfied with their current service, price or provider or may simply not be aware of the possibility of switching. Switching rates can also be influenced by the level of regulation in a certain market.
13. **Consumer problems** – the incidence of consumer problems, and how they are resolved, is a good indication of consumer outcomes in markets. In competitive markets, we would expect consumer experiences to improve over time, as those firms offering lower quality products or services lose market share or exit the market, or else improve the quality of their offering. Different groups of consumers may classify ‘problems’ differently but, while care must be taken with interpreting results, competitive markets should be able to service the needs of different groups of consumers.
14. **Satisfaction** – levels of satisfaction with and trust in different markets (ie whether consumers feel they are getting a fair or good deal) are another indicator of consumer outcomes. There are legitimate questions as to how accurately consumers can assess product quality especially for products, such as insurance, when the product ‘consumed’ is only tested on rare occasions.¹¹⁵ However, over time, if there is effective competition, and if consumers are in a position to access, assess and act on relevant information, competitive pressure might be expected to drive poor quality offerings out of the market.

¹¹⁴ In some markets, longstanding customers can pay much more than new customers for the same services – this is known as the ‘loyalty penalty’. See [Loyalty Penalty Supercomplaint](#) case page for further detail on the CMA’s findings.

¹¹⁵ Goods and services where the consumers cannot judge the quality of the product even after they have purchased it are called credence goods.

Businesses only

15. **Barriers to expansion** – as highlighted in Chapter 2, it is not just the concentration of an industry sector that might matter in terms of competition but the persistence of significant market share among businesses in the sector (in other words are the same businesses holding similar industry share year after year). In order to gain market share and disrupt the established order, expansion is key – and thus any barriers to that are particularly useful to investigate (noting that the opportunities for expansion will differ by sector).
16. **Innovation** – a key driver of productivity growth, and competition is a driver of innovation.¹¹⁶ Differences between industries in innovation levels may indicate an absence of competitive pressure or high barriers to entry, although it is worth noting that there will be other factors that determine differences in innovation levels.
17. **Perceptions of competition** – while there are clear limitations to asking businesses for their views on competition in their own sector (as opposed to asking a business for their views on choice in a supplier markets, ie as a customer) in terms of both selection bias, and incentives to misreport; we believe that this nevertheless may be a helpful indication of how effective competition is in a sector.

Sub-group impacts

18. For all of these themes we also look for evidence of divergence across specific consumer or business types (eg socio-economic group or business sector).

Survey sources

19. The survey evidence that best meets the requirements of this project comes from the European Commission's Consumer Markets Scoreboard (EC CMS)¹¹⁷ which looks cross-country at a wide selection of goods and services markets over time. We review the results from this survey in the first instance, supplementing it with evidence from other surveys where this reinforces or contradicts this evidence.
20. When looking at survey data for individual sectors, we are attempting to identify common patterns to comment on outcomes. It is however worth noting

¹¹⁶ CMA (2015), [Productivity and Competition](#), paragraphs 3.27 to 3.34

¹¹⁷ European Commission (2018), [Consumer Markets Scoreboard](#)

that it is difficult to do this between different sectors and with surveys commissioned to answer slightly different questions.

21. This summary of the existing survey evidence is not intended as a deep-dive analysis of individual sectors. The CMA through its Enterprise Act 2002 markets work has done this in some areas and many of the sector regulators carry out significant research on performance in their specific markets. Instead, we are attempting to make interpretations from the EC CMS (the most comprehensive cross-economy survey we have), supplemented with additional evidence where it exists. The available evidence is disproportionately focused on the services sector, and often in the regulated sectors. Our focus on them is primarily driven by availability of data (although these sectors are regulated because, unregulated, they would not deliver competitive or pro-consumer outcomes).
22. In Chapter 4 and this annex we use the term 'markets' to reflect the findings as reported in the EC CMS, it should not be interpreted to mean 'relevant markets' in the competition law sense (not least because as we discuss in the main report paragraph 2.9 and Annex A, relevant markets are likely to be far narrower).

Consumer survey evidence

Overall Market Performance

23. The EC CMS¹¹⁸ monitors how consumers in the EU assess the performance of goods and services across 40 markets (see Figures D.3 and D.4 for markets included) and has been running for over 10 years. It involves a large-scale telephone survey of consumers' experiences and perceptions on the functioning of core markets. It is a central source of evidence for this analysis as it includes attitudinal and behavioural questions on many key consumer issues including comparability, trust, problems/detriment, expectations/satisfaction, and choice, all in one survey. Figure D.1 shows and explains the components used for the EC CMS.

¹¹⁸ European Commission (2018), [Consumer Markets Scoreboard](#)

Figure D.1: Components used to assess market performance in the Consumer Markets Scoreboard¹¹⁹

Comparability	How easy/difficult is it to compare offers?
Trust	Do customers trust that retailers/suppliers comply with consumer laws?
Problems & detriment	Proportion of consumers who encountered problems and extent of harm (including but not limited to financial loss)
Expectations	Does a given market live up to consumers' expectations?
Choice	Are consumers satisfied with the number of retailers/suppliers on the market?

Source: Source: [EC CMS Study](#) (2018)

24. These attributes are analysed and aggregated to create a composite index (0-100) which indicates how well a given market performs – the Market Performance Indicator (MPI). The higher the score the better the market performs for consumers.
25. The five MPI components ('comparability', 'trust', 'problems & detriment', 'expectations' and choice') are by and large given equal importance by consumers when asked to rate their level of importance by market and so are given equal weight in the composite score. Such an approach allows for comparisons across multiple goods/services sectors, EU markets and to an extent over time making it a highly valuable data source. Given this, we use this survey as a starting point for our analysis and cross-reference other survey evidence against it, where available and relevant.
26. Further indicative analysis in the EC CMS¹²⁰ suggests that consumer outcomes as measured in the MPI are linked to economic performance.¹²¹ This analysis examines correlations between the MPI and other economic indicators and should not be interpreted as demonstrating causation. For example, there is a modest correlation between Gross Domestic Product (GDP) per capita at country level and two of the MPI components, namely 'trust' and 'problems & detriment' (+0.4 for both components). The study hypothesises that this correlation potentially reflects a mutually reinforcing link, where on the one hand a more affluent economy caters better for

¹¹⁹ Consumer experience is also monitored through questions on complaints and switching (in selected markets).

¹²⁰ European Commission (2018), [Consumer Markets Scoreboard](#), p22

¹²¹ Source: Eurostat. In the analysis, GDP per capita in Purchasing Parities Standard was used to take into account differences in the costs of living across the EU. GDP data is from 2016.

consumers, and on the other consumers who are confident that their rights are guaranteed are (more) likely to behave as active economic agents, thus contributing to economic growth.

27. Also, a modest negative correlation can be observed between Product Market Regulation Indicators¹²² and the 'expectation' component (-0.37) in the MPI. Product Market Regulation Indicators measure the extent to which national rules encourage competition. The negative correlation (while not causation) suggests that in countries where markets are more open to competition and entrepreneurship, businesses appear to better satisfy consumer needs and expectations.

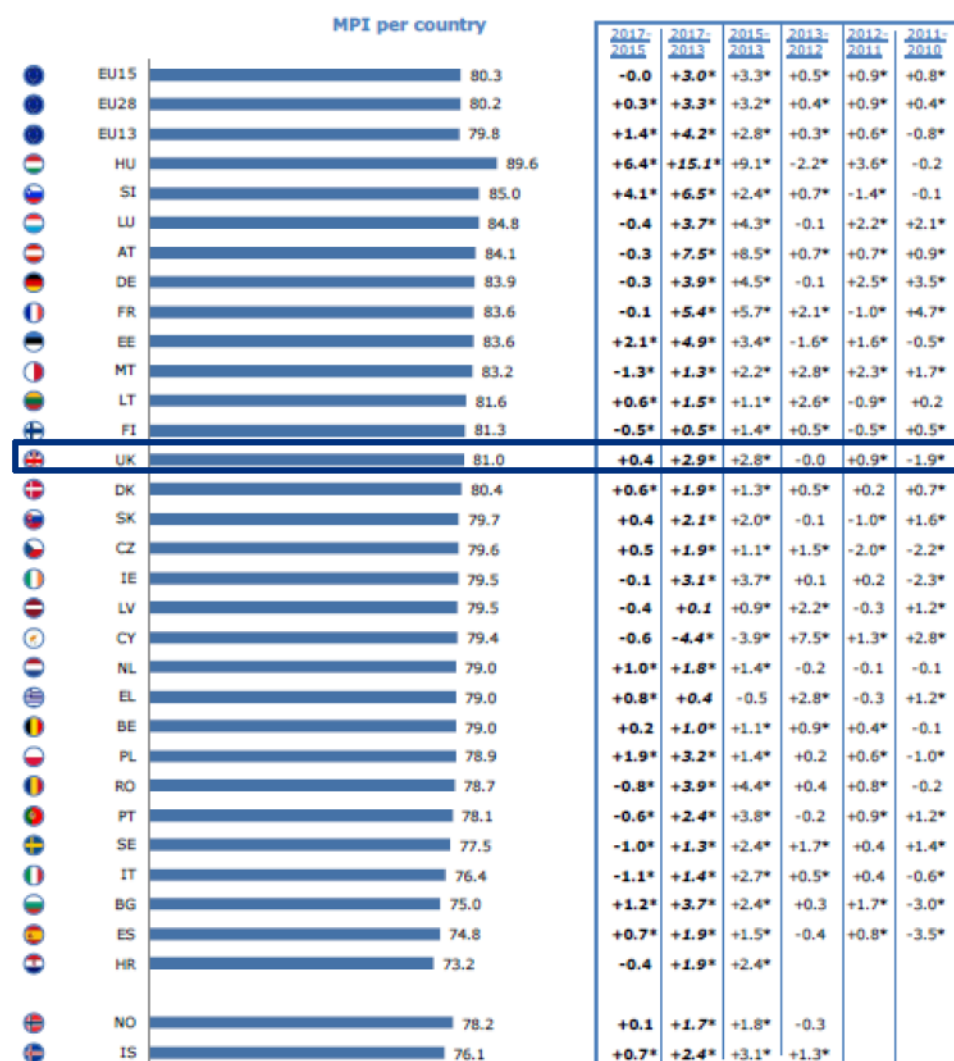
Overall UK performance compared to the EU average

28. The EC CMS study contains the most up to date data across all of the UK markets included in the survey (due to a redesign, the 2020 data has only been released for 10 markets with others available later; therefore this data is not included in our analysis). The 2018 study shows the UK's overall MPI score (81) across all 40 goods and service markets (see Figures D.3 and D.4 for the markets included in the survey) is in line with the EU-28 average¹²³ (80.2) and has remained stable since 2015.
29. Changes to the pool of markets surveyed across different years means it is not possible to trend the MPI scores consistently since 2010. However, changes between certain set time periods can be observed. For example, there was a significant increase of +2.8 between 2013 and 2015 in the UK MPI score. This increase was less than the +3.2 for the EU-28 average over the same time period. Previously, there was a 0.9 point rise between 2011 and 2012, compared to a 1.9 point fall between 2010 and 2011 on average across all UK markets covered.
30. Figure D.2 illustrates how the UK MPI score for all markets compared to other European countries in 2017 and valid ways to show movements over time for each country. It shows the UK's MPI score for all markets puts it in 11th place out of the 30 European states included in the study.

¹²² The Product Market Regulation Indicators, published by the Organisation for Economic Cooperation and Development, are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition in areas of the product market where competition is viable. They measure the economy-wide regulatory and market environment. The indicator used in this analysis (2015) is a composite one which covers the following areas: state control, barriers to entrepreneurship and barriers to trade and investment.

¹²³ 30 countries were included in the 2018 EC CMS, all 28 EU Member States (EU28) as well as Norway and Iceland who are not part of the EU. These two are not included in EU28 level analysis.

Figure D.2: Market Performance Indicator by country



Source: EC CMS Study (2018)

Note: * indicates changes that are significant at the 95% confidence level.

31. Within this, the UK score across all goods markets (84.5) performs slightly above (+1.8) the EU-28 average, while the UK score across all service markets (78.9) is in line with the EU-28 average. This difference between the performance of UK goods and UK services markets is also reflected in their ranking in the list of all 30 European countries included in the study. In 2017 the MPI score for all UK goods markets ranked seventh in the list European of countries compared to the MPI score for all UK services which ranked 13th. Table D.1 summarises the UK's performance against the EU-28.

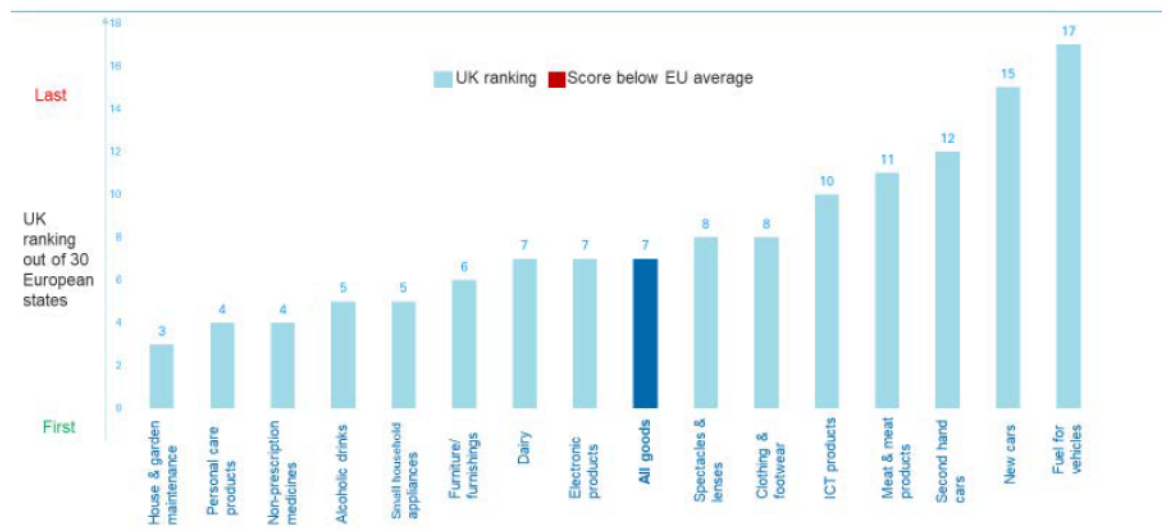
Table D.1: UK MPI performance vs EU-28 for goods, services and all markets

	<i>2017 UK MPI (0-100 index)</i>	<i>2017 EU- 28 MPI</i>	<i>Diff. in UK vs. EU-28 MPI 2017</i>	<i>UK ranking 2017 out of 30 European countries</i>	<i>UK MPI diff. 2013-2017</i>	<i>EU MPI diff. 2013-2017</i>
All goods markets	84.5	82.7	+1.8	7 th	+2.2	+2.9
All services markets	78.9	78.7	+0.2	13 th	+3.2	+3.5
All markets	81	80.2	+0.8	11 th	+2.9	+3.3

Source: CMA analysis of [EC CMS](#) (2018)

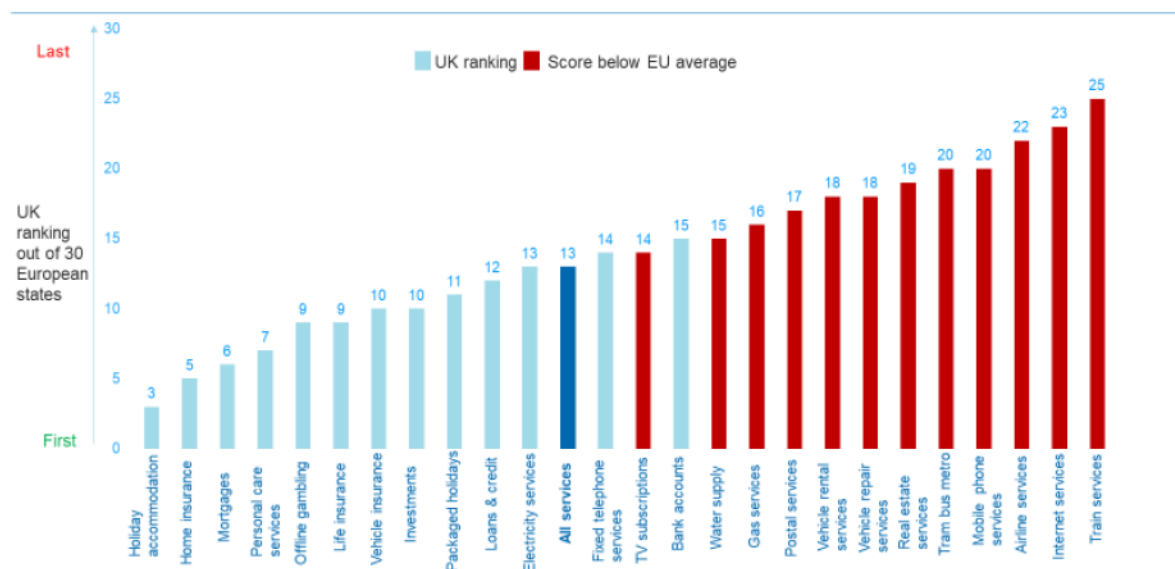
32. The better performance of goods markets compared to service markets has been consistently observed in this survey since 2010 both for the UK and across the EU. Both goods (+2.5) and services (+2.9) markets saw improvement in their MPI scores between 2013 and 2015 and these improvements were sustained in 2017. Further detail on individual markets is outlined from paragraph 35, but typically individual UK goods markets perform better than individual service markets relative to the European average and this has been the case since 2010.
33. Figures D.3 and D.4 show individual UK goods and services MPI scores in 2017 in terms of their European ranking out of 28 countries (the number above the bar) and whether they are above or below the EU-28 average (a red bar indicating below average, and blue above).

Figure D.3: UK goods markets MPI ranking in Europe and difference from the EU-28 average



Source: CMA analysis of EC CMS (2018)

Figure D.4: UK services MPI ranking in Europe and difference from EU average



Source: CMA analysis of EC CMS (2018)

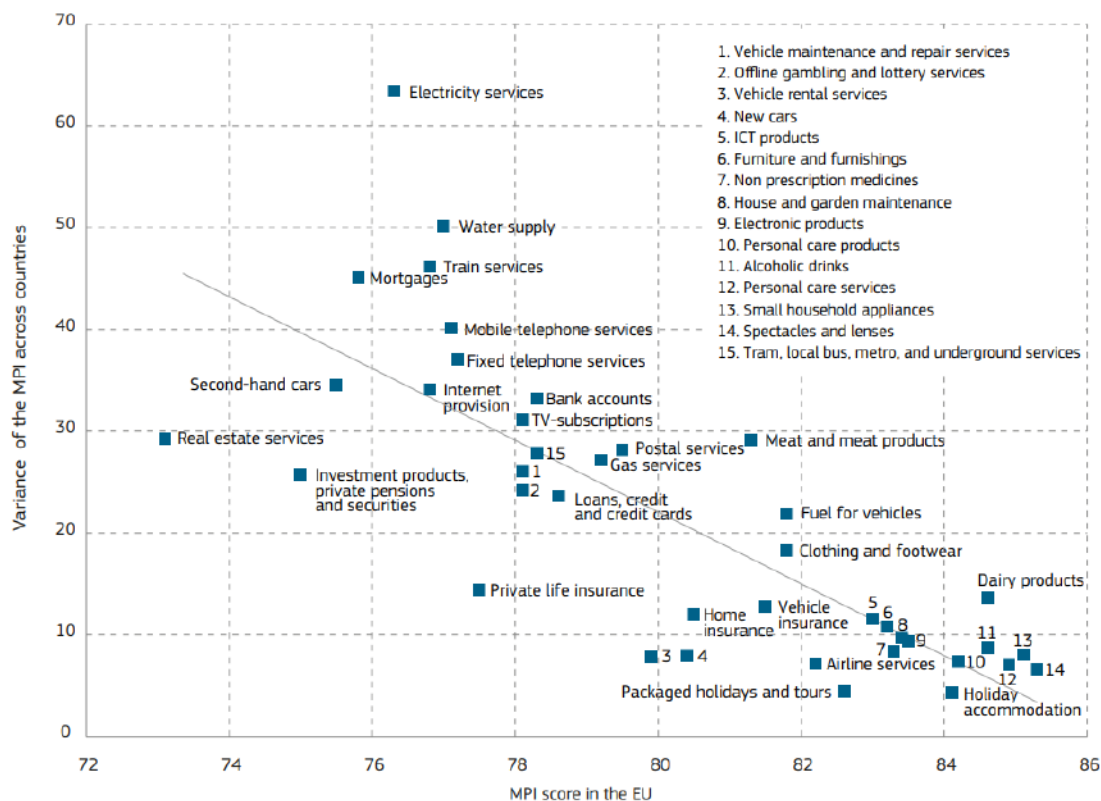
34. Overall, these figures illustrate the weaker relative performance of individual UK service markets compared to individual UK goods markets. For example, in 2017 no UK goods market performs below the EU-28 average (shown as all blue bars in Figure D.3), while 12 UK service markets perform below the EU-28 average (shown by red bars in Figure D.4). Further, five UK service markets rank 20th or lower in the EU rankings compared with the lowest UK goods market ranking of 17th.

Variation of results by different markets

35. The EC CMS highlights dispersion in market performance to show the degree of variation in how well different markets are performing for consumers.¹²⁴ This analysis can help to identify underlying factors affecting performance. Cross-EU analysis over a number of years in this study has shown the dispersion or variability in market performance is higher for services markets than for goods markets. The EC CMS suggests this could be linked to the lower cross-border tradability of services, which may result in comparably lower competitive pressure.
36. Figure D.5 shows the MPI variance by individual markets.

¹²⁴ European Commission (2018), [Consumer Markets Scoreboard](#), p23

Figure D.5: MPI variance by country and MPI EU-28 average score



Source: EC CMS (2018)

37. A closer look at individual markets shows that the EU-wide MPI variance is the highest for electricity services, water supply, train services, mortgages and mobile telephone services. The EU-wide MPI variance is lowest for holiday accommodation, packaged holidays/tours, spectacles/lenses, personal care services and airline services, where individual market performance is far more consistent.
38. Further analysis shows a strong negative correlation (-0.79) between the variance of the MPIs for each individual market across EU countries and the average MPI score for that individual market in the EU. This demonstrates that greater variance in individual market performance across countries is linked to poorer overall market performance at the European level. The EC CMS goes on to suggest that individual markets which have fewer barriers to cross-border trade tend to perform better when analysed at this European level. This, in turn, implies competition can be a driver of better consumer outcomes as measured in the EC CMS study.

The performance of UK goods and services markets

39. In terms of components that inform the MPI (comparability, trust, problems/detriment, expectations/satisfaction and choice), UK goods consistently outperform UK services. Table D.2 shows the UK score for each individual component of the MPI compared to the EU-28 average at three different levels; all goods markets, all services markets and all markets. This helps to show differences in performance across UK goods and services by component and relative to the EU-28 average score.

Table D.2: MPI individual component scores for UK vs EU-28 (2017)

2017	UK % at least 1 problem experienced	EU-28 % at least 1 problem experienced	UK trust in suppliers to respect consumer rules 0-10	EU-28 trust in suppliers to respect consumer rules 0-10	UK choice-satisfaction with no. of suppliers 0-10	EU-28 choice-satisfaction with no. of suppliers 0-10	UK ease of comparing across products 0-10	EU-28 ease of comparing across product 0-10	UK consumer expectations met 0-10	EU-28 consumer expectations met 0-10
All goods markets	10.7%	7.2%	7.8	7.5	8.5	8.2	7.8	7.8	8.4	8.1
All services markets	14.2%	9.3%	7.2	7.1	7.6	7.5	7.0	7.3	7.9	7.7
All markets	12.9%	8.5%	7.4	7.3	7.9	7.8	7.3	7.5	8.1	7.8

Source: CMA analysis of [EC CMS](#) (2018)

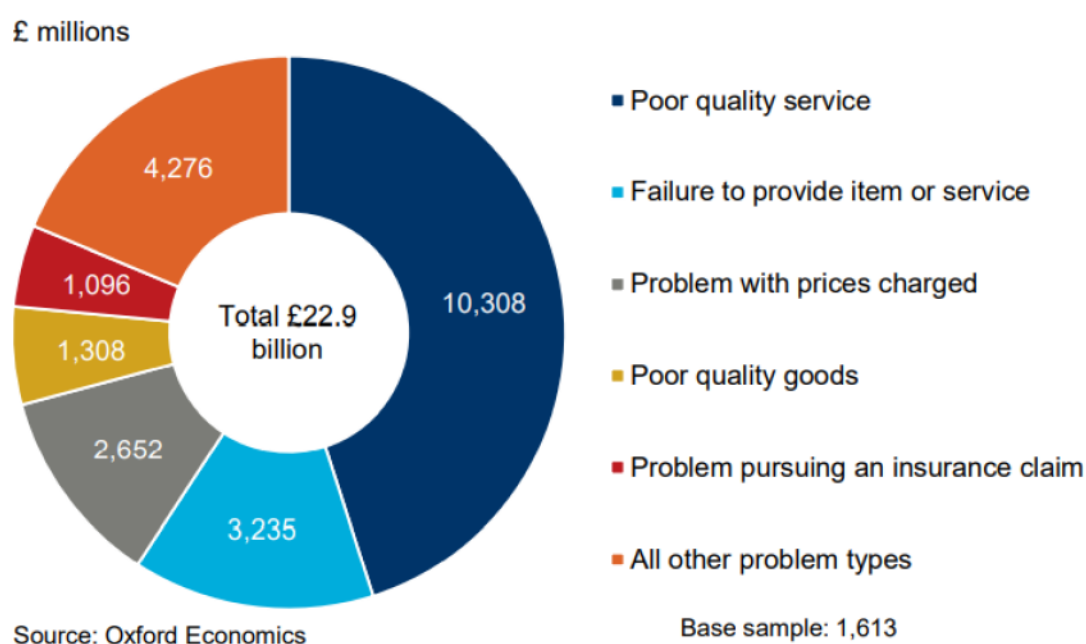
Note: See Figure D.1 for further detail on individual MPI components shown in this table.

40. The UK performs relatively poorly compared to the EU-28 average on its incidence of consumer problems. For example, in 2017 across all markets 12.9% of UK consumers experienced at least one problem worthy of complaint compared to the EU-28 figure of 8.5% (see second and third columns on bottom row in Table D.2). This UK figure increased by 1.4 percentage points from 2013 to 2017, in contrast to the EU-28 average which fell by 1.2 percentage points. In the UK consumers were more likely to have experienced problems worthy of complaint in service markets (14.2%) than in goods markets (10.7%).
41. Regarding the other components that make up the MPI, the UK's performance across all markets is more in line with the EU-28 average – with UK goods again performing more strongly than services. In 2017 UK goods outperform the EU-28 average and UK services on measures of consumer trust in providers to respect consumer rights, satisfaction with the choice of providers in markets and how far markets have met consumer expectations.

The UK consumer experience

42. The broad findings from the EC CMS are generally supported by other survey evidence on consumers experiencing problems in markets. The EC Consumer Conditions Scorecard (EC CCS) 2019 study¹²⁵ and the Citizens Advice Consumer Detriment study conducted by Oxford Economics (2016)¹²⁶ both suggest that UK consumers experience a high incidence of consumer problems worthy of complaint such as a poor quality service/product, problems with prices charged or failure to provide an item.
43. Both these surveys estimate that 1 in 3 UK customers had experienced a consumer problem in the last year. The figure of 34% in the EC CCS (2019) study is 16 percentage points higher than in the 2017 study¹²⁷ and the highest in the EU (EU average 22%). The 2016 Consumer Detriment survey estimates this level of detriment equates to significant costs to UK consumers in time (1.2 billion hours in a year) and money (£22.9 billion), set out in Figure D.6.

Figure D.6: Distribution of consumer detriment by problem type



Source: Citizens Advice (2016) [Consumer Detriment: counting the cost of consumer problems](#)

¹²⁵ European Commission (2019), [Consumer Conditions Scoreboard](#), p46

¹²⁶ Citizens Advice (2016), [Consumer Detriment: counting the cost of consumer problems](#), pp17 to 18

¹²⁷ European Commission (2017), [Consumer Conditions Scoreboard](#), p62

44. The BEIS Public Attitude Tracker (June 2019)¹²⁸ also asked about consumer problems experienced, although this work is limited to 14 specific markets. This reported that 20% of UK consumers had experienced a problem with a provider in the last 12 months, a small decrease from 23% in July 2018.
45. The EC CCS (2019)¹²⁹ study shows UK consumers experiencing relatively high levels of specific problems of reported unfair contractual terms and unanticipated charges. The average percentage of UK consumers reporting unfair contract terms and extra charges was 16% in 2018 compared to the EU-28 average of 11%. Notably the UK figure has increased 13 percentage points from 2016 to 2018.
46. The issue of consumer complaints/complaint handling is closely linked with the experience of consumer problems. The survey evidence on this also points to relatively poor performance. The Ombudsman Services Consumer Action Monitor survey¹³⁰ shows that in 2019 the average number of complaints¹³¹ rose sharply in GB to 4.2 per person – this compares to 2.5 in 2018, 2.8 in 2017, 2.4 in 2016 and 2.9 in 2015. The Citizens Advice Consumer Detriment Survey (2016)¹³² showed that among those consumers who did seek redress for a problem they had experienced, only just over half (51%) were satisfied that the issue had been resolved in a reasonable manner. The Institute of Customer Service's (ICS) Customer Satisfaction Index (CSI) data (2020)¹³³ reported complaint handling by companies as the lowest scoring dimension (58.8) of the customer satisfaction index in July 2020.
47. The EC CMS shows UK goods performing more strongly on meeting consumer expectations and aspects of consumer trust and choice in markets. Some of these findings are supported by other survey evidence.
48. For example, the ICS has measured customer satisfaction in a consistent way across 13 UK sectors (comprised of 271 individual organisations and organisation types) since 2008. The study measures the quality of customer experiences over 25 metrics to create a CSI score for each sector. The metrics covered by this score include; employee professionalism, product/service quality, ease of dealing with an organisation, timeliness,

¹²⁸ BEIS (2019), [BEIS Public Attitudes Tracker: Wave 30](#) pp37-38

¹²⁹ European Commission (2019), [Consumer Conditions Scoreboard](#), p39

¹³⁰ Ombudsman Services (2019), [Consumer action monitor report](#), p7

¹³¹ Any kind of complaint – so not just complaints to the Ombudsman.

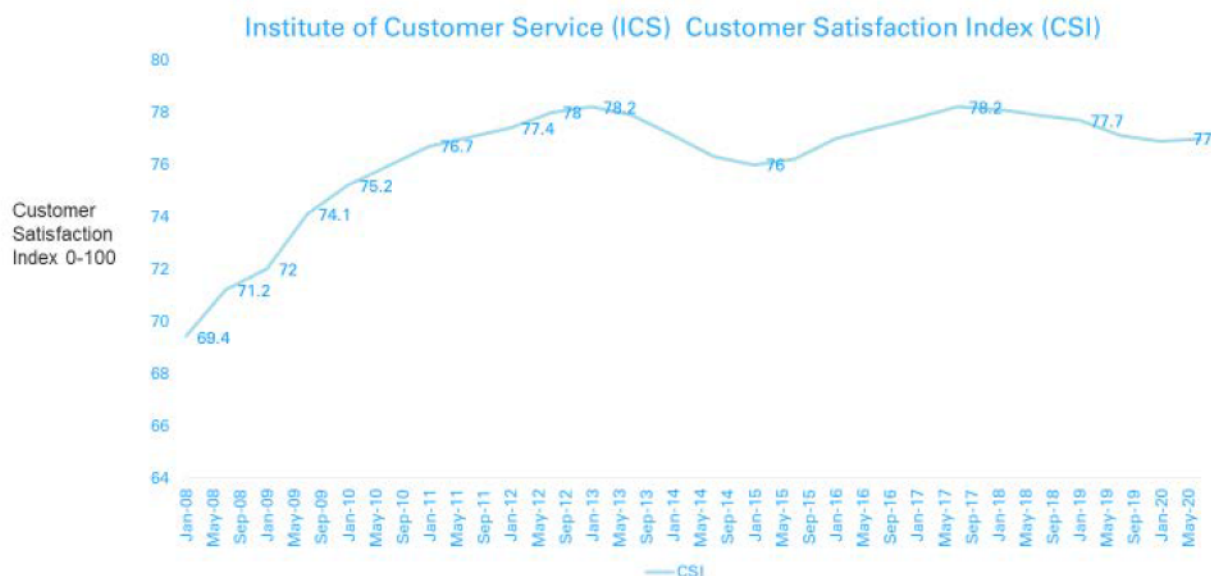
¹³² Citizens Advice (2016), [Consumer Detriment: counting the cost of consumer problems](#), p43

¹³³ Institute of Customer Service (2020), [UK Customer Satisfaction Index](#), p18

complaint handling and attitudes towards trust, reputation, an organisation's customer ethos and ethical behaviour.

49. The UK's CSI score has been broadly consistent over the last seven years and the scores from 2008 to 2020 are shown in Figure D.7.

Figure D.7: UK CSI 2008-20



Source: CMA analysis of ICS's [UK Customer Satisfaction Index](#)

50. The score in July 2020 was 77 out of 100, which is 1.2 points below its peak score recorded in both July 2017 and January 2013. This flat trend is significantly above the lowest score of 69.4 recorded in January 2008. This study also shows UK goods markets generally performing better than UK services in the 13 sectors covered; the worst performing sectors on the CSI score have consistently been UK services.
51. Consumer satisfaction and trust are closely linked and there is evidence that on specific aspects of consumer trust in markets the UK compares relatively favourably with other European markets. For example, the EC CCS (2019) survey data shows the UK outperforms the EU average in the area of consumers agreeing that retailers/service providers respect their consumer rights (+8 percentage points compared to the EU average) and consumers'

trust in non-food product safety standards (+12 percentage points compared to the EU average).¹³⁴

52. The EC CMS also measures some aspects of switching behaviour in services markets where switching is possible. Switching is not included in the MPI score but is a useful indicator of consumer engagement in markets. The survey suggests the UK performs relatively well on switching. Across all relevant service markets¹³⁵ the percentage of consumers who switched service provider in the past year for the UK was 14.4% vs the EU-28 average of 9.4%.¹³⁶ This score increased by +0.8% between 2013 and 2017 in the UK and by +0.5% over the same period for the EU-28 average showing the UK sustaining its relatively higher switching incidence since 2013. The largest change in switching percentage in the UK was +4.5% between 2010 and 2011. Further, the 2018 data shows switching is perceived to be easier (on a scale of 0 to 10) in the UK (8.2 vs the EU-28 average of 7.7) and fewer UK consumers who tried to switch in the UK gave up because of obstacles faced (2.7% vs the EU-28 average 6.4%).
53. The BEIS Public Attitude Tracker (June 2019)¹³⁷ further supports this conclusion. Across the ten services markets covered it reports that consumers rarely experienced problems during the switching process once they selected a new provider or contract. In general, consumers found it easy (either very or fairly) to exit their previous contract across all service types, ranging from 77% for a bundled contract combining two or more services to 95% for car insurance.

Performance of individual markets

54. Underneath this broad picture of overall market performance, there is significant variation by individual market. The EC CMS is again the best source of data we have on this, as it looks across 40 different goods and services markets in 2017. Nevertheless, not all markets are covered in each year of the survey and this should be borne in mind when interpreting the results across time. This is especially the case for other survey sources we consider, such as the BEIS Public Attitudes Tracker which looks across ten services markets.

¹³⁴ European Commission (2019), [Consumer Conditions Scoreboard](#), pp29 and 63

¹³⁵ Only services where switching was possible were included (eg train services were excluded).

¹³⁶ European Commission (2018), [Consumer Markets Scoreboard](#), p67

¹³⁷ BEIS (2019), [BEIS Public Attitudes Tracker: Wave 30](#), pp22-26

55. Goods markets tend to perform better in the survey than service markets in both the EU and UK, although the gap is bigger in the UK than the EU average. The best performing UK goods markets are dairy, alcoholic drinks and small household appliances; and the worst performing UK markets are all services, namely trains, real estate and mobile telephone services and internet provision.¹³⁸
56. Across different goods markets, the UK generally compares relatively favourably compared to the EU average, with even the lowest MPI scoring goods markets (eg car sales) performing slightly above the EU-28 average. The other worst performing goods markets are meat (though despite this meat is the most improved UK goods market since 2013), clothing and footwear, and furniture and furnishings. The top performing goods markets such as dairy, alcoholic drinks and small household appliances score significantly above the EU-28 average.
57. In contrast, the picture is quite different for UK services. The worse performing UK service markets of train services, real estate services, internet provision and mobile telephone services all score lower than the worst performing goods market in the UK and worse than their average score across the EU. The best performing service markets in the UK on MPI were personal care services,¹³⁹ holiday accommodation, home and vehicle insurance and packaged holidays and tours; all performed better than their EU-28 average.
58. Changes over time have been fairly consistently spread among the different sectors. Figure D.8 shows the MPI score for UK markets over time and compared to the EU-28 average.

¹³⁸ For comparison, the 4 lowest scoring sectors on average across the EU-28 were: Real estate services (73.1 EU vs 70.9 UK), Investment products, pensions etc (75 EU vs 76.3 UK), Mortgages (75.8 EU vs 81.3 UK), and Electricity services (76.3 EU vs 78.9 UK). European Commission (2018) [Consumer Markets Scoreboard](#), pp17 and 186

¹³⁹ Personal care services — hairdressers, diet clubs/centres, beauty treatments, hair therapy, cosmetic therapy, nail shop services, spas, saunas, hammams.

Figure D.8: MPI by UK Market

		Average MPI	2017-2015	2017-2013	2015-2013	2013-2012	2012-2011	2011-2010	Country-EU-28
	All markets	81.0	+0.4	+2.9*	+2.8*	-0.0	+0.9	-1.9*	+0.8*
GOODS	Dairy products	88.1		+3.0*		-1.1	+0.3		+3.5*
	Alcoholic drinks	87.2		+1.3		-1.1	+1.9*	-0.0	+2.7*
	Small household appliances	87.1		+2.5*		-0.6	+0.1	+3.1*	+2.0*
	House and garden maintenance products	86.7		+3.0*		-0.9	+1.4	+2.8*	+3.3*
	Personal care products	86.5		+1.2		-2.3*	+1.1	+2.1*	+2.3*
	Non-prescription medicines	86.4	+0.9	+0.1	-0.6	-0.9	+2.3*	+2.1*	+3.0*
	Spectacles and lenses	85.7		+2.9*		-0.6	+0.9		+0.4
	Electronic products	84.7	-1.0	+0.3	+0.9	+1.2	+0.3	+1.3	+1.2*
	All goods markets	84.5	-0.1	+2.2*	+2.5*	-0.7*	+1.1*	+0.6*	+1.8*
	ICT products	84.1	-1.5	+2.8*	+4.9*	-1.3	+1.8	+0.1	+1.1
	Fuel for vehicles	84.1	-0.2	+3.3*	+3.1*	+2.6*	+2.2*	-3.4*	+2.3*
	Furniture and furnishings	83.9		+1.9*		-0.7	+0.6	+0.6	+0.7
	Clothing and footwear	83.5		+1.3		+1.5	-1.0	-0.7	+1.6*
	Meat and meat products	82.3	+0.8	+6.2*	+5.6*	-9.3*	+3.1*	+0.5	+1.0
	New cars	81.4	-0.1	+2.0*	+1.7	+1.3	+0.6	-0.5	+0.9
	Second hand cars	76.2	+0.1	+1.6	+1.6	+1.2	+2.0	-4.9*	+0.7
SERVICES	Personal care services	86.7		+2.4*		-0.6	-0.3	+3.9*	+1.8*
	Holiday accommodation	86.3	+0.1	+1.7*	+1.4	+1.1	+1.0	+1.0	+2.2*
	Home insurance	85.1	+1.9*	+4.0*	+2.0*	+1.0	-0.1	+2.2*	+4.6*
	Vehicle insurance	83.7	-1.0	+1.4	+3.5*	+3.1*	-1.6	+2.4*	+2.3*
	Packaged Holidays and Tours	83.7	+1.8*	+3.5*	+1.9*	+0.1	+0.8	-1.5	+1.1
	Airline services	81.3	+0.3	+2.2*	+1.7	+1.2	+0.8	-2.0*	-0.9
	Mortgages	81.3	+2.7*	+8.8*	+6.0*	+0.2	+2.0		+5.5*
	Loans, credit and credit cards	80.5	-1.6	+5.2*	+6.9*	+1.7	+4.9*		+1.9*
	Offline gambling and lottery services	80.5		+0.9					+2.4*
	Private Life Insurance	80.0	+0.9	+3.3*	+2.5*	+1.4	-1.7		+2.4*
	Bank accounts	79.9	+3.0*	+7.9*	+4.2*	-0.0	+3.8*	-10.0*	+1.6*
	Postal Services	79.3	+1.4	+3.6*	+2.3*	+0.5	-2.9*	-2.7*	-0.2
	Electricity services	78.9	+2.0	+8.3*	+7.0*	-3.0*	+1.4	-5.9*	+2.6*
	All services markets	78.9	+0.5	+3.2*	+2.9*	+0.5	+0.8*	-3.4*	+0.2
	Gas services	78.8	+3.9*	+7.4*	+3.6*	-0.7	-0.9	-2.8*	-0.4
	Vehicle rental services	78.8	+0.8	+1.1	+0.6	+0.7	+1.3	-3.4*	-1.1
	Fixed telephone services	77.2	+0.3	+1.6	+1.1	+0.3	+1.2	-2.5*	+0.0
	Vehicle maintenance and repair services	76.7	-0.4	+2.6*	+2.9*	-0.7	+0.3	-0.8	-1.4
	Water supply	76.6	+1.4	+2.1	+0.9	+2.9*	+1.2	-7.0*	-0.4
	Investment products, private personal pensions and securities	76.3	+2.9*	+7.1*	+4.2*	-0.3	-0.3	+0.1	+1.3*
	TV-subscriptions	76.0	-0.6	+3.0*	+4.0*	-1.7	+4.9*		-2.1*
	Tram, local bus, metro, and underground services	75.3	-1.8	+0.6	+2.9*	+2.7*	-3.3*	-1.9	-3.0*
	Mobile telephone services	74.9	-2.2*	+0.6	+2.9*	-1.5	+0.3	-3.9*	-2.2*
	Internet provision	72.7	-2.3	+0.4	+2.6*	-0.7	+3.6*	-8.0*	-4.1*
	Real Estate Services	70.9	+1.4	+2.1	-0.4	-0.5	+2.0	-9.1*	-2.2*
	Train services	70.1	-2.5*	-1.0	+1.2	+0.5	+0.2	-5.2*	-6.8*

■ Comparability ■ Trust ■ Problems & detriment ■ Expectations ■ Choice

Source: EC CMS (2018)

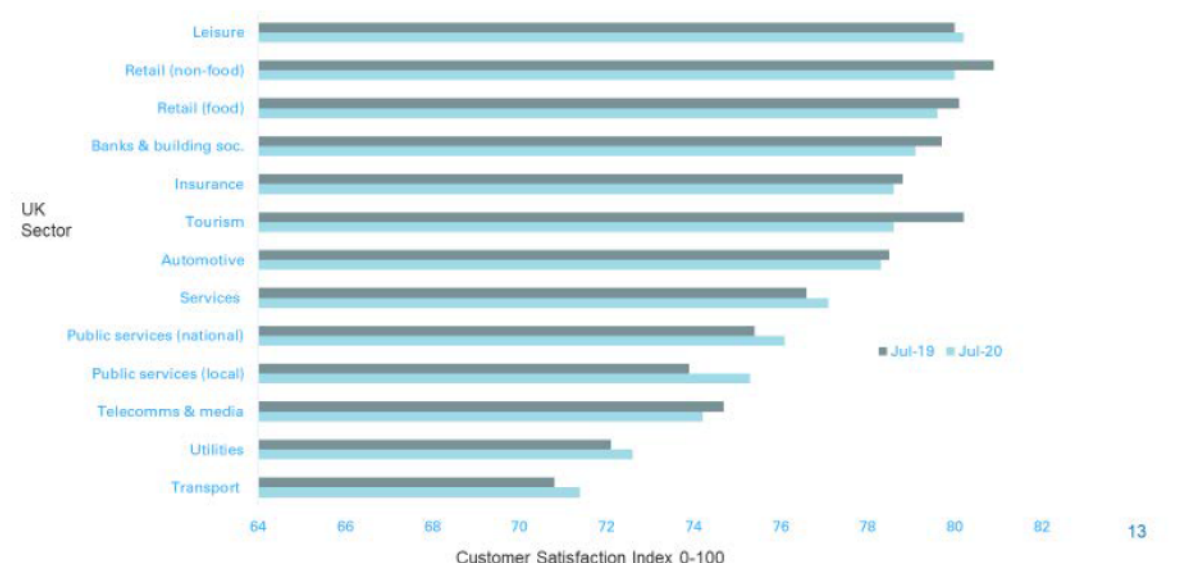
Note: * indicates changes that are significant at the 95% confidence level.

59. Since 2013, almost all UK markets have improved their MPI score (reflected in an average improvement of 2.9 on the 100-point scale). The one exception was train services which saw a decline, especially since 2015. The most improved services markets were various financial services markets,¹⁴⁰ and electricity and gas services. Meat products were the most improved goods market over the period.¹⁴¹
60. The overall MPI story is fairly consistent with results from the individual components of the MPI – with those markets scoring well/poorly overall, similarly doing so for measures of consumer trust, problems, choice and comparability.¹⁴²

Consumer satisfaction

61. Other survey sources also highlight similar sectors performing less well on satisfaction measures. The ICS data set out in Figure D.9 shows the customer satisfaction results by sector for the period 2019 to 2020.¹⁴³

Figure D.9: ICS's UK CSI by sector 2019-20



Source: CMA analysis of ICS's [UK Customer Satisfaction Index](#) (2020)

¹⁴⁰ Mortgages, investment products, private personal pensions and securities, loans, credit and credit cards, bank accounts.

¹⁴¹ These consumer survey findings do not mean these markets are not without problems; anti-competitive behaviour has been found in some of these markets over this period. Consumer surveys are not a substitute for in-depth market studies.

¹⁴² European Commission (2018), [Consumer Markets Scoreboard](#)

¹⁴³ Institute of Customer Service (July 2020), [Customer Satisfaction Index](#)

62. The three UK sectors with the lowest satisfaction scores are transport, utilities and telecommunications and media. These have consistently been among the poorest performing sectors covered in the survey over recent years (although there might be reasons other than competition driving these scores).¹⁴⁴
63. Individual regulators¹⁴⁵ measure satisfaction in their regulated markets in different ways making comparisons difficult. However, Net Promotor Scores (NPS)¹⁴⁶ do enable some comparison and are available for some of the sectors that perform most poorly in the ICS data: telecoms (landline, broadband and mobile), energy and water.
64. On average (ie taking an average across all suppliers), mobile telecoms score the highest for NPS among the 5 sectors included in the UK Regulators' Network (UKRN) Scorecard, followed by water, landline telecoms and broadband; all receive average NPS scores above zero which are classed as 'good' as defined by NPS. Energy companies received the lowest average NPS score of the 5 sectors included, with an average of -6 which is classed as 'needs improvement'. It is worth noting however that while a score above zero is defined as 'good', none of the scores for these sectors is over 50 which would be defined as 'excellent' and there is significant variation within each sector (all include companies with scores below zero).
65. Since 2014, the Consumer Action Monitor¹⁴⁷ has been measuring the number of complaints consumers have had in the past 12 months (whether reported to anyone/any organisation or not). The categories of sectors have changed slightly over the years but since 2015, the categories receiving the highest share of complaints have been retail, energy, telecoms, banking and public transport. Complaints about water services have only been tracked since 2018 but saw an increase in percentage share of complaints from 3% in 2018 to 8% in 2019. Transport is the sector seeing the greatest increase in complaints since 2015 with 5% of total complaints being about transport in

¹⁴⁴ The ICS data covers just 13 markets across the whole economy.

¹⁴⁵ UKRN (2020), [The UK Regulators Network Performance Scorecard](#)

¹⁴⁶ NPS is calculated as the proportion of consumers who are promoters of their supplier/provider minus those who are detractors. Consumers are asked: On a scale of 0 to 10, how likely are you to recommend your supplier/provider to a friend, family member or colleague? Responses are grouped as follows: Promoters (score 9-10); Passives (score 7-8); Detractors (score 0-6). The score can range from a low of -100 (if every customer is a Detractor) to a high of 100 (if every customer is a Promoter). Based on the global NPS standards, any score above 0 is considered 'good', a score of 50 and above is considered 'excellent'

¹⁴⁷ Ombudsman Services (2015, 2016, 2017, 2018 and 2019), [Consumer Action Monitor](#)

2015, increasing to 11% in 2019. This consistent with the EC CMS showing declining performance of the transport sector from 2015 to 2017.

66. Individual regulators also monitor complaint levels within their regulated markets. Although complaint levels are not directly comparable across regulated markets due to differences in collection and reporting methods, the UKRN Performance Scorecard looks at the level of complaints as a percentage of customers as an indicative way of looking across regulated markets. In line with the Consumer Action Monitor data, this data shows that complaint levels appear to be relatively high in energy compared to water, banking and telecoms though it is worth noting significant variation in complaint levels between individual energy suppliers.

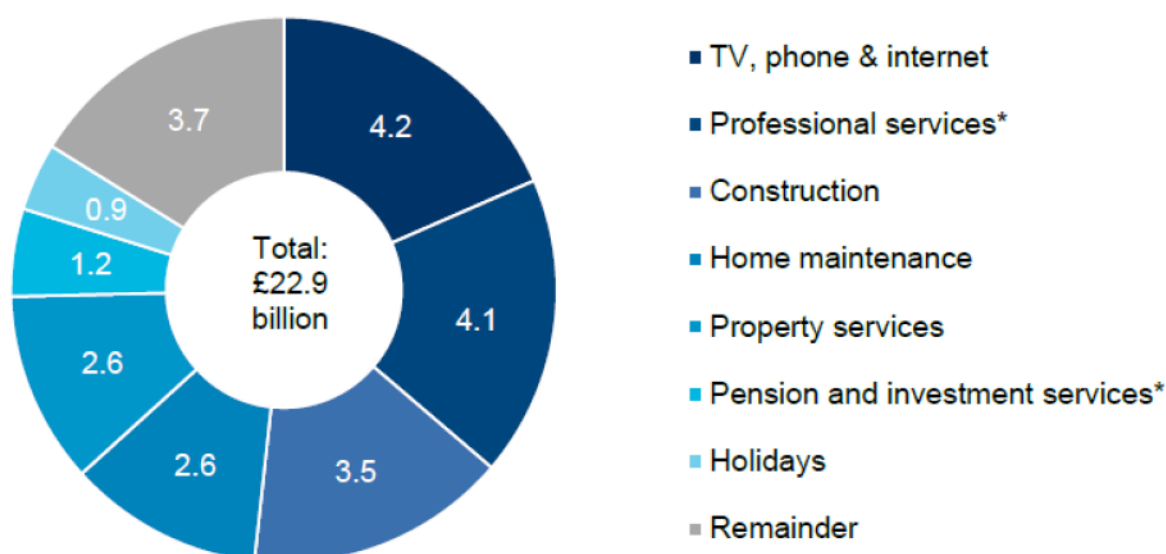
Consumer financial detriment

67. The Citizens Advice Consumer Detriment study (2016) breaks down overall financial detriment by sector, shown in Figure D.10. It shows that five product categories contributed three-quarters of the £22.9 billion net cost associated with consumer detriment. These were TV, phone and internet service industries (£4.2 billion), the professional services sector (£4.1 billion), construction (£3.5 billion), home maintenance (£2.6 billion), and property services (£2.6 billion).¹⁴⁸

¹⁴⁸ Citizens Advice (2016), [Consumer Detriment: counting the cost of consumer problems](#), p13

Figure D.10: Distribution of consumer detriment by problem category

£ billion, UK total



Source: [Citizens Advice consumer detriment survey](#) (2016) *results influenced by a smaller number of high cost incidents

Shopping around and switching

68. As noted earlier, while the EC CMS shows that the UK has relatively high levels of switching in service markets compared to the EU average, this still sits at a low level. Most of the cross-sector survey evidence related to shopping around and switching comes from the BEIS Public Attitudes Tracker (June 2019),¹⁴⁹ which covers ten different service sectors. The survey shows that 60% of consumers had not switched providers for any of these 10 services in the previous twelve months.¹⁵⁰
69. When making direct comparisons between these ten service sectors on levels of switching and shopping around, it should be borne in mind that the differing nature of the services and contracts for these services may have an impact on

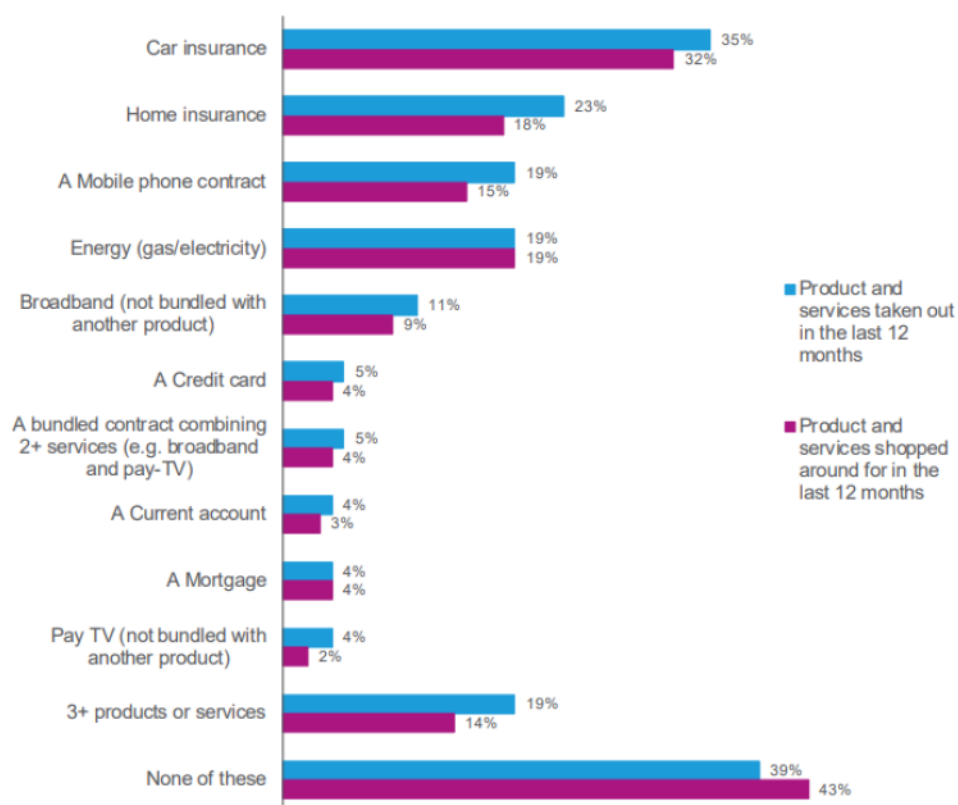
¹⁴⁹ BEIS (2019), [BEIS Public Attitudes Tracker: Wave 30](#), pp17-24

¹⁵⁰ This tracks with the CMA's findings in its work on the Loyalty Penalty, which indicates that a significant number of consumers in certain markets do not switch and experience poorer outcomes as a result. The CMA estimates that the loyalty penalty from not switching could cost at least around £4 billion in total across the five markets it looked at (mobile, broadband, cash savings, home insurance and mortgages). The number of people who pay a penalty varies by market, with estimates ranging from under 1 million in mortgages to over 12 million in home insurance. These numbers could be higher as the problem is unlikely to be confined to the five markets examined and is potentially present in markets with similar characteristics such as use of rolling contracts and high susceptibility of price discrimination (see CMA, [Loyalty Penalty Supercomplaint](#)).

likelihood to both shop around and switch. For example, most insurance policies require renewal on an annual basis, prompting consumers to shop around and switch or renew with the existing provider, whereas this would generally not apply to a current account (though the terms of the bank account may change prompting customers to shop around).¹⁵¹ The differing terms of contracts may therefore in part explain the differing levels of shopping around and switching in different service markets.

70. Figure D.11 shows the results from the BEIS Public Attitudes Tracker on shopping around in the last 12 months and the products and services taken out.

Figure D.11: Products and services taken out and shopped around for in the last 12 months



Q90. Which of these products or services have you taken out in the last 12 months? This includes making a new purchase, switching providers, upgrading or renewing existing deals. / Q91. Which, if any, of these products or services have you personally shopped around for in the last 12 months? Please include shopping around you did online, by telephone, or in person.

Source: BEIS Public Attitudes Tracker: Wave 30, June 2019

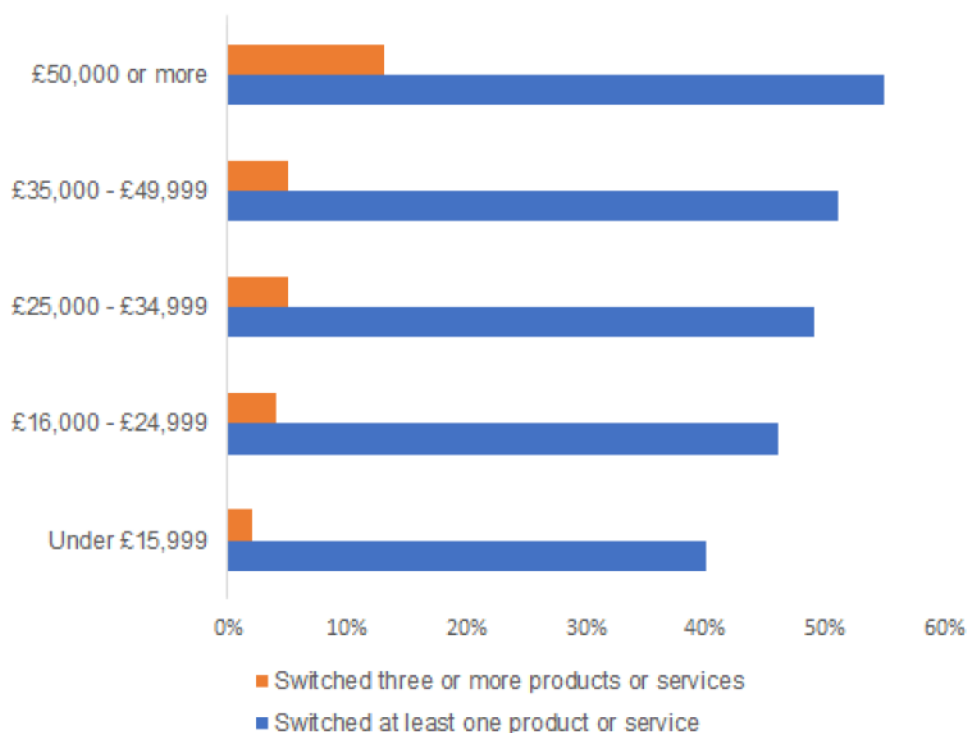
¹⁵¹ We acknowledge in practice that the application of auto-renewal can be a passive prompt for consumers to shop around or switch provider which may also contribute to the figures in Figure D.11 on products and services taken out in the last 12 months being lower than we might expect.

71. There is a strong relationship between taking out products and services and shopping around for them. This is perhaps unsurprising as the products and services taken out more frequently by the public will likely be those that the public also shop around for more frequently in many cases for the reasons described in paragraph 69 (ie that the contracts require renewal on an annual basis). This may explain in part why consumers were most likely to shop around for car (32%) and home insurance (18%) and least for current accounts (3%) and pay TV (2%) in the past 12 months. It should also be noted that the question in the BEIS Public Attitudes Tracker was asked of all respondents, whether or not they had responsibility for purchasing a product or service for their household; these figures may therefore understate the level of purchasing of products or services at a household level (for example we would expect more than 23% of households to have taken out/renewed home insurance in the past 12 months).
72. There is strong evidence of differential engagement rates by age, income and social grade. Those more likely to shop around for three or more products included:
- (a) those with household incomes of at least £50,000 (33%, compared with 6% of those with household incomes under £16,000);
 - (b) those in social grades AB (22%, compared with 5% of those in social grades DE); and
 - (c) home owners (18%, compared with 10% of private renters and 5% of social renters).
73. The reasons for this difference are not clear and are likely to vary by individual market. On the one hand higher-income groups could have taken out more products/services leading to more shopping around. But it might also reflect greater levels of financial literacy and confidence to engage in markets through existing channels among higher social grades.
74. The BEIS Public Attitudes Tracker findings on switching by service sector are similar to the findings on shopping around, with consumers most likely to have switched provider or contract for energy (16%) and car insurance (15%) and least likely to have switched pay TV (1%) and credit card (1%) providers or contracts. While the sectors do not directly read across to the EC CMS, the results by sector are broadly consistent, with switching more likely in

insurance and energy sectors than for financial products including bank accounts.¹⁵²

75. Figure D.12 shows the proportion of people who have switched provider for products or services since June 2018.

Figure D.12: Proportion of people who have switched provider or contract for any products or services since June 2018, by household income



Source: CMA analysis of [BEIS Public Attitudes Tracker: Wave 30](#) (2019)

76. Consistent with the findings on shopping around, this shows that people with higher household incomes were more likely to have switched a product or service (55% for those with household incomes of £50,000 or more, compared with 40% for those with household incomes under £16,000) and to have switched three or more products and services (13% of those with household incomes of £50,000 or more, compared with 2% of those with household incomes under £16,000).
77. This was also the case for those in higher social grades and home-owners. Nearly half (47%) of those in social grades AB had switched a product or service (compared with 27% of those in social grades DE); and 42% of home-owners had switched a product or service, compared with 33% of private

¹⁵² European Commission (2018), [Consumer Markets Scoreboard data dashboard](#)

renters and 28% of social renters. This income-differential was consistent with findings in 2018 responses.

78. The findings on differential engagement rates for shopping around and switching by income in the BEIS Public Attitudes Tracker findings align with findings from the EC CMS¹⁵³ which found that a consumer's personal financial situation is the most influential factor in how they assess the different components of market performance. Consumers that are struggling financially tend to assess markets less favourably than other consumer groups, and also find it more difficult to switch provider. To illustrate, there is a 4.7 point gap on the MPI score between consumers who say they find it very difficult to make ends meet (76.3) and those who find it very easy (81) at the European level across all markets.¹⁵⁴
79. To demonstrate this further, we can look at figures from the energy sector. We choose to look at the energy sector because of the quality of data collected, rather than because it is a particular example of good/bad progress. Ofgem regularly monitors customer engagement and switching with a generally positive trend in recent years.
80. Looking specifically at switching energy supplier, this has gradually increased since tracking began in 2014 from 14% to 24% (a figure corroborated by switching data obtained from firms). While an improvement, this data still shows that three in four consumers had not switched in the past 12 months. The gains in switching have been amongst mid-ages (35-64s) and ABC1s, with older and some groups of more vulnerable consumers falling further behind (matching the overall trends we see in paragraph 72). For example, consumers who reported being in arrears on their bills and/or warm home discount recipients were the least likely of all customer groups to have engaged in the energy market.¹⁵⁵

¹⁵³ European Commission (2018), [Consumer Markets Scoreboard](#), pp44-48

¹⁵⁴ European Commission (2018), [Consumer Markets Scoreboard](#), p44

¹⁵⁵ Ofgem (2019), [Consumer Survey 2019](#), pp17, 34

Business survey evidence

Business innovation

81. Recent survey research suggests that innovation levels in the UK have been falling in the past few years. The BEIS Innovation Survey (2019)¹⁵⁶ reported that between 2016 and 2018, 38% of UK businesses were defined as 'innovation active' (that is, engaged in innovation)¹⁵⁷ – a decrease of 11 percentage points compared with 2014 to 2016 (49%) and the lowest level recorded since the period 2008 to 2010 (37%). The percentage of innovation active businesses has fallen in every industry between the period 2014 and 2016 to the period 2016 to 2018. The BEIS Longitudinal Survey of small and medium sized enterprises (SMEs) (2019) estimated that only a minority (19%) of SME businesses innovated processes for producing or supplying goods or services in the last three years.¹⁵⁸
82. Both these surveys show that larger businesses report higher levels of innovation compared to smaller businesses. The BEIS Innovation Survey (2019) showed that between 2016 and 2018, 50% of large businesses were innovation active, compared to 37% of SMEs. The BEIS longitudinal survey of SMEs (2019) shows the proportion of these businesses who innovated processes was higher for medium-sized businesses (35%) than small businesses (26%) and micro businesses (18%).
83. There is also significant variation by sector. The BEIS Innovation Survey (2019) reported production and construction businesses as generally more innovative than those in distribution and services. The percentage of innovation active businesses was high in manufacture of electrical and optical equipment (63%) and low in accommodation and food services (23%). Other industries with lower levels of innovation activity were: construction (30%), utilities (32%), retail (33%) and transport, communication and storage (37%).¹⁵⁹

¹⁵⁶ BEIS (2019), [UK Innovation Survey](#), pp7-48

¹⁵⁷ Defined as a business that had engaged in any one of the following activities:

1. The introduction of a new or significantly improved product (good or service) or process;
2. Engagement in innovation projects not yet complete, scaled back, or abandoned;
3. New and significantly improved forms of organisation, business structures or practices, and marketing concepts or strategies; and
4. Investment activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

¹⁵⁸ BEIS (2019), [Longitudinal Small Business Survey](#), p23

¹⁵⁹ BEIS (2019), [UK Innovation Survey](#), p13-14

84. Some country and regional differences can also be observed. In the period 2016 to 2018 the percentage of innovation active businesses was highest in England (38%) and lowest in both Scotland and Northern Ireland (32%). Further, between 2016 and 2018 the South West and the South East were the English regions with the highest percentage of innovation active businesses (40%) compared to the lowest figure of 34% for the North East.¹⁶⁰
85. The BEIS Innovation Survey (2019) also sheds light on why businesses do not innovate. The survey indicates that traditionally cited barriers to innovation (eg availability of finance, cost, lack of qualified staff) do not appear to explain why non-innovating businesses do not innovate, cited by only 3%.
86. Between 2016 and 2018, the most cited reason for not innovating among non-broader innovating¹⁶¹ firms was that these businesses did not need to due to existing market conditions (24%) and there was no need to innovate due to previous innovations (14%). This compares to 3% who cited specific barriers/constraints to innovation preventing them from innovating.¹⁶²
87. However, it is not clear what this means from a competition perspective – eg whether it is a sign of healthy market competition, a lack of competitive pressure to innovate or unfair dominance by incumbents. The scores for not innovating due to existing market conditions were highest in retail and distribution (26%) and construction (26%), where overall innovation activity is low, and lowest in engineering-based manufacturing (20%) where overall innovation activity levels are higher.¹⁶³

Barriers to expansion

88. The BEIS Longitudinal Survey of SMEs (2019) explores barriers to business success and includes competition in the market as one of the relevant obstacles in the survey. The survey does not go into any detail about the nature of this competition and whether businesses perceive this competition to be fair or otherwise. We believe this area would benefit from further, more

¹⁶⁰ BEIS (2019), [UK Innovation Survey](#), pp15-16

¹⁶¹ A non-broader innovator firm is one that had not engaged in any of the following activities:

1. The introduction of a new or significantly improved product (good or service) or process;
2. Engagement in innovation projects not yet complete, scaled back, or abandoned;
3. New and significantly improved forms of organisation, business structures or practices, and marketing concepts or strategies; and
4. Investment activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

¹⁶² BEIS (2019), [UK Innovation Survey – statistical annex](#), Table 11a

¹⁶³ BEIS (2019), [UK Innovation Survey](#)

in-depth research with UK businesses. In this context, the survey shows UK SMEs continue to cite competition (48%) in the market as their greatest obstacle to success, as they have in the past three iterations of the survey. Other major obstacles included regulations and red tape (43%), taxation (40%), staff recruitment and skills, late payment (both 36%) and Brexit (26%). Competition in the market is seen as a particularly high obstacle in the retail and wholesale sector, mentioned by 59%.¹⁶⁴

¹⁶⁴ BEIS (2019), [Longitudinal Small Business Survey](#), pp31-33

Annex E: Real-time indicators: assessing the impact of coronavirus (COVID-19) on competition¹⁶⁵

Introduction

Relevance

1. The metrics we use in this report are, as we have noted, proxies rather than direct measurements of competition.¹⁶⁶ These proxies cannot be measured in real time – often they rely on data produced with at least a one year lag. Therefore, while this project will enable the CMA, for the first time, to produce a comprehensive baseline assessment of competition across the UK economy over the previous two decades, it will be a baseline for the period before the pandemic.
2. We have therefore sought indicators of competition that are more ‘real time’ in order to assess the impact of the pandemic on competition on a cross-economy basis.
3. In doing so we have used alternative data sources to the rest of the report, some of which have been developed in response to the crisis. Developing an analytical approach using this data will also be of potential use to gain a more ‘real time’ picture of competition across the economy in future.
4. Specifically, we have used two broad data sources to try and assess the impact of the current pandemic:
 - (a) administrative data on business demographics, ie the number of companies created and closed over time; and
 - (b) we added questions to two high-frequency surveys commissioned by the ONS specifically to ascertain consumer views (Opinions and Lifestyle Survey, OPN) and business views (Business Impact of Coronavirus

¹⁶⁵ This work was produced using statistical data from ONS. The use of the ONS statistical data does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. The work uses research datasets which may not exactly reproduce National Statistics aggregates.

¹⁶⁶ See paragraph 1.20 of Chapter 1 for an overview of the measures we use and each individual annex for an overview of the rationale for individual measures and the key caveats in using those measures.

Survey, BICS) on various aspects of how the current pandemic is developing.¹⁶⁷

5. However, there are limitations involved in trying to assess competition using these data sources:
 - (a) they are more prone to measurement issues¹⁶⁸ and subsequent revision than the data sources used for our other metrics and thus we should be cautious when interpreting any results and drawing conclusions;
 - (b) compared to the rest of the report, the metrics we can use from these data sources are less direct proxies of competition (for example, looking at market entry and exit as opposed to concentration levels) and do not allow us to drill-down into individual sub-sectors in the same way (business demographics data is only available at a high level, and survey coverage of businesses used here is not as representative as the others used in Chapter 4 and Annex D);¹⁶⁹ and
 - (c) there may be a lag in when the impact of the current pandemic on business demographics, especially closures, is observed due to measurement issues.¹⁷⁰ Even without measurement lags, government support throughout the pandemic is likely to have reduced business closures in the data we are looking at making it even more difficult to capture the potential effects of the pandemic on competition (see paragraph 79).
6. Consequently, we need to treat the analysis as exploratory at this stage. In particular, it is difficult to draw conclusions at this stage due to lags in the data measuring business closures, which may mean that the different sources in effect cover different time periods. This also explains why, in some cases, the different sources appear to contradict each other.¹⁷¹
7. Despite these limitations, we believe that these metrics are informative as they do give us a high-frequency assessment of competition across the

¹⁶⁷ Our questions were included in two consecutive waves of both the OPN and BICS carried out in August and September 2020.

¹⁶⁸ In relation to each metric we set out the relevant issues, see paragraphs 17, 25 and 58 in particular.

¹⁶⁹ For example, the ONS's BICS survey is a voluntary survey and the results we present are unweighted, and only reflect views of respondents. We understand weighted estimates are soon to be made available for these variables but were not at time of publication.

¹⁷⁰ See paragraph 78.

¹⁷¹ In this report we do not perform any significance tests on the survey data. Standard significance tests would test for a relationship between the business's sector and its response, but tests on data categorised into a large number of categories tend to be weak and are often not of practical interest. We regard our analysis as an exploratory, rather than confirmatory, analysis, and it should be regarded as being more descriptive than inferential.

economy, particularly when used to supplement the analysis presented elsewhere.

High-frequency surveys

Methodology

8. In response to the pandemic, ONS has been regularly running surveys of consumers and businesses to ask about their experiences in a number of ways, and we were able to add questions to waves of these surveys. There were two surveys in particular which we considered useful and to which we were able to add questions:¹⁷²
 - (a) The Opinions and Lifestyle Survey (OPN) is an omnibus survey carried out mainly online with a telephone option. For the waves covered here it involved 2,500 randomly selected GB households, with one adult randomly selected per household. The response rate is about 66% and results are weighted to be nationally representative.
 - (b) The Business Impact of Coronavirus Survey (BICS), is a large voluntary fortnightly survey of businesses on the Inter-Departmental Business Register (IDBR), excluding those businesses not registered for VAT or PAYE. For this analysis we have used data from waves 12 and 13 which had responses from around 5,000-6,000 businesses per wave, but the results are unweighted and so reflect the characteristics of respondents only.¹⁷³

Consumers

9. We are specifically interested in the impact of the pandemic on shopping around by consumers. Our hypothesis is that the pandemic will reduce shopping around, reducing the competitive pressure placed on producers and leading to poorer market outcomes for consumers (eg in terms of price and quality) in the medium-term. We are also keen to understand if this disproportionately impacts specific groups, as well as investigating whether

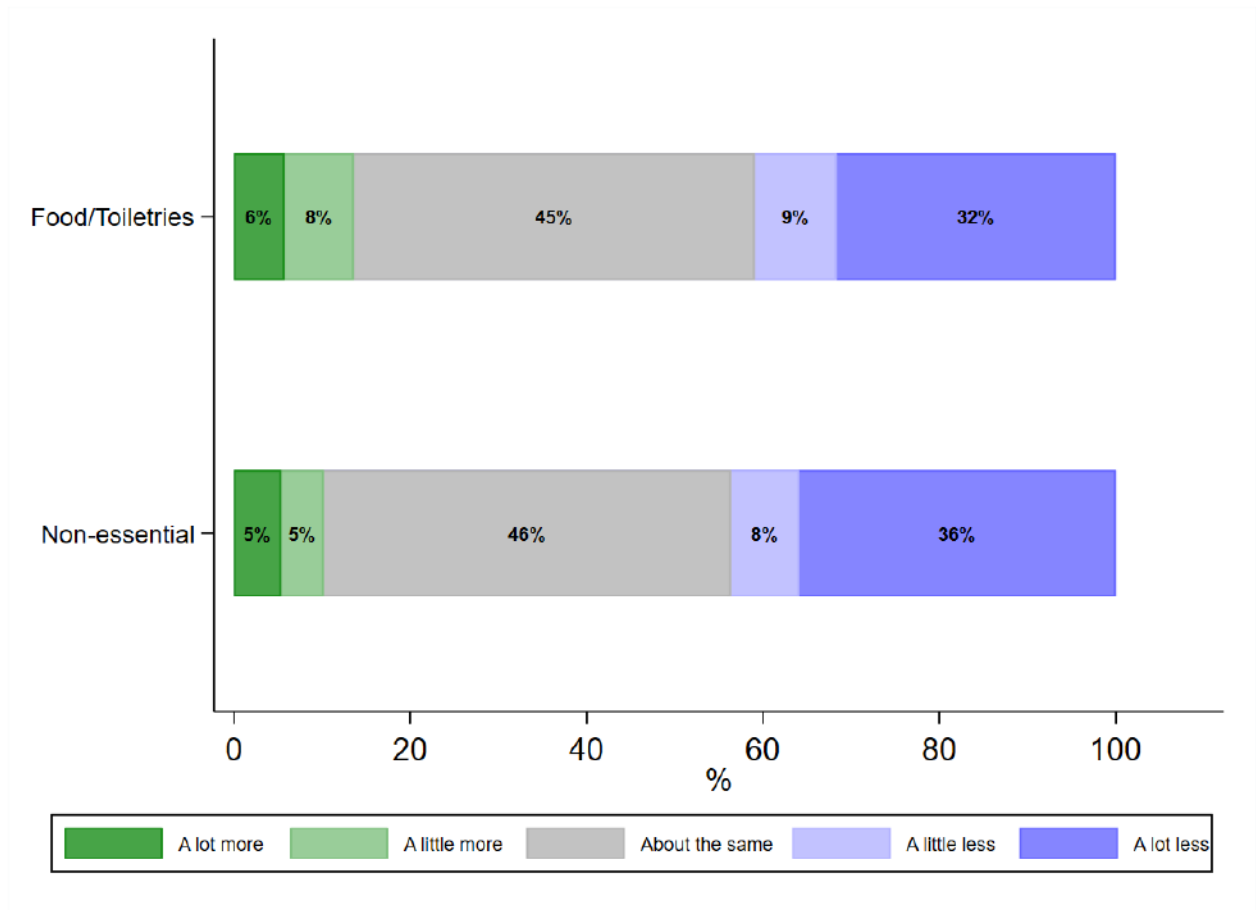
¹⁷² The questions are set out in the Appendix to this annex. The relevant consumer questions have also been added to the NI Covid Opinion Survey carried out by the Northern Ireland Statistics and Research Agency. Results were not available at time of publication.

¹⁷³ We note that from wave 17 onwards, the sample has increased and there are now approximately 10,000 business responses per wave. We also understand weighted results for these variables will be available shortly but were not at time of publication. For more information and discussion of strengths and limitations of the data please see the [ONS's explanation on measuring the data](#).

the effects were different on food/toiletries (essentials items) and non-essentials like clothes and toys.

10. Figure E.1 shows the results from the OPN on the percentage of consumer shopping around less than before the start of the pandemic.

Figure E.1: Percentage shopping around less than before for Food/Toiletries and for non-essential items



Source: CMA analysis of OPN survey (Waves W and X), Fieldwork dates August and September 2020

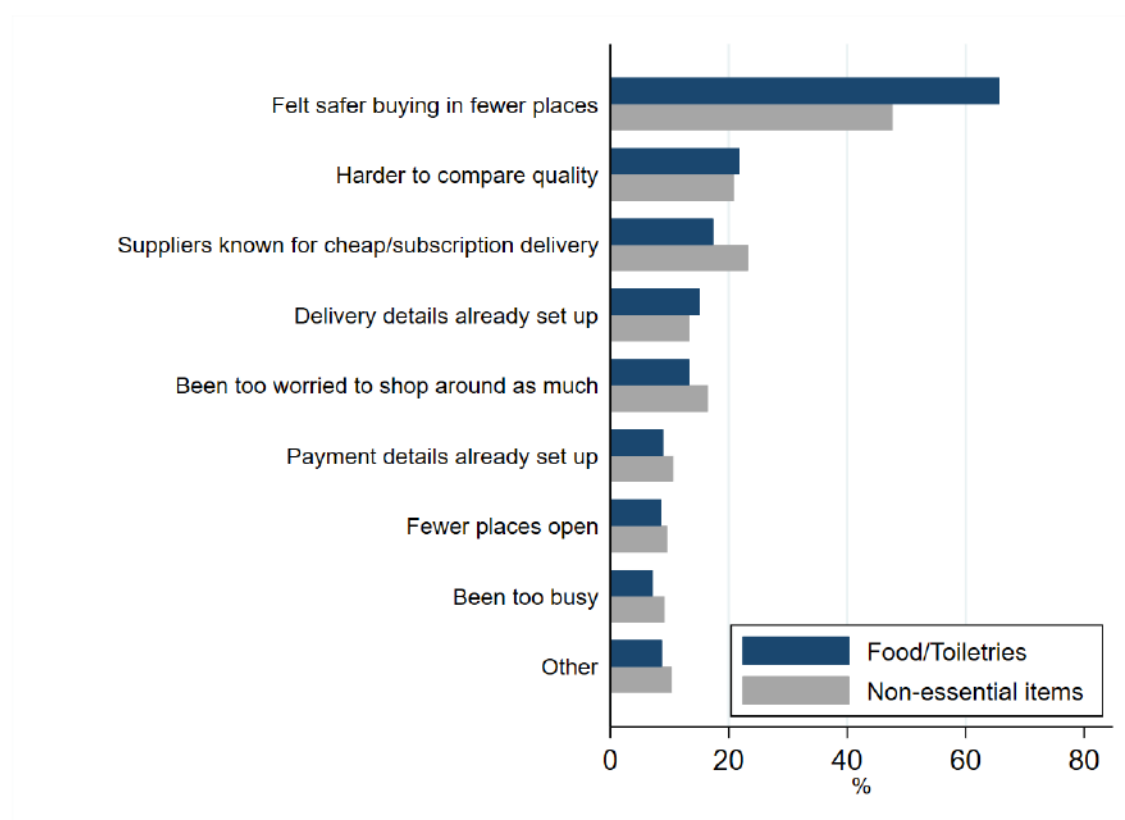
Base: Respondents who gave valid answer ('Don't Know'/'Won't Say' excluded)

Base size: N = 3,176 (food/toiletries), N = 3,066 (non-essential items)

11. The results of the OPN survey indicate that since the start of the pandemic, consumers have shopped around less than normal, with over 40% of respondents saying they shopped around a lot or a little less than usual. This was true for both food and toiletries, as well as non-essential items (e.g. clothes and toys), although people were even less likely to shop around for non-essentials.
12. This is concerning as, should this trend continue as the impacts of the pandemic unwind, it could lead to less competitive pressure on retailers. We

therefore also asked the reasons why consumers shopped around less to try and understand if they indicated a short-term reaction to the pandemic or a more long-term shift in behaviour. Figure E.2 sets out the results.

Figure E.2: Reasons given for shopping around less than before



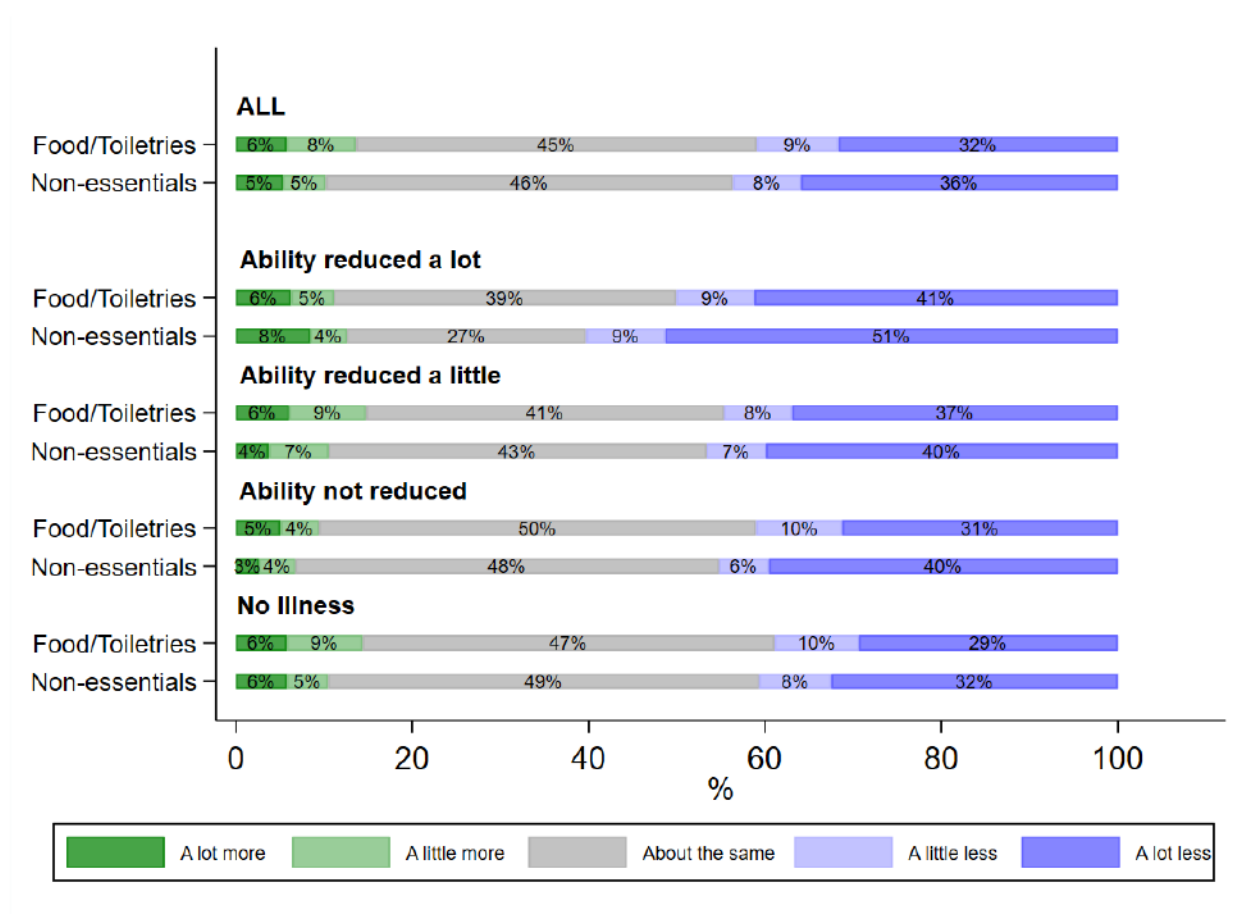
Source: CMA analysis of OPN survey (Waves W and X), fieldwork dates August and September 2020
 Base: Respondents who shopped around less or a lot less than usual
 Base size: N = 1,407 (Food/Toiletries), N = 1,442 (non-essential items)

13. By far the most common reason given was that consumers felt safer buying in one place or fewer places (this was particularly the case for essential items like food and toiletries). This suggests that, assuming consumers feel safer in the medium-term (ie the pandemic subsides), these changes could be short-lived and the impact on competition going forward may be limited. Likewise, the fact that it has been harder to compare quality since the start of the pandemic should hopefully subside in the medium-term.
14. Relatively few people selected reasons that we might expect to persist beyond the context of a pandemic – for example, finding it easier to buy items where payment or delivery details were already set-up with the supplier. Around 20% of people who said that they shopped around less, say they did so because the supplier does cheap delivery or they have a subscription delivery service. This may be beneficial to market outcomes going forward, (ie

suppliers competing on delivery services) or a hindrance if subscription delivery services limit shopping around. This research cannot distinguish between the two.

15. There are also some concerning findings (again, should they continue post-pandemic) in terms of the types of people who have shopped around less since the start of the pandemic. Figures E.3 and E.6 show the results split by activity limiting health problems or disability, and age. As with Figure E.2, respondents are split in terms of how shopping around changed during the pandemic for both essentials (food and toiletries) and non-essentials (such as clothes and toys).

Figure E.3: Percentage shopping around more or less than before – by activity limiting health problems or disability



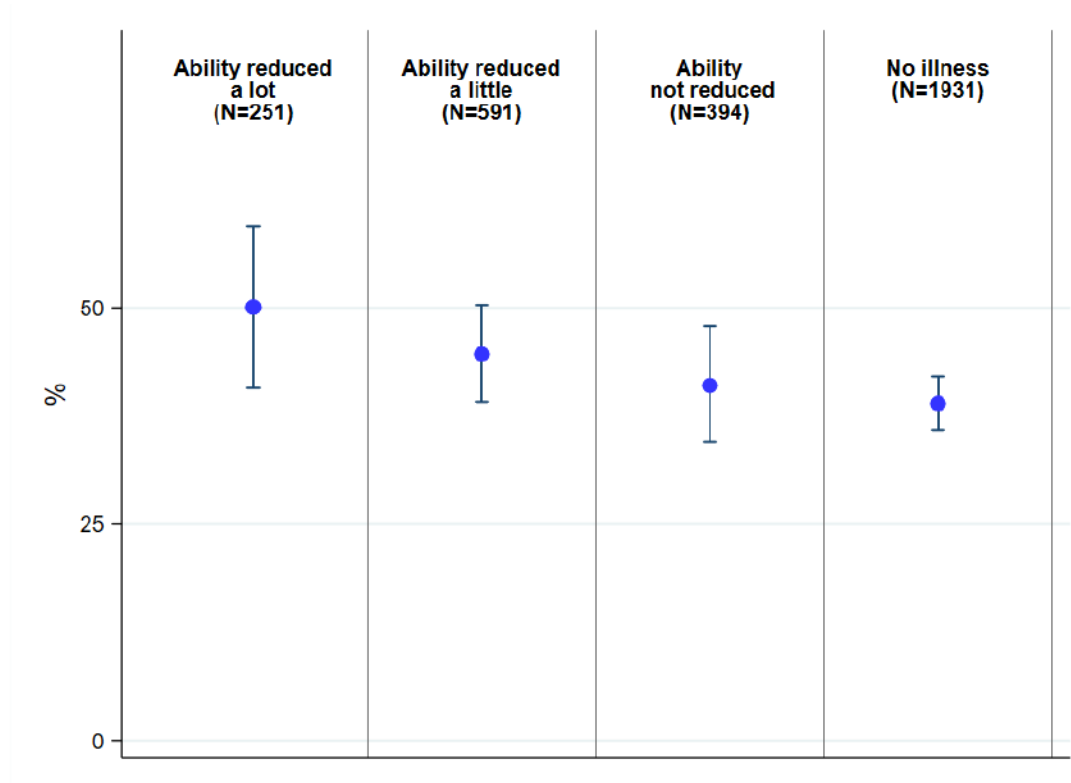
Source: CMA analysis of OPN survey (Waves W and X), fieldwork dates August and September 2020
 Base: All respondents
 Base size: N = 3,176 (Food/Toiletries), N = 3,066 (non-essential items)

16. Those whose ability to carry out day to day activities is limited a lot by a health condition were more likely to have shopped around less compared to before the pandemic than other groups – particularly those with no illness. This was

the case for both essentials and non-essentials, but was more marked for items like clothes and toys where over half said they had shopped around a lot less for these items. For essentials, half of those with a condition that reduced their ability a lot shopped around less; as well as 45% of those whose ability was reduced a little. The comparative figure for those without any illness was 39%.

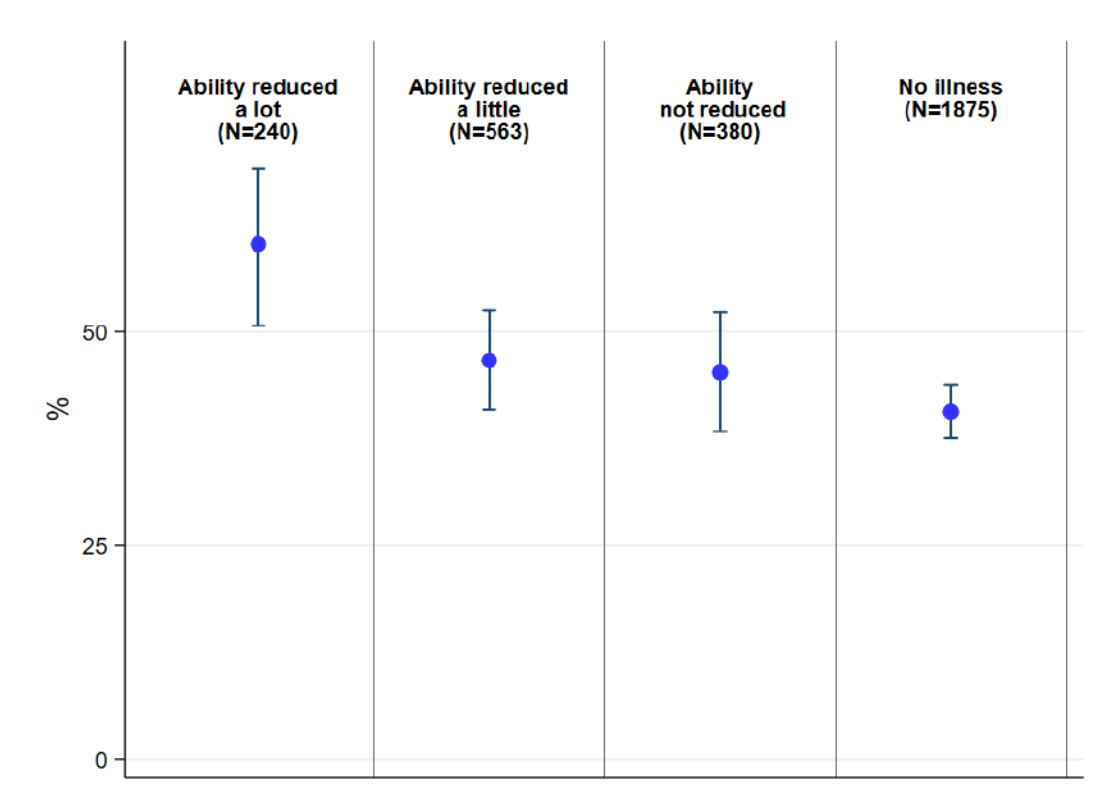
17. These statistics are based on a sample, and so there is uncertainty around the estimate. We can calculate confidence intervals so that if we were to repeat the survey many times on the same occasion and in the same conditions, in 95% of these surveys the true population value would be contained within the 95% confidence intervals. Smaller intervals suggest greater certainty.
18. Figures E.4 and E.5 display the percentage saying they shopped around either a lot or a little less, together with 95% confidence intervals, broken down by activity-limiting status.

Figure E.4: Percentage and 95% confidence intervals of those shopping around for food and toiletries a lot or a little less – by activity limiting health problems or disability



Source: CMA analysis of OPN survey (Waves W and X), fieldwork dates August and September 2020
Percentage and 95% confidence intervals. Base: All respondents

Figure E.5: Percentage and 95% confidence intervals of those shopping around for non-essential items a lot or a little less – by activity limiting health problems or disability



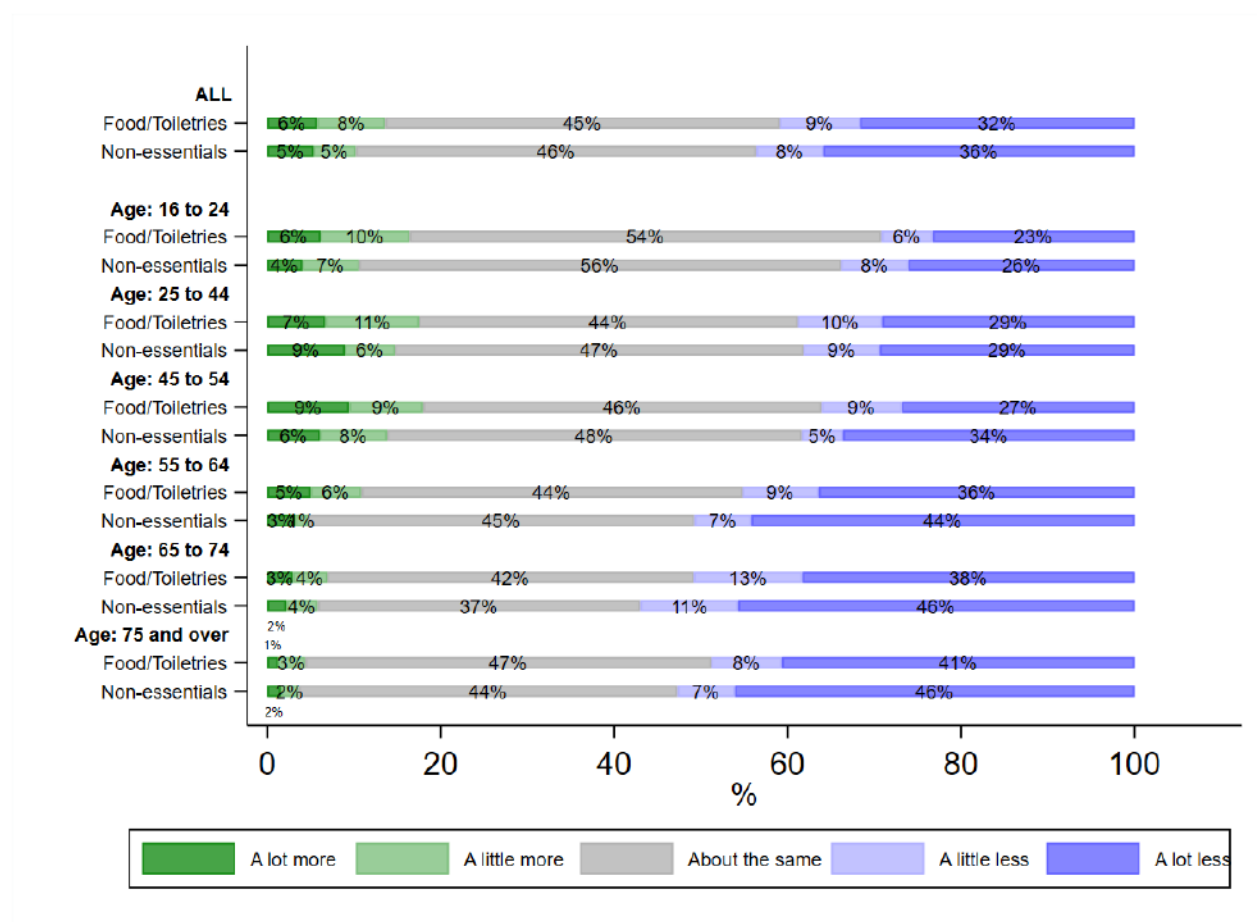
Source: CMA analysis of OPN survey (Waves W and X), Fieldwork dates August and September 2020
Percentage and 95% confidence intervals. Base: All respondents

19. As stated in paragraph 16, those whose ability was reduced a lot by their health condition or disability were more likely to say they shopped around less than those with no illness. We can be more confident that this is true for shopping for non-essential items than for food and toiletries (where the confidence intervals are further apart – see Figure E.5). With 95% confidence therefore, we can say that at least 50% of people whose ability was reduced a lot have shopped around less for non-essential items, and that at most 44% of those with no illness have shopped around less.
20. We can speculate as to the reasons for this. For example, these individuals are more likely to have been shielding throughout the period covered by the survey. However, we note that there were no differences in the reasons for shopping around less given by these groups compared to others. Nevertheless, it is certainly a concern if these groups were to receive poorer

market outcomes than others as a result of the pandemic.¹⁷⁴ As discussed in paragraphs 13 and 14, we do not know how persistent these changes are likely to be but it will be important to monitor.

21. There is a similar story by age. Figure E.6 shows the percentage shopping around by age.

Figure E.6: Percentage shopping around more or less than before – by age



Source: CMA analysis of OPN survey (Waves W and X), fieldwork dates August and September 2020

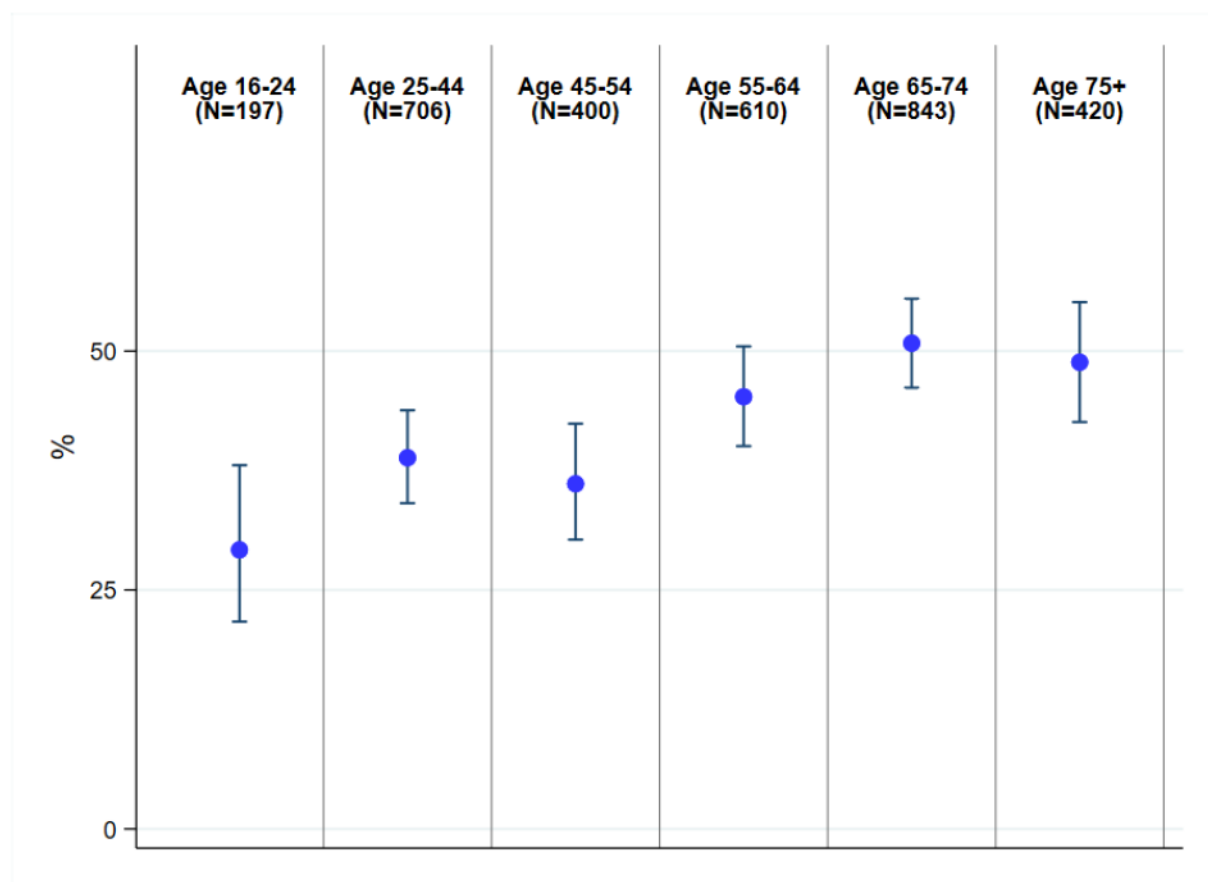
Base: All respondents

Base size: N = 3,176 (Food/Toiletries), N = 3,066 (Non-essential items)

22. Figures E.7 and E.8 display the percentage saying they shopped around either a lot or a little less, together with 95% confidence intervals, broken down by age.

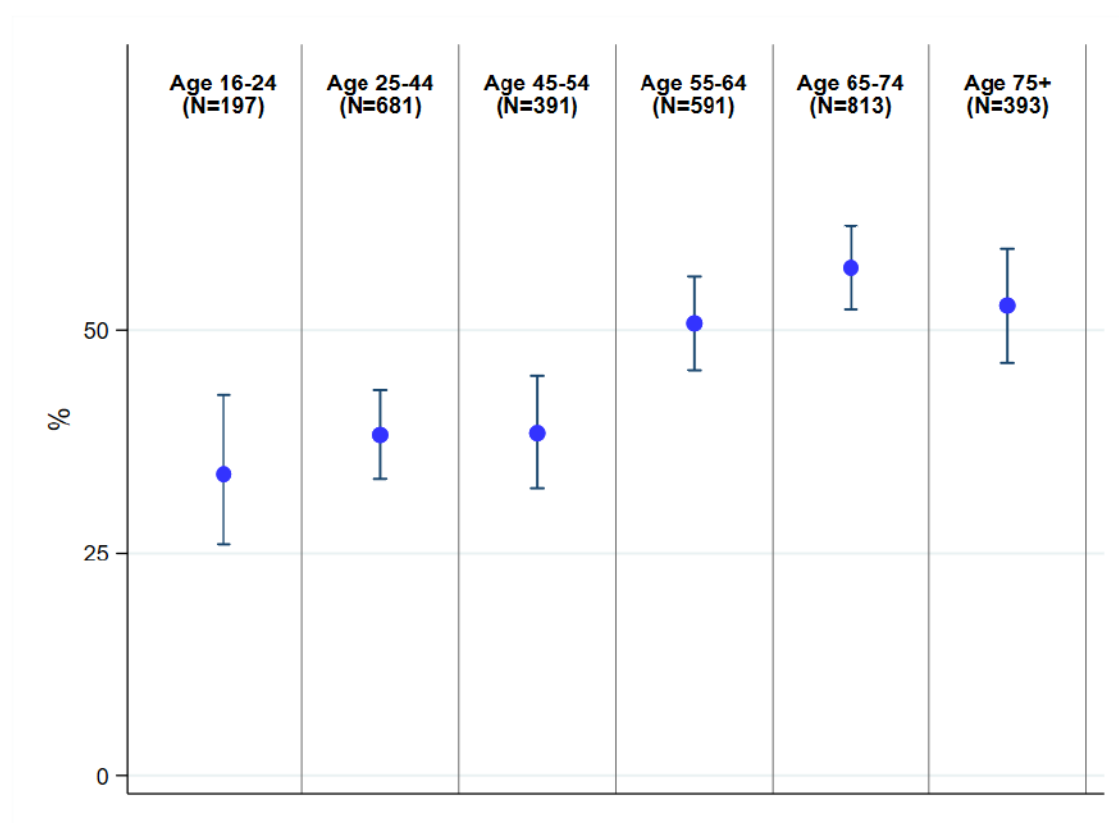
¹⁷⁴ As highlighted by the Purple Tuesday campaign; see for example BBC News, [Covid: Lockdown 'turned back the clock' for disabled shoppers](#) (accessed 3 November 2020).

Figure E.7: Percentage and 95% confidence intervals of those shopping around for food and toiletries a lot or a little less – by age-group



Source: CMA analysis of OPN survey (Waves W and X), fieldwork dates August and September 2020
 Percentage and 95% confidence intervals. Base: All respondents

Figure E.8: Percentage and 95% confidence intervals or those shopping around for non-essential items a lot or a little less – by age-group



Source: CMA analysis of OPN survey (Waves W and X), Fieldwork dates August and September 2020
 Percentage and 95% confidence intervals. Base: All respondents

23. What we can conclude from figures E.6 to E.8 is that older groups are far less likely to shop around for both essentials and non-essentials and given the confidence intervals that we see in Figures E.7 and E.8, we can be confident in the differences between those aged 65 and over and 44 or younger. This is perhaps unsurprising given the findings on illness and disability but again is something to monitor going forward.

Businesses

24. Our questions in the BICS were focused on exploring the views of businesses on the impact of the pandemic on:
- (a) the number of competitors in their market;
 - (b) competition among their suppliers;
 - (c) their plans for expansion; and
 - (d) challenges selling online.

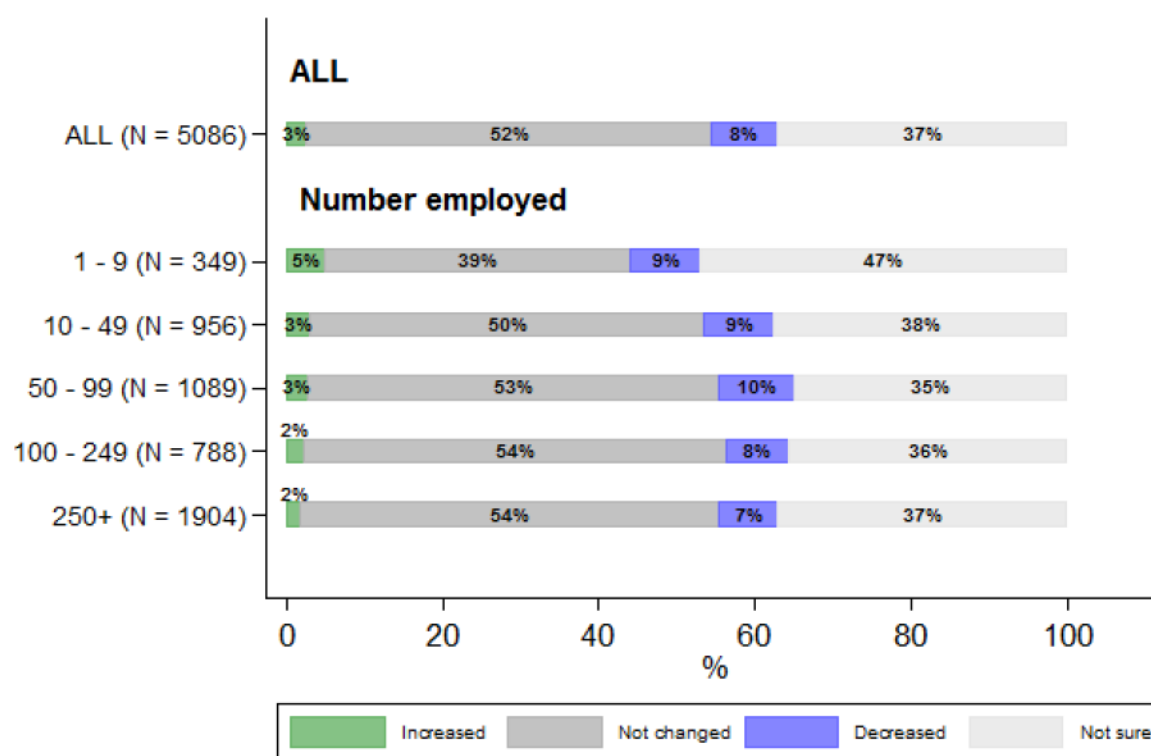
25. It is worth reiterating at this stage that BICS results reflect those who responded to the voluntary survey and results used here in this analysis have not been weighted to the entire business population. Nonetheless it comes from a large sample with relatively high response rates for a voluntary survey, and has been used by the ONS to illustrate the effects of the pandemic on the sampled businesses. We believe it to be illustrative of what is happening to the businesses surveyed, but the results should be interpreted with caution.

Number of competitors

26. We asked about how the number of businesses selling similar goods or services had changed since the start of the pandemic. While we may speculate that respondents are not always best-placed to make this assessment in their own market (they may not have particularly good intelligence on competitor activity), we think the errors are likely to be unbiased over time so the results are still legitimate.¹⁷⁵ We note that while we asked about changes since the start of the pandemic, we would always expect businesses to enter and exit over time and that without an earlier baseline with which to compare we must therefore treat these results with caution, especially because the BICS results we present here are unweighted and only reflect views of respondents. Nonetheless, this data potentially helps to build up an understanding of the overall situation, and can be used as a baseline for future analysis.
27. Figure E.9 sets out the change in the number of competitors selling similar products reported by businesses since the start of the pandemic.

¹⁷⁵ That is, the extent to which business over- or underestimate the number of competitors they face over time is unlikely to change.

Figure E.9: Number of businesses selling similar products/services



'Has the number of businesses selling similar goods or services as your businesses changed since the start of the coronavirus (COVID-19) pandemic?'

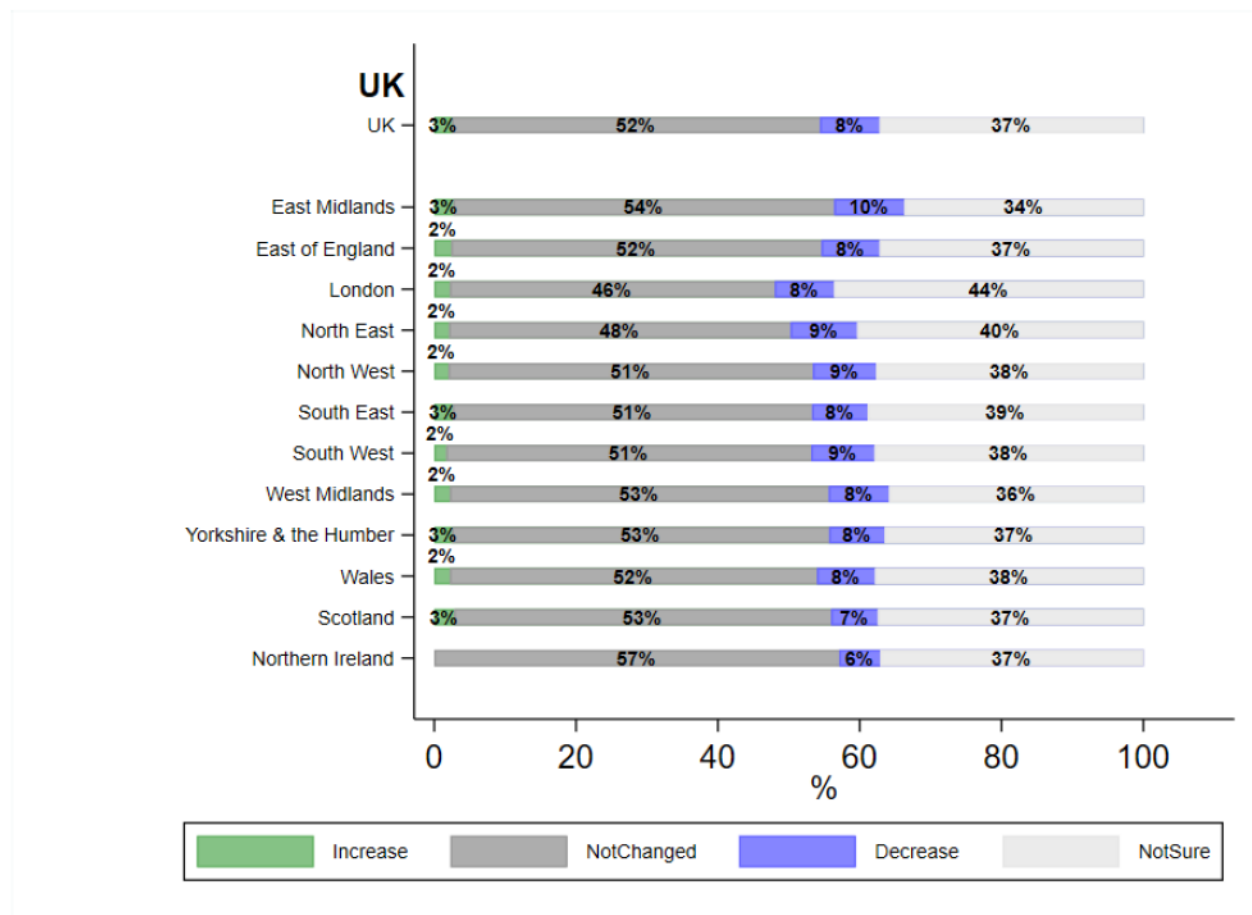
Source: BICS survey, Wave 12, reporting period 10-23 August 2020

Note: The BICS survey data we have is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded

28. The headline finding is that over half of businesses said there had been no change in their number of competitors, while more than a third were not sure. Just 8% of respondents said the number of businesses selling similar goods or services had decreased (we might have expected this to be higher following the pandemic) while 3% said the number had increased. There were some differences by size of business, but largely due to small businesses (those with fewer than 10 employees) being more uncertain on their competitors – a result we would expect.
29. Figure E.10 looks at differences in responses by region¹⁷⁶ – to see if the number of competitors had changed to a differing degree across the UK following the crisis.

¹⁷⁶ For the regional analysis of BICS we have relied on published data from ONS but note the difficulties in assigning responses from large, multi-site businesses that operate across the UK to one location. This caveat should be borne in mind when interpreting results.

Figure E.10: The impact of the pandemic on the number of businesses selling similar products/services across the UK



'Has the number of businesses selling similar goods or services as your businesses changed since the start of the coronavirus (COVID-19) pandemic?'

Source: BICS survey, Wave 12, reporting period August 2020

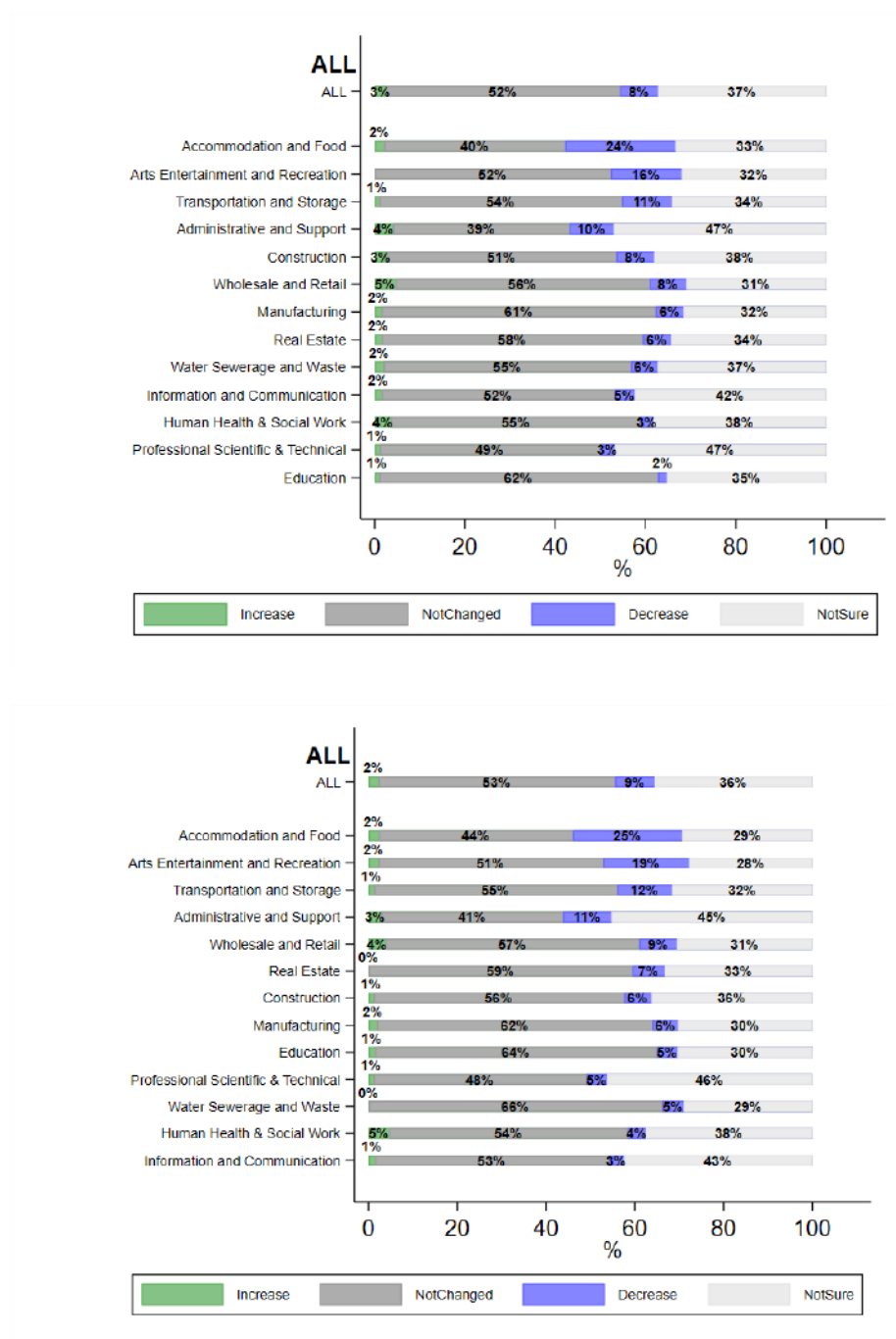
Note: The BICS survey data we have used is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

30. As can be seen, the responses are fairly consistent across the UK. There is tentative evidence from Northern Ireland that fewer businesses had seen a fall in the number of competitors (although we have only a small sample of businesses from Northern Ireland).¹⁷⁷
31. Figure E.11 looks at the data split by industry. We might expect those industries that have been hit hardest by the pandemic, for example those whose activity has had to stop, to be most likely to have seen a reduction in the number of competitors. The sectors have been ordered to show the

¹⁷⁷ The results of Wave 13, not shown, were also consistent with Wave 12.

industry sectors where the highest proportion of respondents indicated a decrease in the number of businesses selling similar products post-pandemic at the top. We show data for both waves 12 and 13.

Figure E.11: Change in the number of competitors since the start of the pandemic by sector, wave 12 (top) and wave 13 (below)



'Has the number of businesses selling similar goods or services as your businesses changed since the start of the coronavirus (COVID-19) pandemic?'

Source: BICS survey, Waves 12 and 13, reporting period August and September 2020

Note: Sectors with small number of responses ('Mining and Quarrying' and 'Others') are included in the 'ALL' bar, but have had their individual bars suppressed. The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

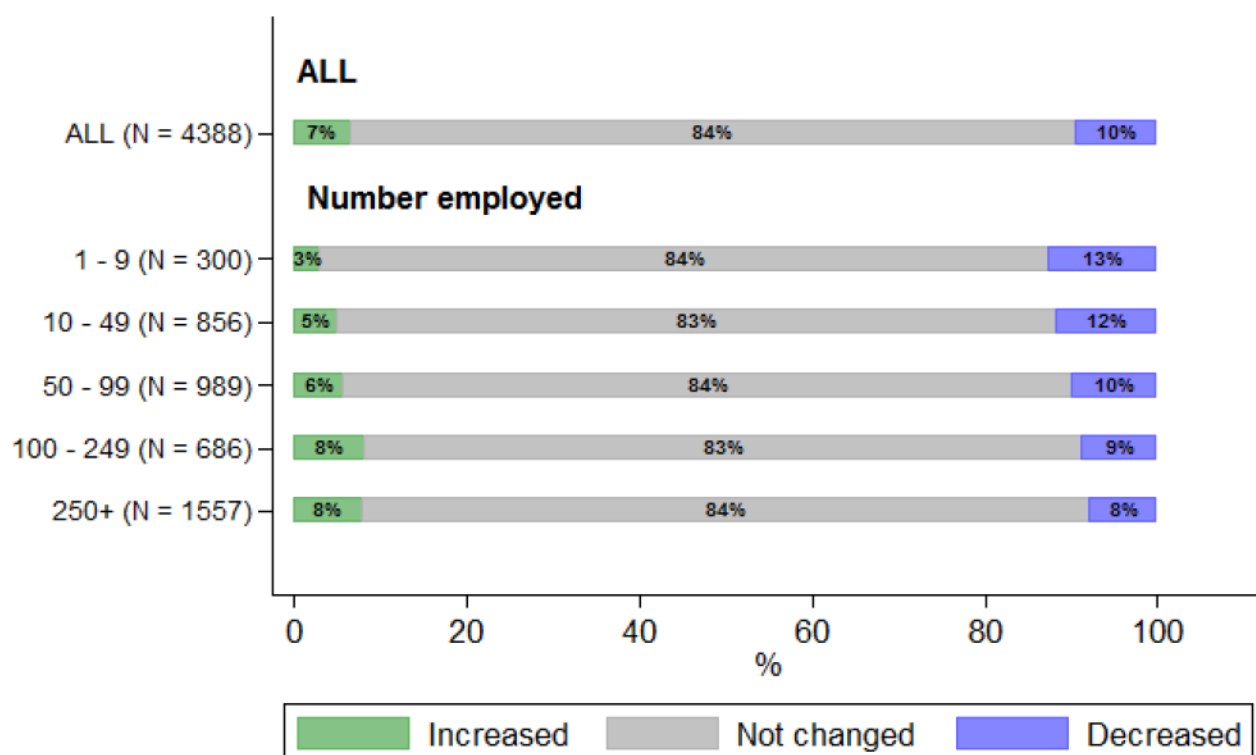
32. Those sectors more likely to report that the number of competitors had decreased in both waves were those most impacted by the pandemic such as Accommodation and Food Services and Arts, Entertainment and Recreation (ie services most likely to be affected by the inability of people to leave their homes or mix inside in large groups). There is significant variation amongst the types of businesses that sit within these industries¹⁷⁸ but in aggregate both sectors were severely impacted by the crisis in terms of normal operations not being able to continue. Those least likely to report a decrease were businesses most likely to operate remotely (Information & Communication, and Professional activities), sectors where many stayed open (eg Education) or those where activity may in fact have increased (eg Health and Social Work).

Number of suppliers

33. As well as asking businesses about the number of competitors, we asked businesses about the number of suppliers they could use, to get an idea of competition higher up the supply chain. Figure E.12 shows businesses reporting a change (or not) in the number of suppliers split by the size of responding business, measured by employment.

¹⁷⁸ See Annex 1 for a discussion on the degree to which different SIC codes contain multiple economic markets.

Figure E.12: Businesses reporting a change in number suppliers since the start of the pandemic by size



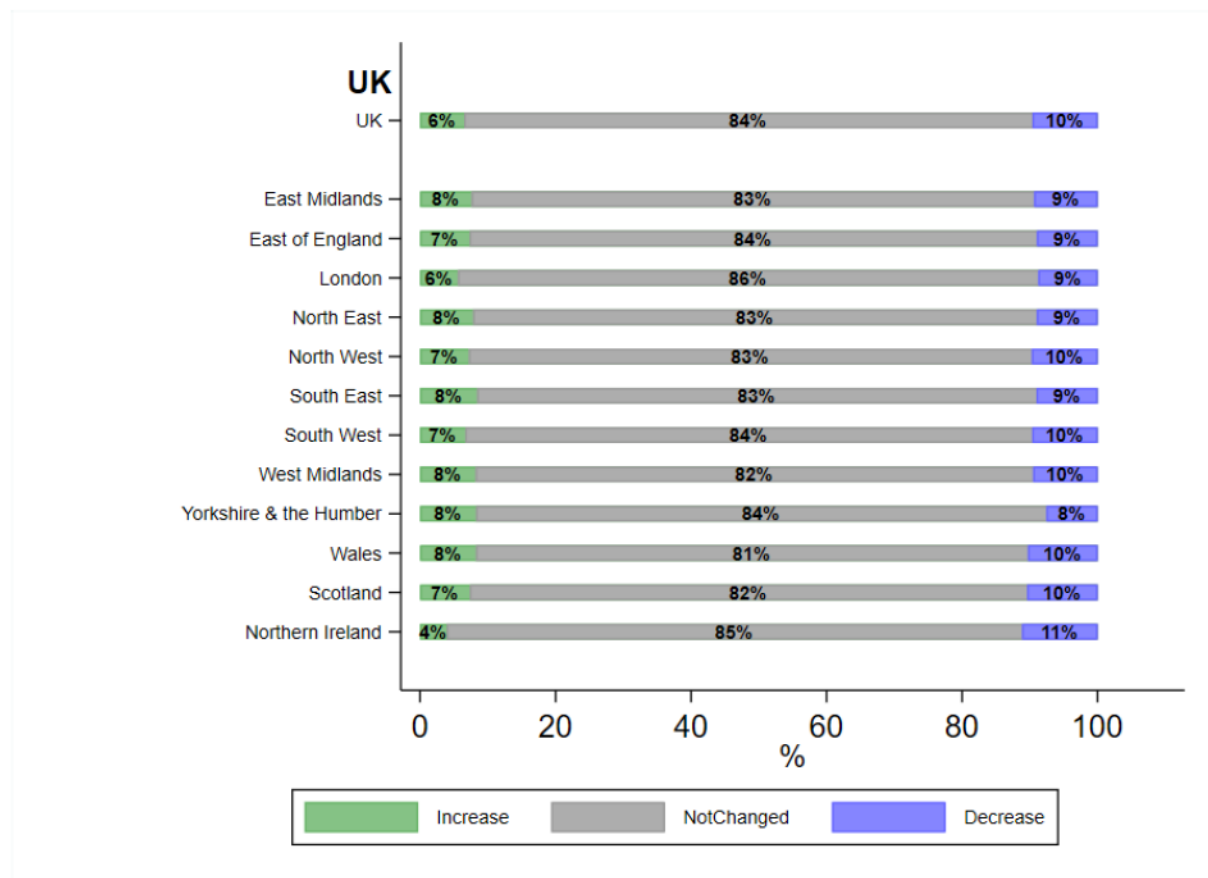
'Has the overall choice of suppliers for sourcing your business's materials, goods or services changed since the start of the coronavirus (COVID-19) pandemic? Responses of 'Not Sure' are excluded

Source: BICS survey, Wave 12, reporting period 10-23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

34. As with questions about the number of competitors, the overwhelming response, reported by 84% of businesses, was that the number of suppliers was unchanged. A slightly larger proportion (10%) had seen the number of suppliers decrease than had seen the number of suppliers increase (7%). Figure E.12 also shows a clear pattern by size of businesses, with smaller businesses (especially those with fewer than 10 employees but also those with fewer than 50 employees) more likely to see a decline in the number of suppliers than larger businesses (as measured by employment).
35. Figure E.13 splits this data by region to see if there is a difference across the UK.

Figure E.13: Businesses reporting a change in number suppliers since the start of the pandemic by region



'Has the overall choice of suppliers for sourcing your business's materials, goods or services changed since the start of the coronavirus (COVID-19) pandemic? Responses of Not Sure are excluded'

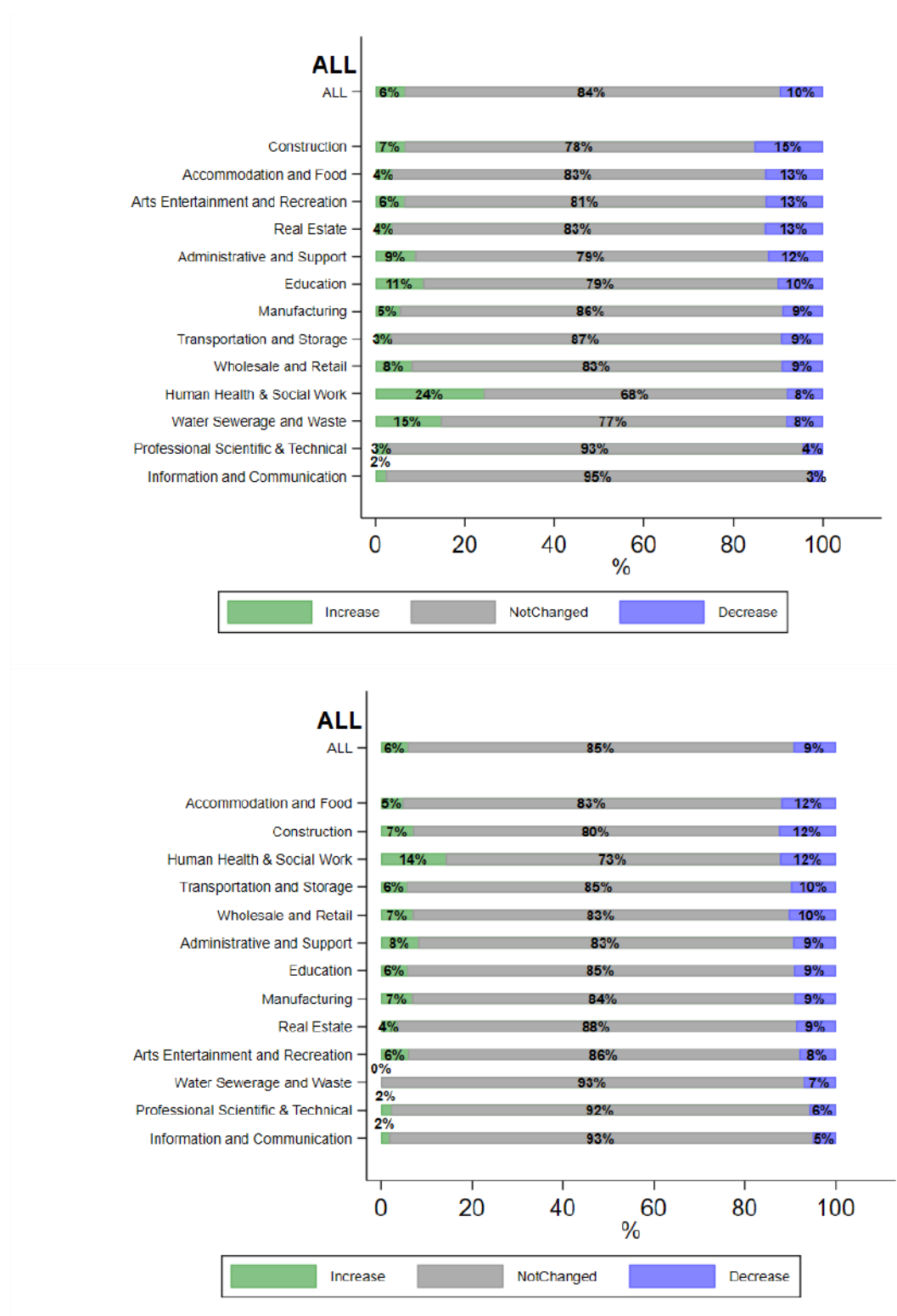
Source: BICS survey, Wave 12, reporting period 10-23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

36. We see a fairly consistent pattern, with almost all regions and nations, showing similar proportions.¹⁷⁹
37. Figure E.14 similarly looks at this data split by industry. As with the number of competitors, we might expect industries hit hard by the pandemic to be most likely to have seen a reduction in the number of suppliers. The sectors have been ordered with the industry sectors where the highest proportion of respondents indicated a decrease in the number of suppliers post-pandemic at the top.

¹⁷⁹ Again, this was also true with Wave 13, not shown.

Figure E.14: Changes in the number of suppliers by industry, waves 12 (top) and 13 (below)



Has the overall choice of suppliers for sourcing your business's materials, goods or services changed since the start of the coronavirus (COVID-19) pandemic? Responses of 'Not Sure' are excluded

Source: BICS survey, Waves 12 and 13, reporting period August and September 2020

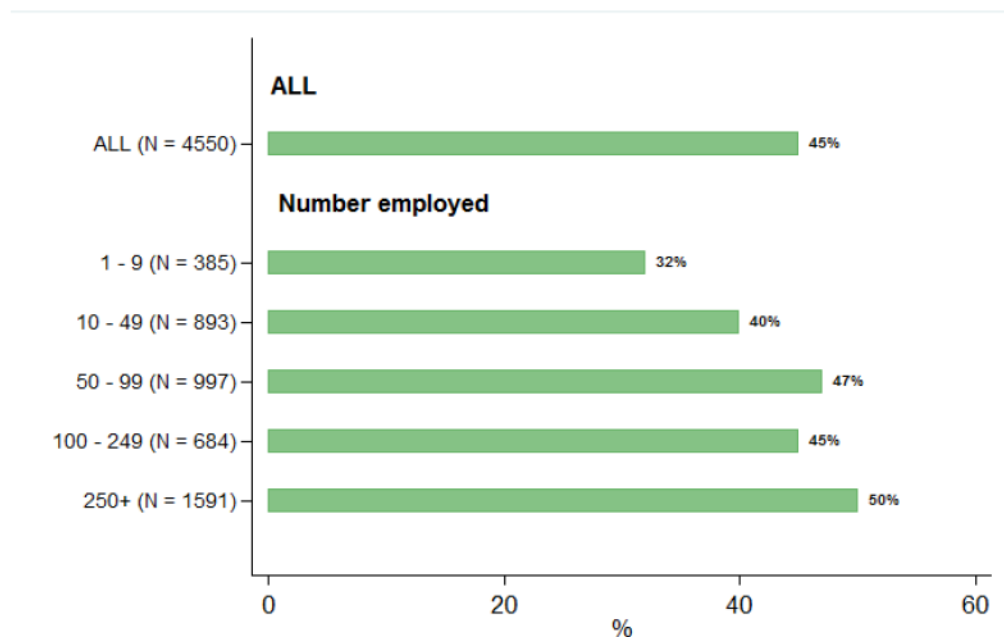
Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

38. Figure E.14 confirms what we might have expected. Those in the Construction, and Accommodation and Food Services sectors were most likely to have seen a decrease in their number of suppliers. Industries that were less affected, for example those in Information and Communication sectors, or Professional, Scientific and Technical activities, where working from home was likely to be more prevalent were less likely to see a decrease in the number of suppliers. Also, Health and Social Work, where few reported a decline in the number of competitors (paragraph 32), saw an even higher number report an increase in the number of suppliers than a decrease in both survey waves.

Plans for expansion

39. As we discuss in Chapter 2, merely existing in a market is not enough to provide competition – we are interested in smaller businesses innovating, growing and challenging incumbents, driving performance across the whole market. In short, it is important that new firms can expand and compete. This means plans for expansion are key – and we would be concerned about the impact the pandemic might have on these plans, and thus on competition in the medium-term, therefore we asked respondents to the BICS about their expansion plans.
40. Figure E.15 shows the percentage of businesses with plans to respond before the pandemic.

Figure E.15: Percentage of businesses with plans to expand before the pandemic



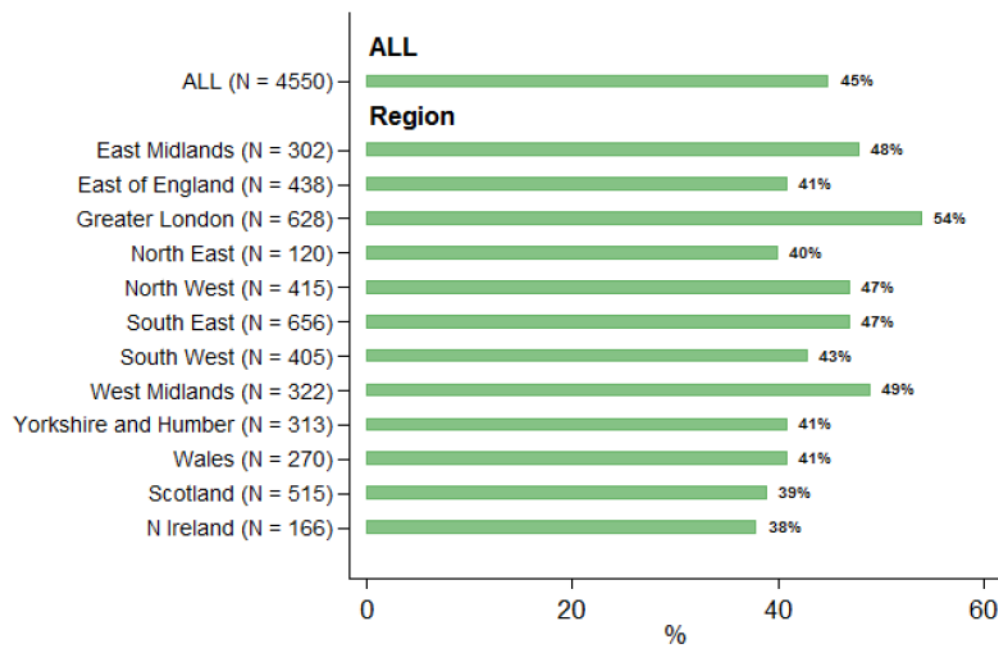
'Was your business planning to expand its business before the coronavirus (COVID-19) pandemic?' Responses of 'Not Sure' are excluded

Source: BICS survey, Wave 12, reporting period 10-23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

41. Before the pandemic, less than half (45%) of respondents had plans to expand. There was a clear difference between those smaller businesses with fewer than 50 employees, and larger businesses with more than 50 employees who were more likely to have expansion plans.
42. Figure E.16 shows this data split by region.

Figure E.16: Differences in expansion plans prior to the pandemic by region



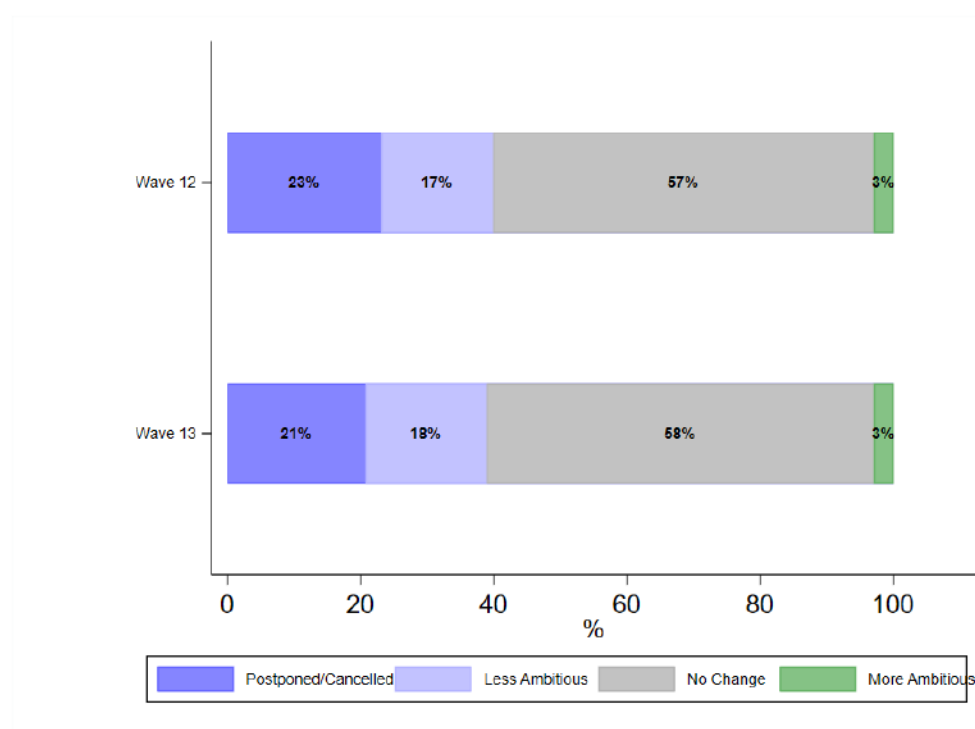
'Was your business planning to expand its business before the coronavirus (COVID-19) pandemic?' Responses of 'Not Sure' are excluded

Source: BICS survey, Wave 12, reporting period 10-23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

43. Over half of businesses in greater London had expansion plans prior to the pandemic compared to just 38% in Northern Ireland, 40% in the North East of England and 39% in Scotland.
44. We are more interested, when examining the potential impact of the pandemic on competition, in looking at how these plans changed following the pandemic – this is examined in Figure E.17.

Figure E.17: Changes to expansion plans following the pandemic, wave 12 (top) and wave 13 (below)

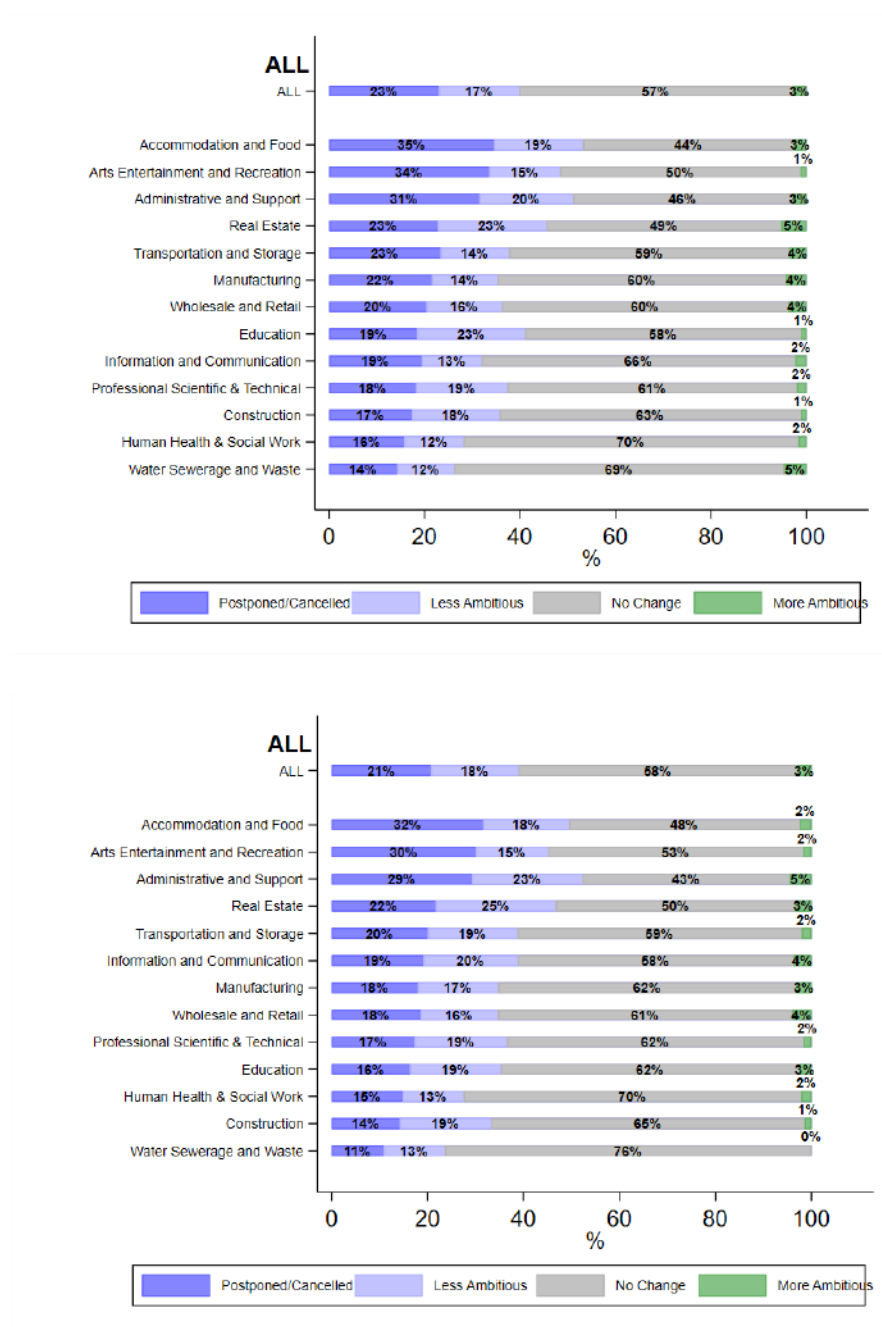


'Has the (COVID-19) pandemic affected your business's plans to expand the business?' Responses of 'Not Sure' are excluded
Source: BICS survey, Waves 12 and 13, reporting period August and September 2020
Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

45. These charts show how expansion plans have changed since the pandemic.¹⁸⁰ In both waves, around four in ten respondents reported that they have had to postpone or scale back their expansion plans following the pandemic. In contrast only 3% said those plans were more ambitious.
46. There were relatively small differences when we broke this data down by size of business or region, but clearer patterns when we look at how expansion plans were affected by industry, and this data for waves 12 and 13 is set out in Figure E.18.

¹⁸⁰ This question was asked of all respondents not just those who had plans to expand before the pandemic, and thus many of those whose plans have not changed were unlikely to have them in the first place. In this respect our figures will under-estimate the impact of the pandemic on expansion plans: the proportion of those who had to cancel or scale back pre-existing plans will likely be much greater.

Figure E.18: Changes to expansion plans following the pandemic by industry, wave 12 (top) and wave 13 (below)



'Has the (COVID-19) pandemic affected your business's plans to expand the business?' Responses of 'Not Sure' are excluded
Source: BICS survey, Waves 12 and 13, reporting period August and September 2020
Note: Sectors with small number of responses ('Mining and Quarrying' and 'Others') are included in the 'ALL' bar, but have had their individual bars suppressed. The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

47. While some industries were more likely to report having expansion plans prior to the pandemic (for example, Administrative and Support Service activities) than others (eg Health and Social work) – as said before, our interest is in

how this changed post-pandemic.¹⁸¹ We see a similar picture by industry to that we have seen before – those most impacted by the pandemic were also most likely to postpone or scale back their expansion plans (ie Accommodation and Food and Arts, Entertainment and Recreation).

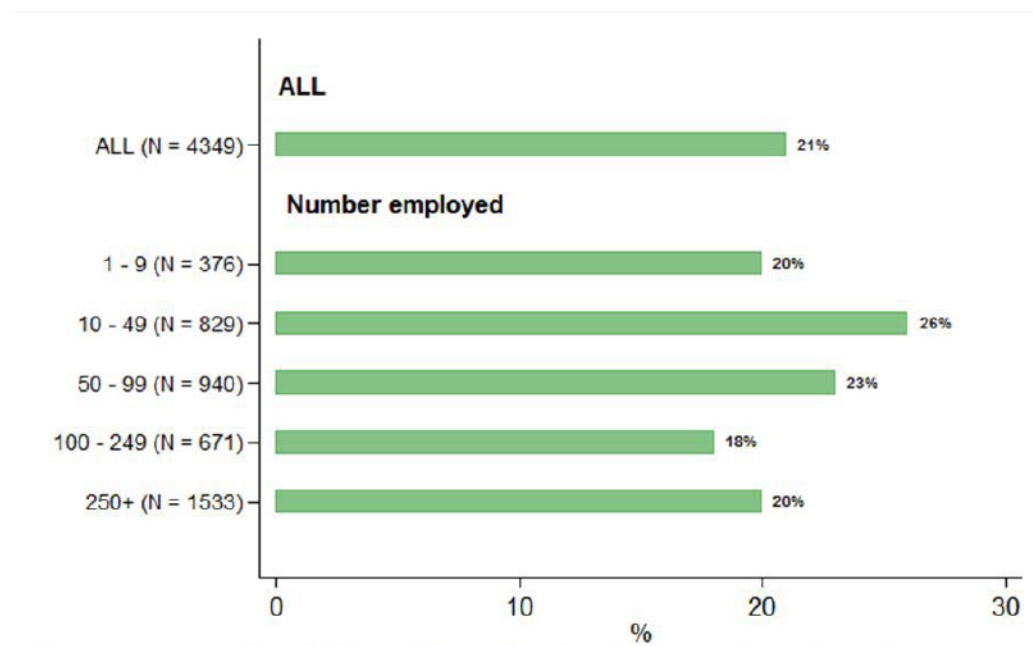
Challenges selling online

48. We know that businesses have over the past few years increasingly moved online. As a result of the pandemic many businesses turned to selling, and many consumers turned to buying, products and services online. For example, the latest research from Mintel¹⁸² suggested that the online grocery market is forecast to grow by 33% in 2020 to reach an estimated value of £16.8 billion as a result of changing consumer shopping habits during lockdown and consumers eating all meals at home. We are therefore interested in the challenges businesses faced as they moved online and in particular whether there might be any impact on competition. Given the acceleration in the move online during the pandemic, this is a particularly good time to consider the challenges of doing so.
49. Figure E.19 shows the number of businesses reporting that they experienced problems selling online.

¹⁸¹ We reiterate here that this analysis is based on all survey respondents and not only those who had expansion plans prior to the pandemic.

¹⁸² Mintel (2020), [UK grocery will grow by around 33% in 2020](#)

Figure E.19: Businesses reporting challenges selling online by size



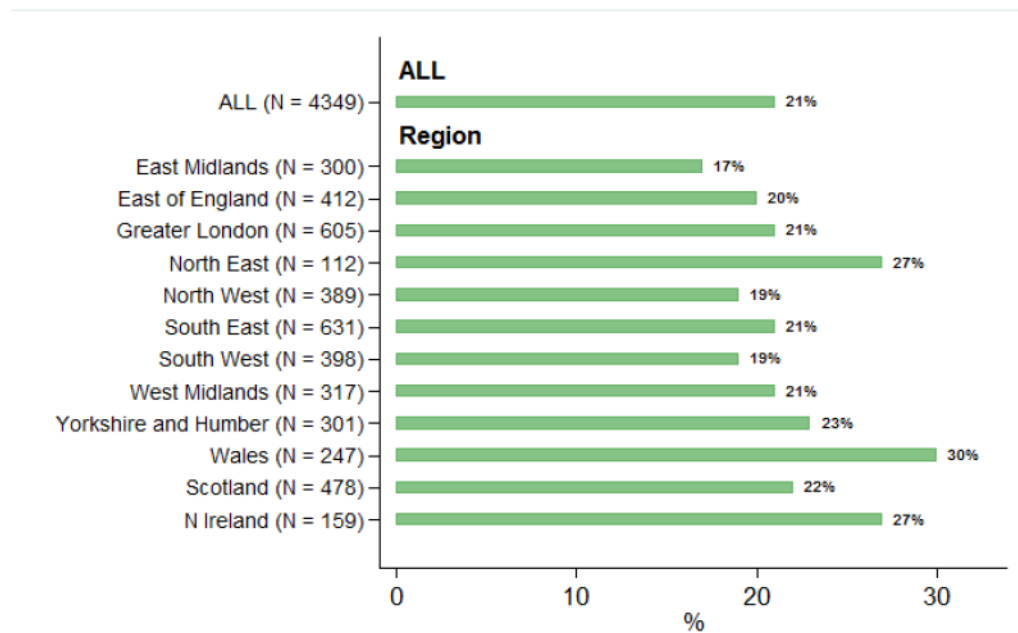
'Has your business experienced any of the following challenges when selling goods or services online since the start of the coronavirus (COVID-19) pandemic? Graph shows those who answered yes.' Responses of 'Not Sure' are excluded
Source: BICS survey, Wave 12, reporting period 10 to 23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

50. The majority of businesses did not report experiencing any problems selling online, with just one in five respondents experiencing challenges and there was no clear pattern by size of business.¹⁸³
51. Figure E.20 looks at the split by region.

¹⁸³ The questions were asked differently in each BICS wave. We present results here from wave 12 only, with wave 13 results excluded as respondents were not given a 'Not sure' option which influenced results and makes comparisons between the two waves not possible.

Figure E.20: Businesses reporting challenges selling online by region



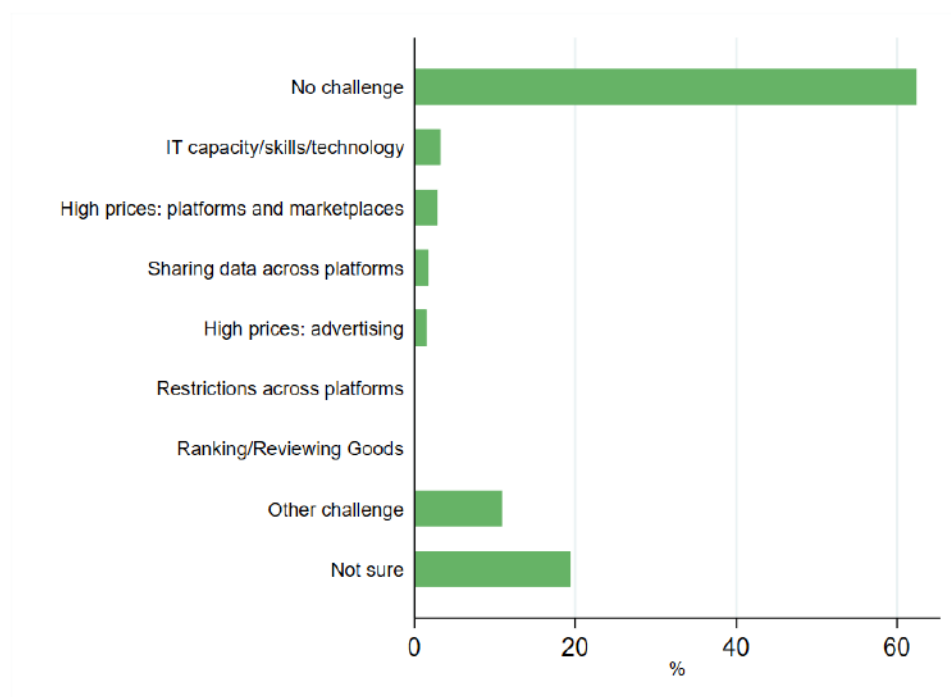
'Has your business experienced any of the following challenges when selling goods or services online since the start of the coronavirus (COVID-19) pandemic? Graph shows those who answered yes. Responses of 'Not Sure' are excluded

Source: BICS survey, Wave 12, reporting period 10 to 23 August 2020

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded.

52. This shows that those in Wales, Northern Ireland and the North East of England were more likely to experience challenges.
53. We also asked about the specific challenges businesses faced when selling online. The responses are set out in Figure E.21.

Figure E.21: Specific challenges faced selling online



'Has your business experienced any of the following challenges when selling goods or services online since the start of the coronavirus (COVID-19) pandemic?' Graph shows those who answered yes.

Source: BICS survey, Wave 12, reporting period 10 to 23 August 2020

N=5,086

Note: The BICS survey is unweighted and, rather than being nationally representative, may only reflect the characteristics of those who responded. Bars will not sum to 100% as businesses could select multiple options. Other challenge includes all other arrangements not defined in the question. Answers suppressed if percentage less than 1%.

54. The challenges identified that may flag competition concerns – such as challenges sharing data between platforms, high prices or issues with ranking systems – received fairly few responses, with the undefined 'Other' category being more popular amongst the minority who had experienced challenges. This reflects the detailed work needed, and indeed that is ongoing, to understand these challenges further.

Business formation and closure data

Business formation

Relevance

55. Business formation is an indicator of future competition in an industry – fewer firms entering now leads to less competitive pressure on established players in the years to come. Business formation is also important for deeper economic reasons – for both productivity dynamics, with some evidence (from

the US) that start-ups drive large portions of aggregate productivity growth,¹⁸⁴ and for job creation.¹⁸⁵

56. It is though worth recognising that not all business entry is equal. Not all entrants will be innovative, higher-productivity firms who gain market share and force established players to improve their offering; some will never gain more than a negligible market share and place material competitive pressure on incumbents.

Data

57. We use quarterly data drawn from the Inter-Departmental Business Register (IDBR)¹⁸⁶ published by the ONS. This comprehensive business demography measure, available at a high frequency, enables us to build on the work of Duncan et al¹⁸⁷ and estimate the impact of the current crisis on business formation and closures.¹⁸⁸
58. As well as the theoretical caveats with using business formations to assess competition, there are limitations in the data we must recognise. For example, these statistics are experimental and are less robust than annual measures so our results should be interpreted with caution.¹⁸⁹ Our data also includes all businesses set up even if some of those businesses are not strictly competing with others. Examples of this include businesses that are set up for tax purposes or to reserve a name, although efforts are made to exclude such businesses from the IDBR.
59. Given our analysis is primarily over time, this will not impact our conclusions provided the number of these businesses being set-up as a proportion of all business being set up does not change over time. However, it is not possible to assess this with the data available and some have highlighted the risk that with unprecedented levels of government support on offer, businesses may

¹⁸⁴ Based on study of US business data. Source: Haltiwanger, J C., Jarmin, R S., Kulick, R B. and Miranda, J (2016), [High Growth Young Firms: Contribution to Job, Output and Productivity Growth](#), *US Census Bureau Center for Economic Studies Paper No. CES-WP-16-49*.

¹⁸⁵ Based on study of US business data. Source: Sedláček, P (2020), [Lost generations of firms and aggregate labor market dynamics](#), *Journal of Monetary Economics*, Volume 111, pp16-31

¹⁸⁶ The IDBR is itself drawn from VAT, PAYE, surveys and Companies House data, see annex xxxx for a fuller description.

¹⁸⁷ Duncan, A., León-Ledesma, M., Savagar, A. (2020), [Firm creation in the UK during lockdown](#)

¹⁸⁸ Quarterly data is available from Q1 2017 onwards, prior to that point only annual data is available.

¹⁸⁹ For example, the annual data takes into account cases where businesses are reactivated (ie a business appears to have closed, but is subsequently reactivated) which quarterly data do not. For more detail see the [ONS's methodology commentary](#) that accompanies the statistics.

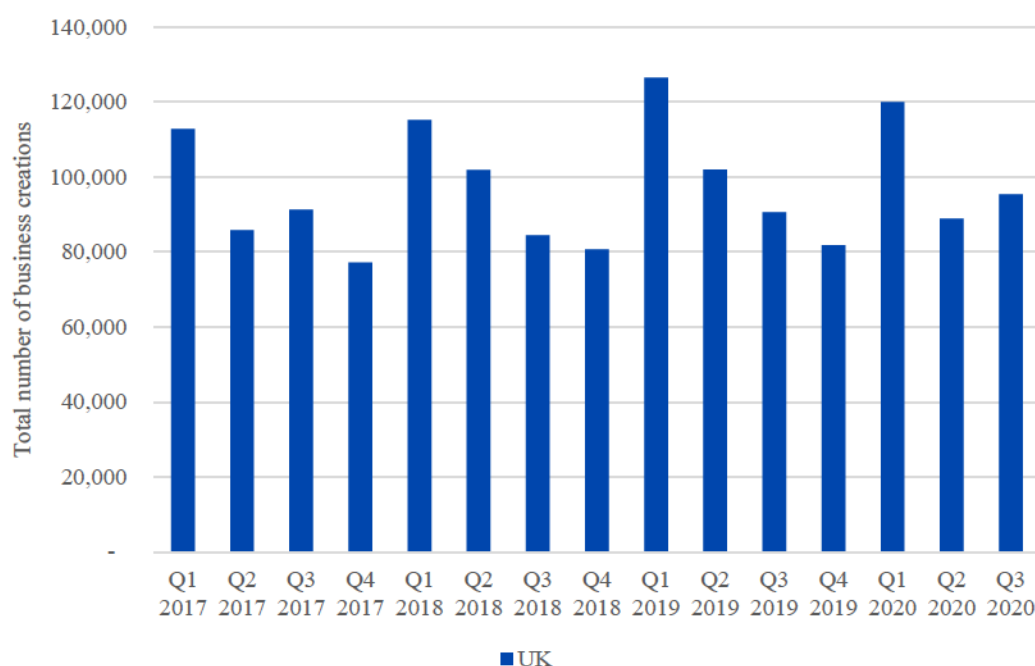
have been set up in part to capitalise on this.¹⁹⁰ While we make no adjustment for this, it would suggest that the number of business formations may be inflated since the beginning of the current pandemic.

60. Finally, there is also a delay between when a business is actually formed and when it is added to the IDBR (this can be a number of weeks).¹⁹¹ Despite this we consider the data for each quarter reflects that quarter reasonably well and can show us the latest trends (this contrasts with business closures where the gap can be (much) longer, see paragraph 78).

Business formations over time

61. Figure E.22 shows the total number of business formations in the UK between Q1 2017 and Q3 2020.

Figure E.22: Total number of business formations in the UK between Q1 2017 and Q3 2020



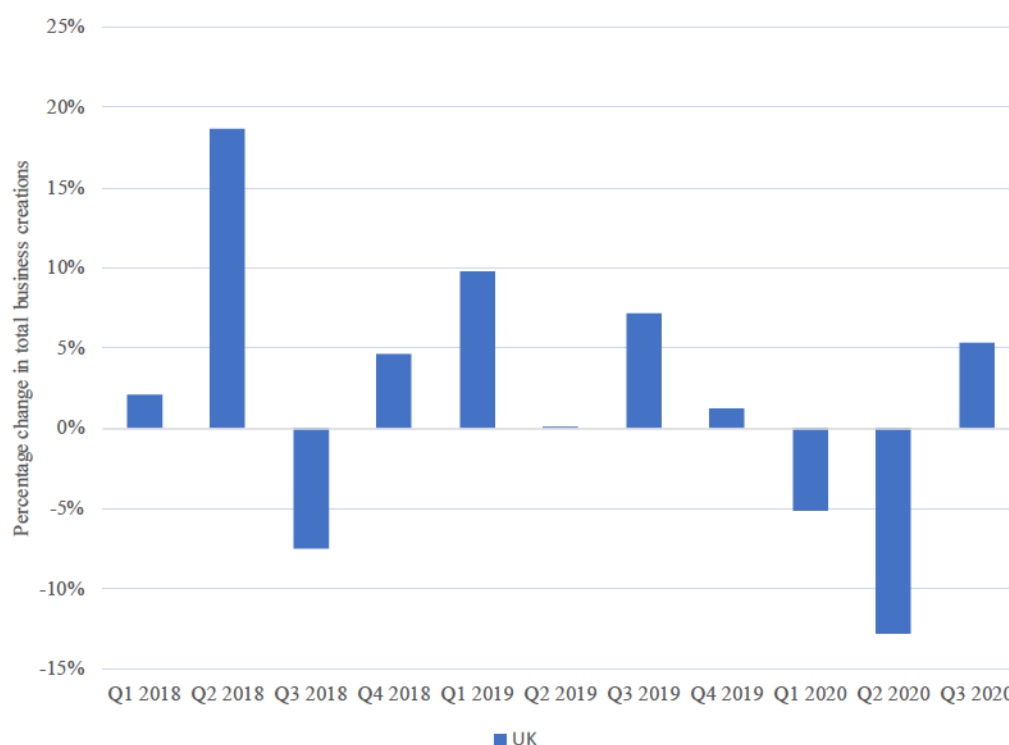
Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

¹⁹⁰ NAO (2020), [Investigation into the Bounce Back Loan Scheme](#). See paragraph 21 of Summary.

¹⁹¹ The time between a business being created, it being registered at Companies House and then added to the IDBR can be a number of weeks.

62. Across the UK, business formation appears to have roughly maintained previous trends, although we can see an unexpected increase in Q3 2020. There is also substantial seasonality in the patterns of business formations, visible in Figure E.22, peaking in Q1 each year.
63. We therefore investigated quarterly year-on-year changes in the total number of businesses formed across the UK between Q1 2017 to Q3 2020 to help smooth out the picture. Figure E.23 shows the year-on-year changes.

Figure E.23: Year-on-year percentage change in total business formations across the UK between Q1 2017 to Q3 2020

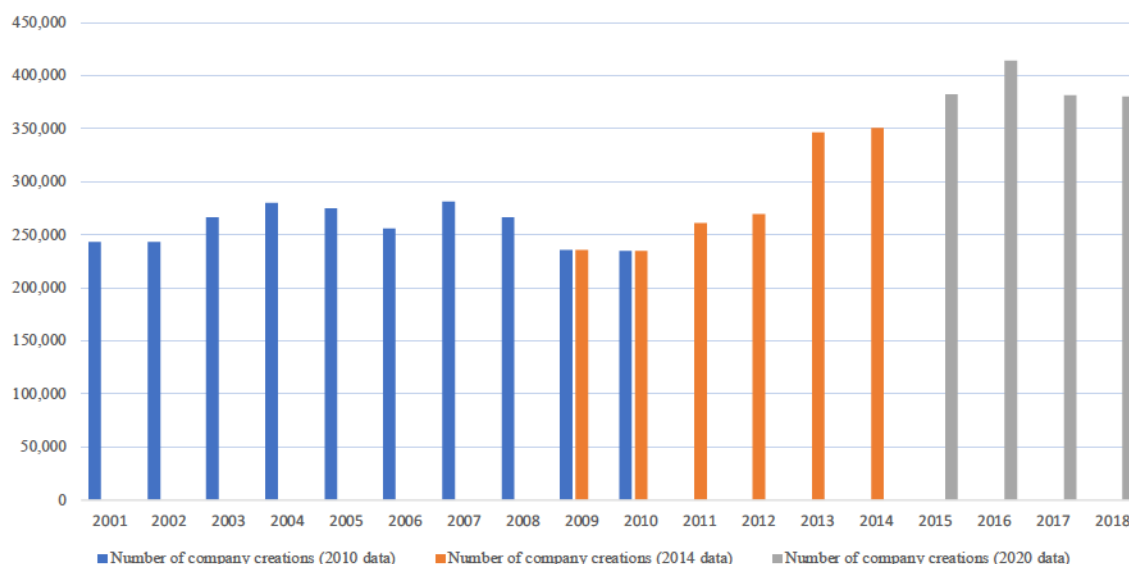


Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

64. The first thing to note is that there is no clear trend in the number of business formations over the previous few years, with year-on-year changes tending to fluctuate between +/- 10%. The latest data shows that there has been a 5% increase in business formations in Q3 2020 compared to Q3 2019. However, this followed a large decrease in business formations in the first two quarters of 2020 compared with the same period a year earlier, outside the usual fluctuations observed over the last two years. Looking at the period following the pandemic (Q2-Q3 2020) as a whole, it is far from clear what impact the pandemic is having on business formations.

65. Taking a longer time series to look at the impact of previous recession, figure E.24 shows the total number of business formations across the UK between 2001 and 2018 by year.¹⁹²

Figure E.24: Total business formation across the UK between 2001 and 2018 by year



Source: CMA analysis of data from Business Demography 2010, Business Demography 2015 and the latest Annual ONS Business Demography

Note: Data here come from different sources, represented by the different column colours. Data for 2001-2010 comes from Business Demography 2010 (blue bars), access from web archive. Data for 2009-2014 comes from Business Demography, 2014 (orange bars). Data from 2015 to 2018 comes from latest Annual ONS Business Demography publication (grey bars).

66. We can see that the number of business formations declined during the 2008/09 financial crisis. This may have reflected the uncertainty, lack of good business opportunities, or barriers to starting a business at that time (eg access to finance). The decrease in new business formations for Q2 2020 may have indicated a similar impact, but the rise in Q3 2020 runs counter to this (see Figure E.23).
67. However, the Q3 increase is in line with a range of other data that have indicated an increase in business formation during the latest part of the pandemic, for example VAT registrations, and weekly company incorporations data from Companies House.¹⁹³ We know from elsewhere in this report (main report paragraph 2.57) that business formation rates or entry rates (ie the number of businesses formed each period as a proportion of those in

¹⁹² Quarterly data not available this far back.

¹⁹³ ONS (2020), [Business demography, quarterly experimental statistics, UK: July to September 2020](#). See section on 'Other data on business creation.'

existence the period before) fell during the financial crisis, no such impact has been seen in recent data.¹⁹⁴ We will have to wait and see where the trend of overall business formations goes over the next few quarters before we can conclude on the impact of the current pandemic.

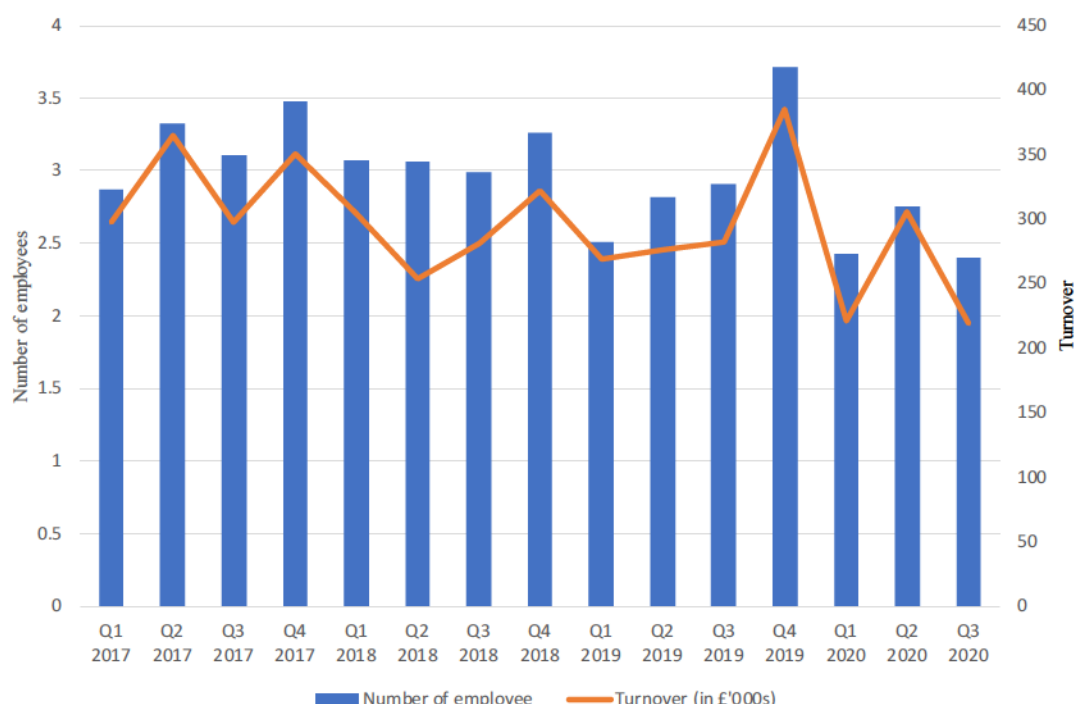
Business formations by size

68. We are also interested in looking at the average size of businesses formed by both employment and turnover. Given the fact they are new, some of these figures are inevitably estimations.¹⁹⁵ For example, while employment data is available from PAYE records for some businesses it must be imputed for others. Likewise, while turnover is usually that estimated by a business when registering for VAT, for non-VAT registered businesses it has to be estimated based on firms with a similar number of employees in the same sector. Despite these limitations we think it is legitimate to look at trends over time as we have no evidence on how estimations may be biased over time.
69. In terms of the average size of business formed, Figure E.25 shows the average number of employment positions and turnover per business formed for the UK between Q1 2017 to Q3 2020.

¹⁹⁴ Based on a decline in the number of business creations.

¹⁹⁵ The turnover data on the IDBR is mostly derived from VAT or ONS business survey records. Employment data on the IDBR is derived from PAYE or ONS business survey records. In some cases, values are imputed from administrative data. The turnover data is updated annually, every September, from available data. Employment data are updated more frequently for some businesses but at least annually for all businesses. The turnover and employment data for business closures are the stored values at the last update while the business was active on the IDBR, often the last annual update. These figures are not adjusted for inflation, so the average turnover would be expected to rise slowly over time in line with inflation. For business creations, the value for turnover is usually that estimated by the business upon registration with HMRC for VAT. The employment value is the number of actually registered employees on their PAYE scheme if they have one, and it is imputed if they do not. This value is revised on the IDBR when more up-to-date data are received, but it is not revised in these statistics.

Figure E.25: Average number of employment positions and turnover formed per business formation for the UK between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020
 Note: Finance and insurance industry was excluded in the original ONS statistics as turnover values in this industry are not representative of size.

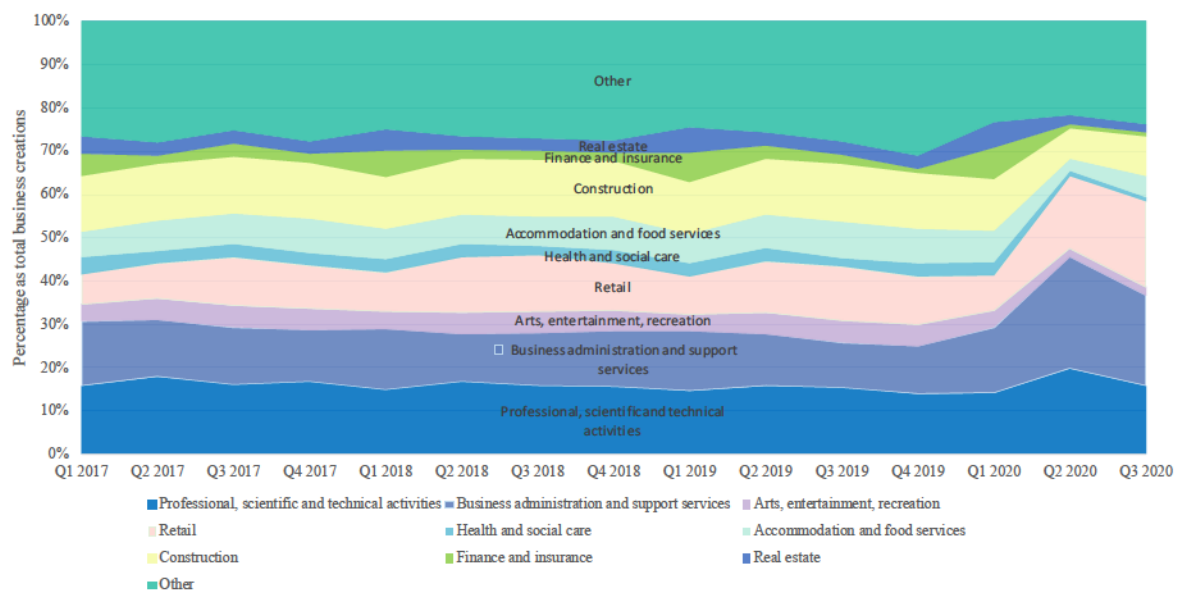
70. Since Q1 2020, the average size of new businesses created (measured by both employment and turnover) seems to be lower than in previous years, especially in Q3 2020. This may reflect the impact of the current pandemic with a greater number of small, potentially single-employee, businesses set-up, as people lose work elsewhere; or new businesses being more pessimistic about turnover expectations as these data are partly based on predictions made when the business is registered. It could also reflect new businesses being set up to take advantage of government support on offer. Monitoring whether the size of new businesses continues to fall will be important going forward, as small businesses are less likely to be effective competitors and will face barriers to growth that would be particularly important to identify and address.

Business formation by sector

71. Figure E.26 shows the percentage breakdown of business formations by industry sector between Q1 2017 to Q3 2020. Some industries have

historically represented a greater proportion of new businesses over time – for example, Professional, scientific and technical activities, Construction, Retail and Business administration and support services. However, we might expect this to be affected by a crisis such as the pandemic, with sectors least affected by the crises representing a greater proportion of business formations than would be usual. Figure E.26 suggests that this is the case.

Figure E.26: Percentage breakdown of business formations by industry sector between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020
 Note: The 'Other' category includes: Education, Agriculture, forestry and fishing, Production, Motor trades, and Wholesale.

72. Business administration and support services has seen an increase in the share of new businesses it represents in recent quarters, possibly due to the greater opportunities for remote working. Retail has also seen an increase, possibly due to increased demand for online retail services. On the other hand, Construction, Accommodation, and Arts, Entertainment and Recreation have all seen a decrease.
73. We also saw drops in the number of businesses created in Health and Social Care suggesting a sector under pressure. However, Health and Social Care was also identified as a sector that had seen a low number of business reporting a decrease in the number of competitors, indicating better performance (see paragraph 32) and more businesses reporting an increase rather than a decrease in the number of suppliers (see paragraph 38). The cause of these contrasting trends is not clear. It may be due to differences in

the data sources, variation among a fairly high-level grouping of businesses, or a feature of industry structure where barriers to entry and exit are high. Nevertheless it reinforces the need to treat our results with caution at this stage (we have discounted sub-group analysis of business closures data here due to substantial reporting lags in the data, but Health and Social Care did see closures fall on this measure).

74. These classifications are fairly high-level and thus further interpretation is difficult. For example, the Business administration and support services sector includes services such as disinfecting services and building security services, areas that might have seen potential business development during the pandemic.¹⁹⁶ But this category also includes travel agencies, where business development might be suppressed during the pandemic.¹⁹⁷ Therefore, the underlying reason for the increase in the quarterly figures can be very complex and hard to pinpoint, and due to issues of small sample size and volatility we cannot analyse further.

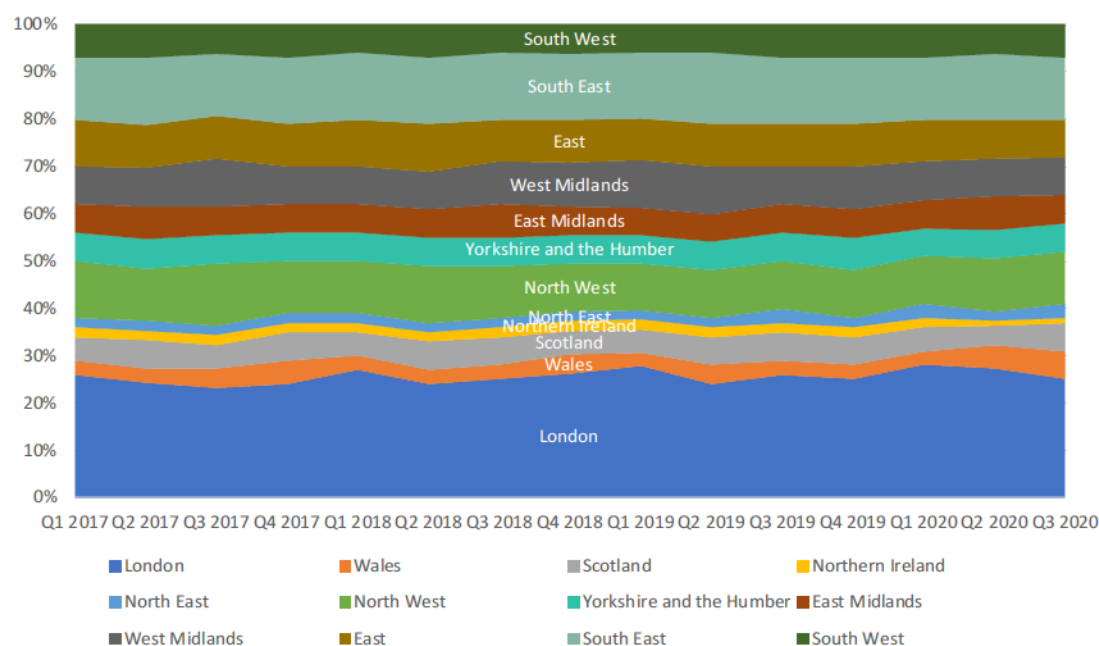
Business formation by region

75. Finally, we note that we have considered where these businesses have been established by region but must be cautious when interpreting the results due to historic volatility. Figure E.27 shows business formation by region between 2017 and 2020.

¹⁹⁶ For more details see [ONS UK Standard Industrial Classification 2007](#)

¹⁹⁷ See [ONS UK Standard Industrial Classification 2007](#), p49. Further discussion on the distinction between relevant markets and industry sector codes can be found in Annex A.

Figure E.27: Business formation across the UK between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

76. Since the start of 2017, London has continually driven business formations, representing over a quarter of new UK businesses, although this has fallen slightly in Q3 2020. Business formation in Wales appears to have increased significantly, the orange area second from the bottom has increased in size in latest data on the right hand side, although this may be due to nuances with the data.¹⁹⁸ The changes elsewhere are of very small magnitude; the proportion of all firm formations each region represents is stable in the latest data.

Business closures

Relevance

77. The rationale for exploring business closures mirrors that for formations – fewer firms in an industry provide less competitive pressure on remaining incumbents. It is worth recognising that like entry not all firm exit is ‘bad’ – if inefficient, unproductive firms are leaving the market consumer welfare may indeed be increased. Nevertheless, looking at industries with high levels of

¹⁹⁸ The ONS speculates that this may reflect an increase in businesses registered through so-called ‘multiple registration.’ This is where a company offers a service to register other businesses with Companies House, leading the address of the registration company to be the registered address of the new business. There are some registration companies such as this based in Wales, which may be having an impact on this trend.

business closures, especially when matched with information of which industries are concentrated, will be potentially informative as to the state of competition in those industries. However, definitive conclusions would need a more in-depth assessment.

Data

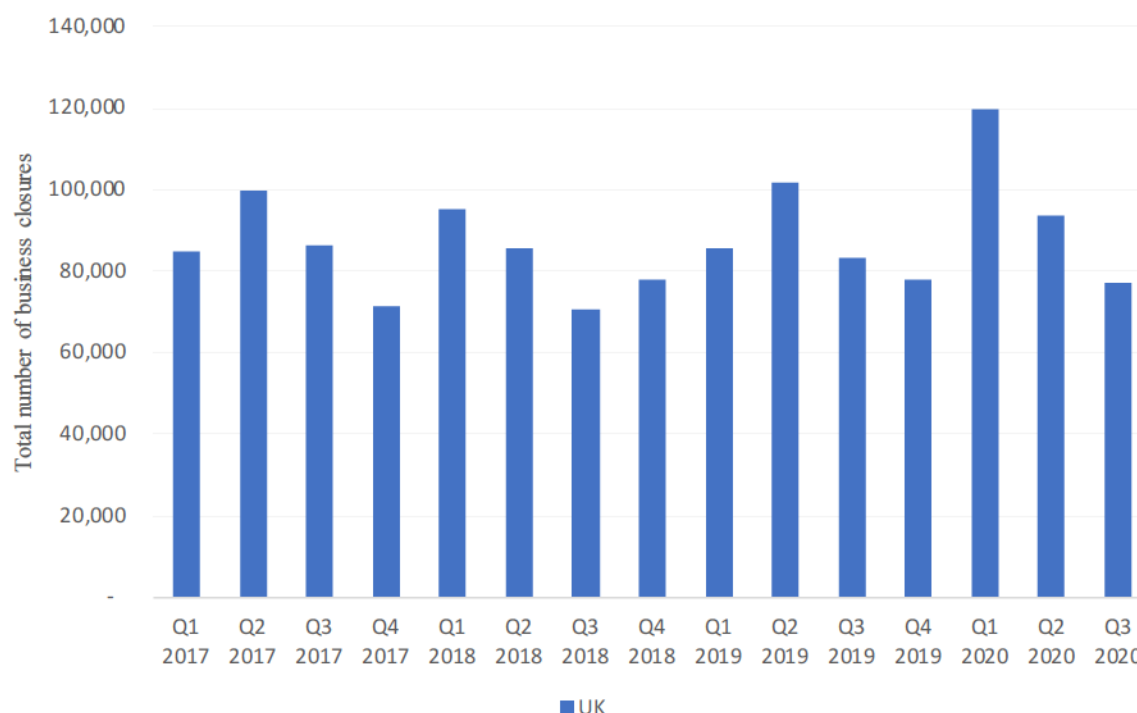
78. As with business formations, there is a gap between when a business actually closes from a competition perspective (ie its 'effective death') and when it legally closes and is removed from the IDBR.¹⁹⁹ Business closures can be long and complex so this gap is longer than for business formations and can stretch to several months.
79. An added complication when trying to assess the impact of the pandemic is the presence of government business support schemes. These schemes have provided financial aid to businesses during the pandemic and are likely to be important in supporting many financially viable businesses. However, it is not possible with the data available to assess the impact of the various government schemes on business closures (both in the short-term and long term), and the eventual impact may not be apparent for some time.
80. Therefore, we must treat the latest results with caution – the latest quarter of data is unlikely to fully reflect the latest levels of business closures or the full impact of the pandemic on business closures.

Business closures over time

81. Figure E.28 shows the total number of business closures by quarter across the UK between Q1 2017 to Q3 2020.

¹⁹⁹ A business is removed from the IDBR if information from HMRC, ONS business surveys, Companies House or The Insolvency Service indicates it is no longer active. The ONS proves closure by contacting companies if necessary.

Figure E.28: Total number of business closures by quarter across the UK between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

82. The total number of business that have ceased to operate decreased between Q1 2020 and Q3 2020. While this follows a seasonal pattern with closures tending to peak in the early half of the year, the seasonality makes the impact of the pandemic hard to discern.
83. Given the clear seasonality in number of businesses closed, we calculated quarterly year-on-year changes, shown in Figure E.29.

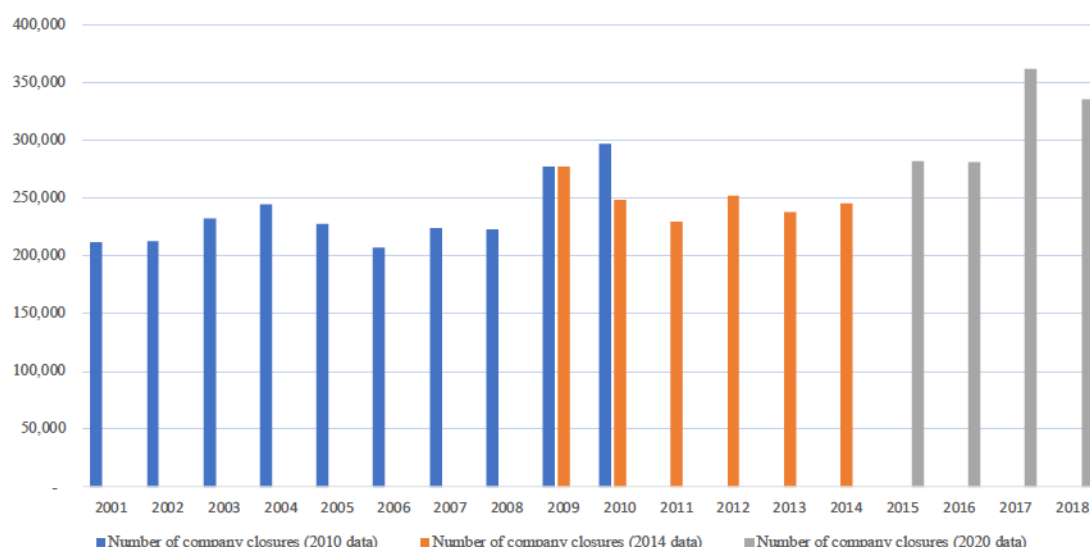
Figure E.29: Year-on-year percentage change in total business closures



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

84. Figure E.29 shows a complicated picture in 2020. The number of business closures increased in Q1 2020 compared to the same point a year before, followed by small decline in Q2 and Q3. Due to issues identified in paragraphs 78 and 79, such as the delay in the reporting and recording of business closures, at this stage we can make no firm conclusions on the patterns in the data and how they relate to the pandemic.
85. Looking historically, we might expect an increase in the number of businesses that cease to operate after a recession. Figure E.30 shows the total number of business closures across the UK between 2001 and 2018 by year.

Figure E.30: Total number of business closures across the UK between 2001 and 2018 by year



Source: CMA analysis of data from Business Demography 2010, Business Demography 2015 and the latest Annual ONS Business Demography

Note: Data here come from different sources, represented by the different column colours. Data for 2001-2010 comes from Business Demography 2010 (blue bars), access from web archive. Data for 2009-2014 comes from Business Demography, 2014 (orange bars). Data from 2015 to 2018 comes from latest Annual ONS Business Demography publication (grey bars).

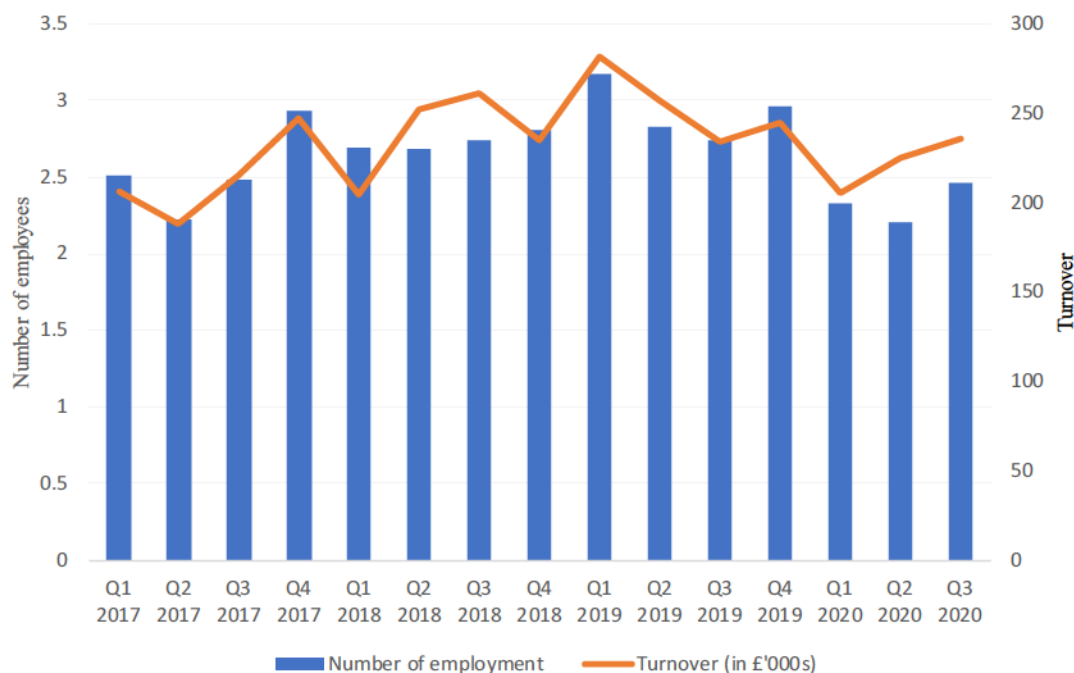
86. The number of business closures reached a small peak in 2008/9. Research by the ONS has found that this peak was mainly due to the high number of business closures that took place in Q4 2008 – two quarters after GDP growth went negative.²⁰⁰ This would support the argument that, alongside lags associated with methodology, we have yet to see the spike in business closures that may be coming. However, the large degree of government support may have suppressed the number of business closures, and the eventual impact may not be apparent for some time.

Business closures by size

87. Figure E.31 shows the average number of employment positions and turnover created per business closure for the UK between 2017 and 2020.

²⁰⁰ONS (2020), [Business dynamism in the UK economy: Q1 1999 to Q4 2019](#)

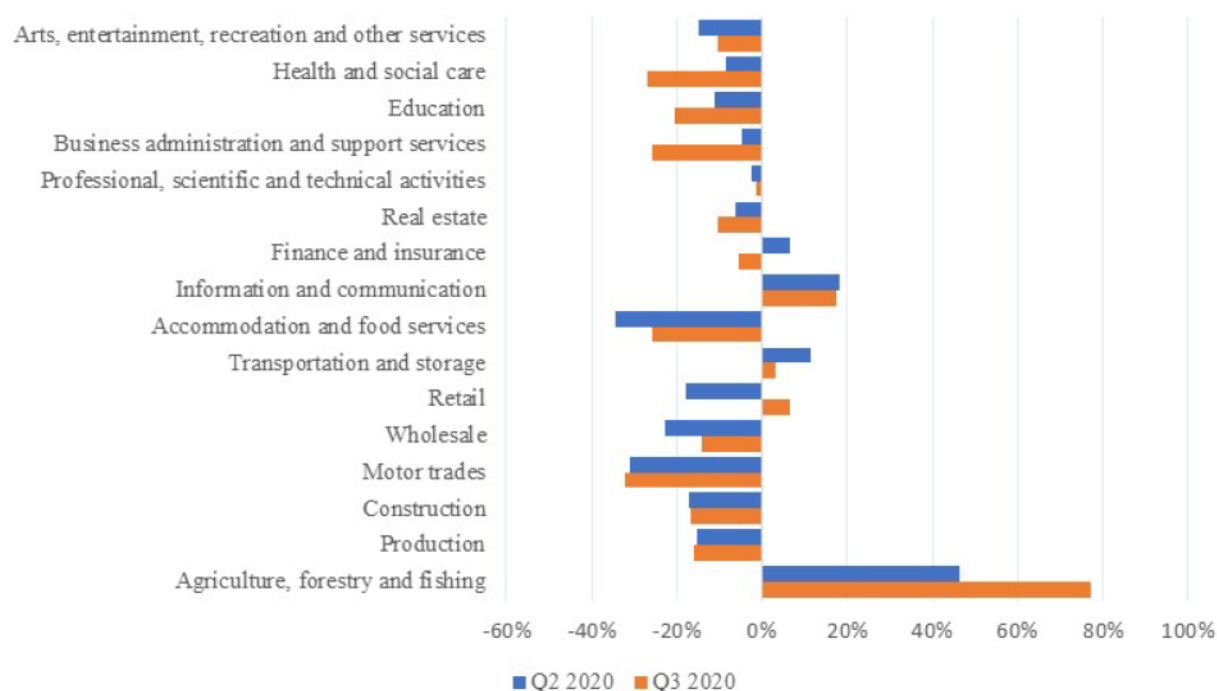
Figure E.31: Average number of employment positions and turnover created per business closure for the UK between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020
 Note: Finance and insurance industry was excluded in the original ONS statistics as turnover values in this industry are not representative of size.

88. In terms of the average size of businesses that have ceased trading in recent quarters, from Q2 2017 the size of businesses closing had increased steadily to a peak in Q1 2019, and since fallen off. The data for 2020 appears to show that those businesses closing were of a smaller size than 2019 and 2018, following that pre-existing trend (albeit with a slight increase in average turnover in the past quarter).
89. Figure E.32 shows the change in the number of business closures in each sector in both Q2 and Q3 2020 compared with a year earlier.

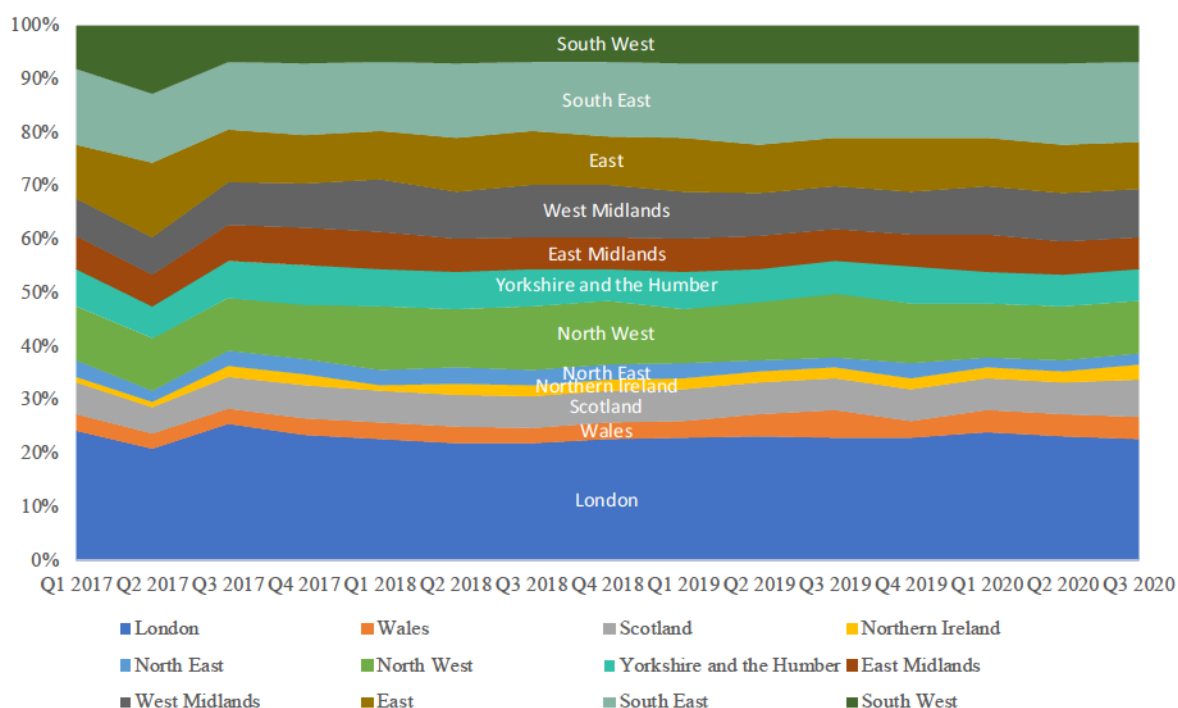
Figure E.32: Year on year percentage change of business closures by industry sector for Q2 and Q3 2020.



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

90. There are signs of an increase in agriculture and in information and communication. By contrast, businesses in the accommodation and food services, arts, entertainment and recreation, construction and motor trades amongst others saw a decline in the number of businesses closed compared to the same period a year earlier. This is in spite of some of these being industries adversely impacted by the pandemic in the short term, for example accommodation and food services. This is likely as the result of lags in our business closures data, either as the result of processing delays on business registers or a result of government support maintaining businesses over the short-term. We may therefore see business closures in these industries increasing in future quarters
91. Figure E.33 shows the number of business closures by region.

Figure E.33: Proportion of business closures by region, Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

92. There are no clear patterns by region where these businesses have stopped trading since the pandemic, especially given historic volatility in data (ie, there are no real changes outside what we might expect to see). It will be interesting to monitor this over the coming quarters to see if any interesting patterns do emerge.

Net change in total number of businesses registered

Relevance

93. Looking at net change in the total number of businesses registered (ie number of businesses created minus the number closed) allows us to look at cumulative impacts of trends in formations and closures in aggregate and in specific regions and sectors.

Data

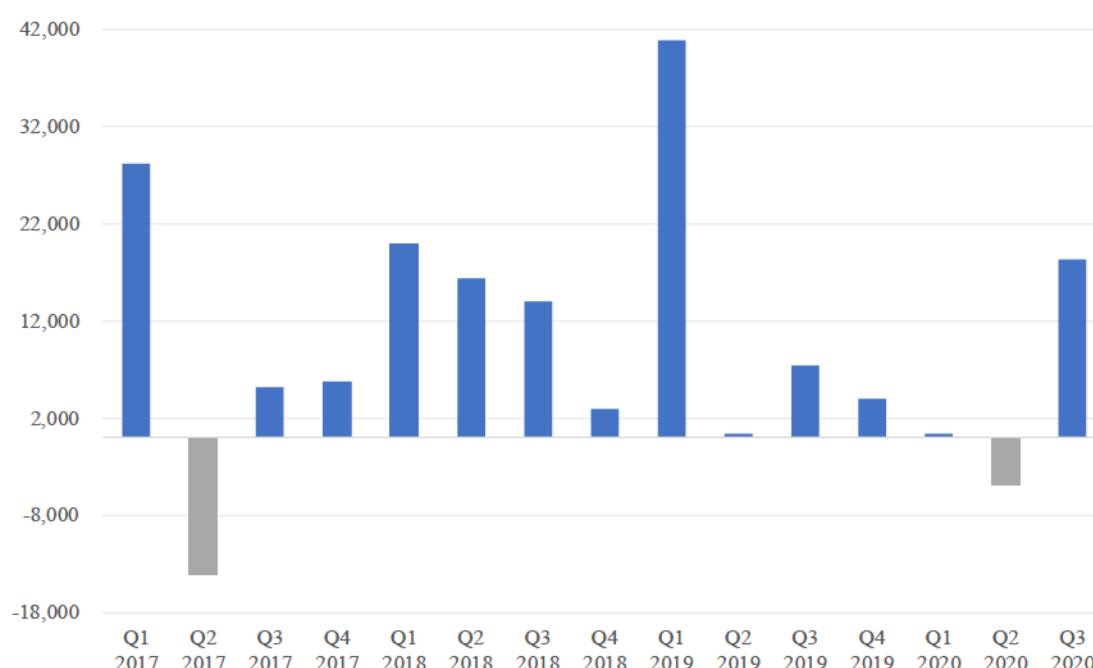
94. We rely on the same source of data as for formations and closures, simply performing a simple calculation to determine net impact. However as discussed at paragraph 78, business formation and closure information within the same quarter is likely to cover slightly different time periods – as we know

business closure data is reported with a longer delay than formation data. Hence, the results discussed in this section should be treated with caution.

Net change in the number of businesses registered over time

95. Figure E.34 shows the net change in the number of businesses registered within the UK (number of business formations minus closures) between Q1 2017 to Q3 2020.

Figure E.34: Net change for the number of businesses within the UK (number of business formations minus closures) between Q1 2017 to Q3 2020



Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020

96. There is a similarly unclear picture here to the business closure data. Q2 2020 is the first quarter where the change in the number of businesses registered was negative since Q2 2017, but this was then followed with a significant increase in Q3 2020. It is not clear what has caused the increase in Q3. Some have highlighted the fraud risk that new businesses may have been created to take advantage of government support,²⁰¹ but we also have evidence that some of these could be related to new opportunities created by the crisis (see paragraph 72 on businesses created by sector), with small, self-started

²⁰¹ NAO (2020), [Investigation into the Bounce Back Loan Scheme](#)

businesses in certain sectors (eg Online Retail, and Business Administration and Support).

97. To understand the reasons for these trends, we further explore the net changes by region and industry. Table E.1 shows the net changes in UK business population by region. However as discussed in paragraph 94, these trends should be treated with extreme caution and only as indicative findings due to the likelihood that formations and closures refer to different time periods.

Table E.5. Net changes in UK business population (formations minus closures) by region, Q1 to Q3 2020

Quarter	Q1 2020	Q2 2020	Q3 2020
North East	60	-20	680
North West	-25	40	2,280
Yorkshire and the Humber	40	-470	1,290
East Midlands	-630	180	1,245
West Midlands	-730	-1,345	550
East	-1,045	-1,625	975
London	5,185	2,340	6,540
South East	-395	-1,915	1,365
South West	-170	-1,125	780
Wales	-745	1,345	3,195
Scotland	-1,105	-1,635	130
Northern Ireland	45	-535	-605
Total	485	4,765	18,425

Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020
Note: Totals different from Table E.2 due to rounding.

98. London shows the highest positive net change in number of businesses registered in 2020 since the pandemic. Wales is the only other region to show substantial growth in the number of businesses in both Q2 and Q3 2020 but at lower magnitudes than London (although there are possible data issues with registration companies based in Wales).²⁰² In Q3 2020, all areas other than Northern Ireland experienced net growth in the number of businesses registered, prior to that in Q2, the East Midlands, Wales, London and the North West were the only areas to see the number of businesses grow.

²⁰² The ONS speculate that this may reflect an increase in businesses registered through so-called 'multiple registration.' This is where a company offers a service to register other businesses with Companies House, leading the address of the registration company to be the registered address of the new business. There are some registration companies such as this based in Wales, which may be having an impact on this trend.

99. Table E.2 shows the net changes in UK business population by industry.

Table E.6. Net change in UK business population (formations minus closures) by industry, Q1 to Q3 2020

Quarter	Q1 2020	Q2 2020	Q3 2020
Agriculture, forestry and fishing	-1,295	-2,385	-560
Production	-275	-1,185	-120
Construction	850	-3,695	-530
Motor trades	-365	-645	255
Wholesale	-30	480	980
Retail	-1,100	7,430	11,745
Transportation and storage	-240	425	1,205
Accommodation and food services	-110	-1,925	-85
Information and communication	-2,725	-6,455	-4,230
Finance and insurance	4,815	-1,320	-990
Real estate	3,210	-1,350	-685
Professional, scientific and technical activities	-3,145	-530	1,930
Business administration and support services	1,585	11,330	12,205
Education	65	-595	-215
Health and social care	305	-1,555	-910
Arts, entertainment, recreation and other services	-1,065	-2,785	-1,565
Total	480	4,760	18,430

Source: Office for National Statistics, Business demography, quarterly experimental statistics, UK: July to September 2020
Note: Totals different from Table E.1 due to rounding.

100. The data by industry is extremely volatile, and may be impacted by seasonality in different industries, as well as differences in the period formations and closures refer to. However, Retail and Business administration and support services stand out with substantial growth in the number of businesses (as they did in business formations data). There has been a substantial decrease (over 10,000) in the number of businesses in the Information and Communication sectors since the start of the pandemic – perhaps surprisingly given how some of these industries might be expected to be in greater demand. The other sector with a substantial decrease is one we might expect, and had already been identified in business formation data: Arts and Entertainment.
101. It is worth reiterating at this point that net business growth is not necessarily a ‘good’ outcome in and of itself; to assess this we would need to look at the nature of those businesses opening and closing in each market. It is also worth reminding ourselves that business formations and closures may in fact be referring to different time periods.

Appendix: Surveys questions included in BICS and OPN

Opinions and Lifestyle Survey (OPN)

102. Our questions were included in wave W (fieldwork 26-30th August) and X (9-13th Sept) of the OPN and asked:
- (a) Since the coronavirus (COVID-19) outbreak, when buying items such as food and toiletries have you shopped around at different places to compare the price and quality more or less than usual?
 - (b) Since the coronavirus (COVID-19) outbreak, when buying non-essential items such as clothes and toys have you shopped around at different places to compare the price and quality more or less than usual?
 - (c) Why have you shopped around to compare the price and quality like food and toiletries/non-essential items less than before?
 - (i) I have been too busy
 - (ii) I have been too worried about other things to think about shopping around as much
 - (iii) When I have been going out to the shops I have felt safer buying everything in one place, or fewer places
 - (iv) I have found it easier to buy items where my payment details are already set up with the supplier
 - (v) I have found it easier to buy items where my delivery details are already set up with the supplier
 - (vi) I am choosing to buy more from suppliers that I already knew provided cheap delivery or free delivery, or a subscription delivery [For example, include subscription for Amazon Prime]
 - (vii) There are fewer places (online and on the high-street) open or selling what I want than before
 - (viii) It has been harder to compare the quality of goods with social distancing restrictions in place in shops
 - (ix) Other (please specify)

Business Impact of Coronavirus Survey (BICS)

103. Our questions were included in wave 12 (10-23rd August) and 13 (24th Aug - 6th Sept) and asked:

- (a) Has the overall of choice of suppliers for sourcing your business's materials, goods or services changed since the start of the coronavirus (COVID-19) pandemic?
- (b) Has the number of businesses selling similar goods or services as your business changed since the start of the coronavirus (COVID-19) pandemic?
- (c) Was your business planning to expand its business before the coronavirus (COVID-19) pandemic?
- (d) Has the coronavirus (COVID-19) pandemic affected your business's plans to expand the business?
- (e) Has your business experienced any of the following challenges with selling goods or services online since the start of the coronavirus (COVID-19) pandemic?
 - (i) Challenges sharing data across different online platforms or marketplaces
 - (ii) Challenges with the system for ranking and reviewing goods or services by online platforms or marketplaces
 - (iii) High prices charged by online platforms, marketplaces or sellers
 - (iv) High prices for online advertising
 - (v) Lack of IT capacity, skills or technology within the business
 - (vi) Restrictions on using more than one platform or marketplace
 - (vii) Other