

The State of UK Competition

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CMA133



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Executive Summary

1. In February 2020, the Chancellor of the Exchequer and the Secretary of State for Business, Energy, and Industrial Strategy asked the Competition and Markets Authority (CMA) to prepare and publish a state of competition report to raise the collective understanding of the level of, and the trends in, competition across the UK economy.
2. The central aim of this work is to better measure and understand the state of competition in the UK now and in the future. This matters because competition can directly benefit individual consumers and the economy as a whole – as businesses seek to win customers by offering lower prices or higher quality goods and services and through encouraging innovation and promoting efficiency, all of which can contribute to economic growth and productivity. This is especially important given the need to support recovery in the economy following the coronavirus (COVID-19) pandemic (the pandemic).
3. Our ambition is that this report provides information and data to help inform policy, academic and public debate on levels of and trends in competition. In particular, we hope that this work will help to highlight where issues may warrant further analysis, as well as to assist the CMA, regulators and government to better target efforts towards improving competition.
4. However, this work is not intended to be a ‘market study’ of the UK economy, as such a project would not be feasible. Its findings cannot be interpreted as a definitive set of conclusions on competition across the UK economy (or in any of the individual economic sectors mentioned). Nor is our work intended to replicate the analysis that would be undertaken by the CMA in the exercise of its statutory powers and, as such, any findings in this report will not be informative of the approach the CMA may take (or conclusions it may draw) in that context.
5. There is no one metric of the level of competition in the whole economy. Instead, our analysis is based on a range of metrics covering the UK economy, including:
 - (a) concentration – the structure of industries and the extent to which industry turnover is taken by the largest firms;
 - (b) indicators of dynamic competition – the rates of business entry and exit, and the stability of the positions of the largest firms in the economy;
 - (c) profitability and mark-ups – the levels of UK businesses’ profits, the mark-ups of prices over costs charged by businesses and the distribution of profits among businesses;

- (d) profit and mark-up persistence – how likely the most profitable businesses are to remain the most profitable businesses;
 - (e) consumer surveys – broad measures such as trust in and satisfaction with consumer markets;
 - (f) high frequency data on business formation and closure during the pandemic; and
 - (g) data on consumer and business experiences during the pandemic.
6. These metrics may be estimated at the level of individual industries, of sectors of the economy and of the whole economy. Individually, each of these measures provides only a limited amount of information, but together they can paint a better picture of the trends in competition.

Findings and conclusions

7. Overall, we find that all the measures of competition we considered deteriorated during the recession in 2008 to 2009. The recovery in most measures since that recession was only partial and did not lead to a return to where they were before. This means that even though some recent trends in the years prior to the pandemic have been positive, we need to be vigilant in protecting and promoting competition. This is especially the case considering the current economic context, which may lead to further deterioration in competition.
8. We examine concentration from 1998 to 2018 and find that industry concentration across the economy rose in the recession following the financial crash in 2008. Although concentration began to decrease from 2010, it remains 3 percentage points higher than it was in 1998. Even though the magnitude of the increase in the average combined market share of the ten largest firms in an industry in the last 20 years may appear small, we remain concerned given our analysis suggests that concentration may rise due to the severe economic impact of the pandemic.
9. Greater dynamism – the extent to which businesses displace one another – is associated with more competitive markets. Yet measures of how dynamic industries are appear mixed. The number of younger large firms has increased over recent years, which suggests that new firms are able to take market share, but churn among the very top firms in each sector fell throughout the financial crisis and remains significantly below where it was in 1998, suggesting that large incumbents have an increasingly stable position.

10. Partial ownership links between companies (ie the extent to which companies have shares in one another or have common shareholders) may reduce competition in markets and is not necessarily captured in the data used to measure industry concentration. Our initial analysis has not found that such links are pervasive across the economy, but that they are significant in some industries.
11. We also looked at whether mark-ups or profitability had increased over the last 20 years, as increasing mark-ups or profits could indicate decreasing competition. We first looked at the evolution of mark-ups as they are closely related to the market power of firms. We then assessed the evolution of profitability because the rise in mark-ups may be linked to an increase in fixed costs. We found the following:
 - (a) Average mark-ups (the ratio of the price charged for a good or service to the incremental cost to produce or provide it)¹ appear to have risen by 7%, over the last two decades. Most of that increase comes in the last ten years and is most pronounced among firms that already had relatively high mark-ups (2% increase at the 75th percentile and 9% at the 90th percentile). However, an increase in mark-ups may be explainable by rising fixed costs – which is not the case for our other two metrics.
 - (b) Earnings before interest and taxes (EBIT) margins (operating profits as a percentage of turnover), which include fixed costs, are largely flat over the period, but the most profitable firms have seen a small rise in profits over the last 10 years (albeit within the historical range of our analysis). We take this as tentative evidence that the trend in mark-ups may not be entirely driven by an increase in fixed costs.
 - (c) Return on capital employed (ROCE) is a firm's operating profits as a percentage of the capital employed by the firm. ROCE appears to have fallen over the period, although this appears to be counteracted to a significant extent by the fall in the cost of capital over the same period. A fall in both the cost of, and returns on, capital for a firm may mean that actual economic profits earned by the firm have not fallen.
12. Although these findings are mixed, what is perhaps more concerning is that, over time, a material number of the same firms have the highest mark-ups year after year and this appears to have increased since 2008. This could mean that a smaller number of large, highly profitable firms have a more

¹ The incremental cost is generally referred to as the marginal cost and is the cost of producing/providing one more unit of that product.

powerful position in markets with potentially adverse consequences for consumers. Similarly, when looking at the firms with the highest EBIT margins, a material number are the same year after year. While the levels of such persistence are considerably lower based on our return on capital measure (although there has been a recent increase here, too), these findings might suggest there is less scope for firms to break into (or be displaced out of) more profitable positions.

13. Finally, we find that reported consumer experiences of markets puts the UK only slightly above the European average.² Services markets perform worse in surveys than goods markets across Europe, and this is especially the case in the UK. The UK also appears to have a particularly high prevalence of consumer problems compared to the European average.
14. Engagement with consumer markets (eg switching and shopping around) is considerably lower among low income and financially insecure consumers. This may have been exacerbated during the pandemic, where we see that consumers who may be more vulnerable to the pandemic – such as the elderly – are shopping around less. At this point, we do not know whether we will see a return to pre-pandemic behaviour in future.
15. The fact that the recession in 2008 to 2009 led to an increase in concentration from which the UK has not yet fully recovered is worrying, particularly as the country has already suffered another very large recession as a result of the pandemic.³ While the expected business closures resulting from the recession have yet to be seen in business demographics data, there are signs in survey data of greater business inactivity in the sectors hardest hit by the pandemic, as well as evidence that businesses' expansion plans have been scaled back.
16. Overall, we consider that our analysis indicates that competition in the UK may have weakened over the last two decades. While this conclusion can only be tentative given the nature of this work (and the findings), we consider it gives sufficient cause for the CMA, regulators and government to remain vigilant in protecting and promoting competition, especially as the UK emerges from the severe economic impact of the pandemic.

² Based on the 2018 European Commission Consumer Markets Scoreboard.

³ The UK economy experienced two quarters of negative economic growth in Q1 2020 and Q2 2020 such that it was in a recession. Recent evidence on economic growth shows that the UK economy grew in Q3 2020, but is still significantly below the levels seen before the pandemic. See: ONS (2020), [Coronavirus and the impact on output in the UK economy: June 2020](#) and ONS (2020), [GDP monthly estimate, UK: September 2020](#).

Further work

17. This report provides an indication of where further work analysing the state of competition in the UK might be useful. Further work (whether by the CMA, regulators, government departments or academics) could include:
- (a) more granular analysis of the state of competition, including looking at different sectors (and industries within sectors), different groups (eg social groups, income groups, vulnerable consumers) and the UK nations and regions;
 - (b) assessing whether trends in concentration metrics and mark-ups and profitability metrics are driven by the changing composition of firms and industries in the economy, or by underlying changes within industries and firms;
 - (c) further analysis of returns on capital, in the context of a falling cost of capital, and exploring other approaches to estimating mark-ups;
 - (d) considering mark-up and profitability trends at a sector level;
 - (e) a more comprehensive assessment of partial ownership links including common directorships and consideration of the impact of partial ownership on concentration and competition in the UK economy;
 - (f) filling the survey evidence gap on business perceptions and experiences of competition;
 - (g) developing and identifying additional real-time indicators of competition;
and
 - (h) continuing to examine high frequency measures on business entry and exit, and to capture consumer and business experience of the pandemic.

1. Introduction

- 1.1 The competitive process provides incentives for firms to keep prices down and to keep quality and service standards up: in short, to win business by making the best offer to consumers that they can. In turn, this contributes to economic growth and productivity. The firms that serve their customers most effectively and are most efficient in terms of how they run their business, can be rewarded through winning market share from their competitors.
- 1.2 Free and fair competition, by incentivising firms to innovate, to improve productivity and to keep prices lower is therefore essential in providing consumers with better deals and new goods and services while also contributing to higher real wages across the economy.
- 1.3 In February 2020, the Chancellor of the Exchequer and the Secretary of State for Business, Energy, and Industrial Strategy asked the Competition and Markets Authority (CMA) to prepare and publish a state of competition report to raise the collective understanding of the level of, and the trends in, competition across the UK economy.⁴
- 1.4 The commission from government asks that the report should be an authoritative, accessible and transparent source of public information on how competition is evolving across the UK economy. The ambition is that this will also provide both the CMA and government with information to better target their respective resources and tools towards improving competition in the UK.

Competition and the pandemic

- 1.5 While this work was temporarily paused to focus on responding to the coronavirus (COVID-19) pandemic (the pandemic),⁵ an assessment of the state of competition is now more important than ever. The economic environment may discourage business entry and expansion and lead to an increase in business closures thus placing competition under strain. We look in detail at the short-term impact of the pandemic on competitive pressures in Chapter 5 and Annex E.
- 1.6 The pandemic has also brought the reliance of the UK economy on international supply chains into focus. We discuss the limits of current data in allowing us to assess competition across borders in Annex A, conscious that the competition provided by importers, the benefits to consumers they can

⁴ BEIS/HM Treasury (HMT) (2020), [State of UK competition report: commission to the CMA](#)

⁵ See CMA (2020), [Andrea Coscelli update letter of 20 March 2020](#)

provide, as well as the importance of global markets for UK producers will take on particular significance as the UK enters new trading relationships from 2021.

Competition drives productivity

- 1.7 The UK's weak productivity growth is well known, so much so that the 0.3% average annual increase in UK labour productivity (measured as output per hour) since the financial crisis was named Statistic of the Decade by the Royal Statistical Society in December 2019.⁶ It had averaged 2.3% in the decade prior.
- 1.8 By comparison, the UK's level of productivity has been lower than that of other advanced economies since the 1960s. The UK's level of productivity is more than 20% lower than other major advanced economies such as the US, France and Germany. Productivity growth across the G7⁷ averaged 0.8% since 2008 (compared to the 0.3% in the UK). There is also wide variation in productivity within the UK. As measured by output per hour, the only two areas with average levels of productivity above the UK average in 2018 were London and the South East.⁸
- 1.9 The causes of this weak productivity are numerous and often complex but improving it is a major government and public priority. In the long term, productivity growth remains the only path to sustainable economic growth and rising living standards.
- 1.10 One mechanism to help tackle the UK's weak productivity is boosting competition. There is strong evidence that competition drives productivity growth.⁹ It does this in three main ways:
 - (a) acting as a disciplining device, placing pressure on the managers of firms to become more efficient;
 - (b) via reallocation, ensuring more productive firms increase their market share; and
 - (c) driving firms to innovate, coming up with new products and processes which can lead to step-changes in efficiency.

⁶ Royal Statistical Society (2019), [Statistic of the decade](#)

⁷ The G7 comprises Canada, France, Germany, Italy, Japan, the UK and the United States of America.

⁸ HMT (2020), [Budget 2020, section 1.7 Productivity](#)

⁹ CMA (2015), [Productivity and Competition](#), paragraphs 3.17 to 3.34

1.11 While research is still ongoing as to which of these mechanisms is more important in different contexts, increasing our understanding of the state of competition in the economy and trends in it over the last two decades could help to understand where it might be possible to support productivity growth by promoting competition.

Widespread concern that competition is weakening

1.12 In recent years competition concerns have been brought into sharp focus in international academic and policy debates with a number of studies suggesting that competitive pressure across advanced economies could be weakening. The most high-profile of these have been focused on the US, with some extending the analysis to Europe, including the UK. Part of the rationale for undertaking our assessment is to build a better understanding of what has happened in the UK.

1.13 The debate over whether market power is broadly increasing over time most notably gained prominence in 2016 when the White House Council of Economic Advisors (CEA) published research based on US data which tracked the share of revenue accounted for by the 50 largest firms in 13 broad industrial sectors and noted it had increased in 10 of them since 1997. This research also pointed to a sharp increase in the return on capital achieved by the top 10% of US firms and an apparent drop in the rate of firm entry.

1.14 Several recent books, by economists and by non-economists, have discussed broad changes in competition in economies and the effect of competition policy on this. In the US, Baker (2019)¹⁰ has argued that competition policy has become unusually weak in recent decades, allowing for a long-term decrease in competition in markets which has had large macroeconomic effects. Philippon (2019)¹¹ contrasts this with Europe, which he argues has been successful in pursuing a stricter competition policy, particularly with regard to mergers, and so has markets which are becoming more competitive. He points to differences in the amount of lobbying and political spending by incumbent firms between the US and Europe as being one of the key explanations for this difference.

1.15 In terms of the picture in Europe, De Loecker and Eeckhout (2018)¹² use Thomson Reuters data on a wide set of countries, including large European

¹⁰ Baker, J. B. (2019), *The Antitrust Paradigm: Restoring a Competitive Economy*, Harvard University Press

¹¹ Philippon, T. (2019), *The Great Reversal: How America Gave Up on Free Markets*, Harvard University Press

¹² De Loecker, J. & Eeckhout J. (2018), [Global Market Power](#), NBER Working Paper 24768

and North American countries and a set of developing countries, to estimate the changes in firms' average mark-ups¹³ in these countries between 1980 and 2016. They find that estimated mark-ups have risen across almost all developed countries, with stable or falling mark-ups observed in many developing countries. According to this work, the UK has seen an increase in estimated gross mark-ups from just below 1 to 1.68 (meaning prices rose from being roughly equal to marginal cost to being 68% higher than marginal cost), putting the UK in the top third of increases among European countries.

- 1.16 From a UK-specific perspective, the Resolution Foundation found that concentration in the UK economy as a whole increased between 2003 and 2011 – particularly during the financial crisis in 2008 – before starting to fall back again.¹⁴ This appeared to be the case regardless of the measure of concentration used.

Digital markets present different challenges

- 1.17 As set out in the Digital Competition Expert Panel review,¹⁵ digital technology provides substantial benefits to consumers and the economy. But digital markets are still not living up to their potential and competition, both in and for the market, has been limited. This means that consumers are missing out on the full benefits and innovations that competition can bring. Increasing digitalisation makes examining the overall state of competition in the UK particularly important.

How public authorities are responding

- 1.18 Many competition authorities have recognised the need to change how they operate to respond to these challenges. We at the CMA have set out proposals for reform of our duties and powers¹⁶ and the government has provided the funding to set up a dedicated Digital Markets Unit to begin to operationalise key parts of a new regime to promote competition in digital markets.¹⁷ Internationally, some cross-economy assessments of competition have been undertaken in Germany,¹⁸ Norway, and New Zealand.¹⁹

¹³ The difference between the price charged for a good/service and the cost to produce/provide it.

¹⁴ Resolution Foundation (2018), [Is everybody concentrating? Recent trends in product and labour market concentration in the UK](#)

¹⁵ Independent report for HMT (2019), [Unlocking Digital Competition](#)

¹⁶ CMA (2019), [Reforms proposed to put consumers at the heart of UK competition regime](#)

¹⁷ See HMT (2020), [UK Spending Review 2020](#). More information can also be found on the CMA's [Digital Markets Taskforce](#) webpage.

¹⁸ Monopolkommission (2018), [Trends in indicators of market power](#)

¹⁹ New Zealand Productivity Commission (2019), [Competition in New Zealand: highlights from the latest data](#)

Purpose of the project and what it can tell us

Purpose

- 1.19 Our central purpose is to better measure and understand the state of competition in the UK and we hope that this report will help inform policy and academic and public debate on competition. For example, it may indicate where government efforts to promote competition might be best directed and suggest where further analysis would be helpful.

What this project can tell us

- 1.20 There are many ways of measuring the state of competition. We look at a range of metrics, each aiming to shed light on a different aspect of how markets are functioning in the UK:
- (a) concentration – the structure of industries and the extent to which industry turnover is taken by the largest firms;
 - (b) indicators of dynamic competition – the rates of business entry and exit, and the stability of the positions of the biggest firms in the economy;
 - (c) profitability and mark-ups – the levels of UK businesses' profits, the mark-ups of prices over costs charged by businesses, and the distribution of profits among businesses;
 - (d) profit and mark-up persistence – how likely the most profitable businesses are to remain the most profitable businesses;
 - (e) consumer surveys – broad measures such as trust in and satisfaction with businesses;
 - (f) high frequency data on business formation and closure during the pandemic; and
 - (g) data on consumer and business experiences during the pandemic.
- 1.21 These metrics may be estimated at the level of individual industries, of sectors of the economy and of the whole economy. Individually, each of these measures provides only a limited amount of information, but together they can paint a better picture of the trends in competition over recent years.
- 1.22 This work is not a substitute for the CMA's work in market studies and market investigations (or the similar work carried out by the sector regulators) and the findings are not intended to be informative of the approach taken (or

conclusions that may be drawn) in that context, nor is it our intention (nor would it be feasible) to conduct a 'market study' of the whole UK economy. Furthermore, it remains the case that competition can most effectively be assessed at the level of individual product markets – measures based on industries and sectors can only indicate what the underlying trends may be.

- 1.23 Our intention is to provide a view of how the structure and performance of markets has evolved over time. This report and these measures set a baseline which any future work looking at the state of competition in the UK could be compared to. It also sets out potential areas of future analysis which those interested in understanding the state of competition in the UK could usefully undertake.
- 1.24 We would like to thank the following people who provided the team with challenge and advice on the project: Professor Amelia Fletcher (Professor of Competition Policy at the University of East Anglia, and Non-Executive Director at the CMA); Dr Anthony Savagar (Senior Lecturer in Economics, University of Kent); Professor Martin Schmalz (Associate Professor of Finance, Saïd Business School, University of Oxford); Morgan Wild (Policy Lead, Consumer and Public Services, Citizens Advice); Sam Bowman (Director of Competition Policy, International Centre for Law and Economics); Professor Steve Davies (Professor of Economics, University of East Anglia); Stephen McDonald (Senior Economist, Which?); Dr Tim Leunig (Economic Advisor to the Chancellor, HM Treasury); and Professor Tommaso Valletti (Head of Economics and Public Policy, Imperial College London).

2. Concentration and industry structure²⁰

Summary

Findings

- We find that average industrial concentration – aggregated to the level of the whole economy – has been relatively stable over time, though increasing during the financial crisis and the following recession. Since 2011, we have seen a gradual reduction in concentration, though not to the pre-crisis level. The average combined industry share of the ten largest firms in each industry remained three percentage points higher in 2018 than it was in 1998.
- Import shares have increased in several industries, especially in the manufacturing sector, meaning that increasing concentration of domestic businesses may be less concerning in these sectors.
- Dynamic measures give a mixed picture; while the number of younger large firms has increased over recent years, the dynamism in terms of the churn among the very top firms in each sector fell during the financial crisis and remains significantly below where it was in 1998. Firm entry and exit rates appear to be cyclical (with entry falling and exit rising during recessions). This aligns with the picture for concentration.
- Initial analysis of partial ownership links suggest that such links may be particularly prevalent in a minority of industries and concentration in those industries could be higher than traditionally thought.
- Given that concentration increased following the financial crisis and subsequent recession, it is concerning that concentration appears to be higher going into the current economic crisis than it was prior to the financial crisis. The CMA and others should be vigilant of this in the coming months and years.

Further work

- More granular analysis (for example at regional or industry level) and deeper analysis of dynamic metrics would provide a better indication of which individual markets may require a closer look.
- More work would be valuable in helping to understand fully the nature of partial ownership in the UK, to identify all of the links in the UK economy, and to understand the impact on competition of partial ownership between firms. Further work could also usefully build understanding of the impact of common directorships/board membership.

²⁰ 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.

Introduction

- 2.1 In this chapter we consider measures of competition based on industry structure, such as concentration. We first explain what aggregate measures of concentration can and cannot tell us about competition. We then give an overview of the existing studies of concentration across the UK economy and compare the results to work done in other countries.
- 2.2 We then set out our own concentration analysis of the UK economy. In doing this we consider how the average concentration of UK industries has changed since 1998 and examine the trends at the sector level. We also estimate metrics of dynamic competition, including firm entry and exit rates, the average age of large UK firms, and the stability of top UK firms' positions. Our more detailed analysis of concentration and industry structure across the UK economy is set out in Annex A.
- 2.3 Finally, we set out the areas which would benefit from further work.

Concentration as a measure of competition

- 2.4 Estimating concentration in individual markets is an intuitively simple way to assess the level of competition across an economy. Economic theory tells us that the more concentrated a market is, the less competitive pressure firms may face, potentially resulting in increased market power.²¹ This could result in higher prices and lower quality for consumers, either directly, or indirectly if the increase in market power manifests itself in fewer incentives to invest and innovate.
- 2.5 The two most common measures of concentration are:
- (a) The Herfindahl-Hirschman Index (HHI) – the HHI is calculated as the sum of the squares of each firm's shares at a given level of aggregated activity. It ranges between 0-10,000, where a value of 0 represents perfect competition and 10,000 represents a monopolist. Product markets with HHIs of more than 1,000 are generally considered to be concentrated, and those with HHIs of more than 2,000 to be highly concentrated.^{22,23}

²¹ It is important to note that under some circumstances, high concentration can reflect high competitive pressure, with all but the most efficient firms being driven from the market. See paragraphs 2.7 and 2.8 on how concentration does not directly measure market power.

²² See, for example, paragraph 5.3.5 of OFT (2010), [Merger Assessment Guidelines](#), used by the CMA.

²³ HHIs are more relevant to homogenous product markets than to differentiated product markets.

- (b) The combined market share of the largest firms, also referred to as Concentration Ratios²⁴ – this is the sum of the market shares of the top 5, 10 or 20 firms at a given level of aggregated activity. The number is often expressed as C_n (eg C5, C10 or C20).
- 2.6 Concentration-based metrics have the advantage of simplicity; all that is needed to calculate them are firm-level revenue figures within reasonably defined industries. However, there are several drawbacks that need to be considered when using them.
- 2.7 First, concentration metrics do not measure market power directly. Rather, they are one step removed as they are a ‘market outcome’ – that is, they arise as a result of the competitive interactions of firms rather than determining the competitive interaction. This means we need to take care when interpreting concentration metrics as the underlying causes of any observed changes in industry concentration may be unclear.
- 2.8 For example, an increase in concentration can be either the result of fierce competition (where more efficient firms gain market share at the expense of less efficient ones) or the result of anti-competitive behaviour where one firm uses its market power to exclude other firms.
- 2.9 Second, there are also caveats to note given the methodology we (and others) use to look at concentration across an economy.²⁵ In particular:
- (a) In the UK we must rely on data gathered based on the Standard Industrial Classification (SIC) system, and even the most granular SIC codes are likely to be far broader than any ‘product market’²⁶ that the CMA would define in any inquiry or casework.²⁷ This makes it hard to draw direct

²⁴ Syverson, C. (2019), *Macroeconomics and Market Power: Facts, Potential Explanations and Open Questions*, *Economic Studies at Brookings*, provides a helpful overview.

²⁵ The points noted in 2.9(a) to 2.9(c) mean that the results of this analysis would not be informative for any analysis of competition required in exercise of the CMA’s enforcement functions.

²⁶ 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.

²⁷ Werden, G. J., & Froeb, L. M. (2018), Don’t Panic: A Guide to Claims of Increasing Concentration, *Antitrust Magazine* compare the size of the industries defined by SIC codes with the more detailed antitrust market definitions from Department of Justice merger investigations defined using the hypothetical monopolist test. They go on to estimate a ‘Commerce Quotient’ which is the annual volume of a market’s commerce divided by the size of the industry code which it is within. 17 of the 47 markets that were identified in the 1980s accounted for less than 1% of the industry code commerce. Only 14 markets accounted for more than 10% of an industry code’s commerce.

conclusions about competition in a particular market.²⁸ Additionally, SIC codes do not easily take account of newer markets, such as digital markets, as they are based on traditional industrial classifications.²⁹

- (b) In the UK, data on business turnover is only available at the national level, but geographic markets are not necessarily national and can instead be either local or international. For example, a leading retail chain setting up new stores in multiple local areas may lead to an increase in the measured national concentration, as it is likely that the retail chain would make more sales nationally. However, retailers often compete in local markets³⁰ and there may be no increase (and possibly a decrease) in the concentration of any local markets it enters as existing retail stores in those local areas face an additional competitor.³¹
- (c) In an industry of international scope, where imports make up a material part of domestic consumption, concentration statistics, which only show the production of domestic firms, will provide a misleading view of the actual structure of the market.³² This poses a particular problem when charting changes in the estimated level of concentration over time – as many markets in developed countries, particularly those for manufactured goods, have seen increasing levels of imports and the closing of domestic manufacturers.³³ This trend will cause levels of industry concentration to appear to grow as they are based on measuring an increasingly small

²⁸ For example, an increase in the concentration observed at the level of a SIC code may be due to increases in concentration among individual product markets within that SIC code or because more concentrated markets within that SIC code increase in size relative to other product markets within that SIC code. For example, the SIC code '01051 – Operation of dairies and cheese making' conceals a large increase in the concentration of liquid milk production by aggregating it with the production of butter, cheese and other dairy products.

²⁹ BEIS/HMT (2020), [State of UK competition report: Commission to the CMA](#), Annex 2.

³⁰ 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.

³¹ Rossi-Hansberg, E., Sarte, P. D., & Trachter, N. (2018), [Diverging trends in national and local concentration \(No. w25066\)](#), *National Bureau of Economic Research*, use a rich dataset from a market research firm which allows them to estimate concentration in local areas in the US (at the county, metro area and ZIP code level). They find that local markets actually tend to become less concentrated over time, through the mechanism of chains expanding into many local markets described above. Note that this paper still uses SIC codes to define product markets, and that it treats *all* markets as being local though many are, in fact, national or international in scope.

³² A similar caveat applies in industries where a large proportion of UK output is exported.

³³ For example, the share of domestic production in 'Textiles, wearing apparel, leather and related products' decreased from 52% in 1997 to 20% in 2017.

section of the overall market; however the actual level will be unknown.³⁴ While data on the importance of imports within industries can indicate industries in which this caveat applies, it cannot tell us the ‘true’ level of concentration as it does not take into account the makeup of imports, which may themselves be concentrated, or consist of many firms.

Existing concentration studies

2.10 Compared to the body of literature focusing on concentration in the US, the number of papers published focusing specifically on the UK is fairly small. Nevertheless, there has been a recent increase in the number of UK-focused studies. We discuss the main studies which look at changes in concentration in the UK in the following paragraphs. We first set out the methodologies they use, and then discuss their findings, highlighting points of consensus and areas of disagreement.

Methodologies

2.11 The Resolution Foundation³⁵ used data from the Office for National Statistics’ (ONS) Business Structure Database (BSD)³⁶ to analyse concentration in the UK for the period 2003/04 to 2015/16 in three ways:

- (a) First, it analysed the share of the top 100 firms in the entire economy using two-year rolling averages.

³⁴ Imports could represent a large number of international competitors, indicating that concentration is lower than estimated from domestic figures, a small number of competitors, indicating that concentration is still high, or could represent imports by multinational firms that are already included in domestic concentration figures. Firm-level trade data is necessary to properly understand the effect of international trade on concentration and competition.

³⁵ Resolution Foundation (2018), [Is everybody concentrating? Recent trends in product and labour market concentration in the UK](#)

³⁶ The BSD data is essentially an annual snapshot of Inter-Departmental Business Register (IDBR) data. The BSD, and thus also the IDBR, contains data on all firms active in the UK that are VAT registered or operate a Pay As You Earn (PAYE) scheme. It thus includes a very large proportion of UK businesses: in terms of revenue, the coverage of the BSD is estimated as being 98-99% (ONS BSD User Guide, 2006). The businesses excluded from the dataset will include businesses such as sole traders and self-employed workers who have revenue below the VAT threshold. By number these are estimated to be around half of all UK businesses, though they are only 1-2% by revenue. A key limitation is that all of a business’ revenues will be ascribed to its primary industry – this may have the effect of making industries appear to be more concentrated than they really are, by reducing the number of firms in the secondary industries and by inflating the business’s apparent size in the primary industry. Furthermore, this can lead to firms moving sectors from year to year based on changes in their revenue streams. Another crucial limitation of this dataset is that there is a lag in the BSD data due to the way the data is collected. According to Aguda, O., Hwang, K.I., & Savagar, A. (2019), *Product Market Concentration and Productivity in the UK*, this means that BSD 2014 data could include data on economic activity dating as far back as 2012. We understand that no study corrected for this lag in their concentration measures.

- (b) Second, it analysed economy wide average HHI, CR5, CR10 and CR20 measures. To do this it first calculated these metrics at the subsector level (based on the five-digit SIC code level) and then combined these subsector estimates to calculate weighted³⁷ averages at the economy-wide level. These metrics were calculated using two-year rolling averages.
- (c) Third, it assessed industry level CR5 by using the calculations (noted at 2.11 (b)) of this metric at the subsector level (based on the five-digit SIC code level) and then aggregating these subsector estimates to calculate averages at the industry level (rather than at the level of the whole economy).

2.12 In relation to its economy wide average concentration metrics, the Resolution Foundation also considered the cause of any observed increase. In particular, changes in the economy wide average can be driven by:

- (a) changes in concentration at the subsector level (ie individual subsectors are getting more or less concentrated); or
- (b) changes in the relative size of the different subsectors (i.e. more concentrated subsectors increase in size relative to less concentrated subsectors or vice versa).

The Resolution Foundation estimated the extent to which these two factors drove the results it found (see paragraphs 2.23 to 2.25).

2.13 This analysis excluded fuel-wholesale and finance-related subsectors on the grounds that their high concentration, growth and large turnover would have substantially skewed the wider analysis.³⁸ Additionally, subsectors dominated by public-sector employment were also excluded as they exhibit different competition dynamics to the private sector. For confidentiality reasons, the analysis also dropped subsectors with 20 or fewer firms. As such, concentration is likely to be higher than suggested by the report due to these omitted subsectors being some of the most concentrated ones.

³⁷ We understand these metrics to be based on a weighted average where each subsector is weighted by turnover.

³⁸ Across both wholesale of fuel subsectors, the report finds CR5 of 84% in 2015/16, which is double the average CR5 of all other subsectors (42%). Additionally, the authors stress that between 2003/04 and 2015/16, fuel wholesaling has increased its share of total revenue from 3% to 11%. Combined with their high market shares, the authors conclude that the inclusion of these subsectors would have resulted in more than twice as large concentration increases when averaged across the entire economy.

- 2.14 As part of its state of competition report commission to the CMA, the Department for Business, Energy and Industrial Strategy (BEIS) (2020)³⁹ also analysed economy wide HHI, CR5, CR10, and CR15 concentration measures using ONS' Inter-Departmental Business Register (IDBR) data for the period of 2006 to 2018. To do this, BEIS first calculated these measures for 44 sectors and then used a weighted average to obtain economy wide figures, with each sector being weighted by turnover.
- 2.15 The sectors analysed do not correspond exactly with SIC codes as BEIS aggregated certain SIC codes to ensure consistency with previous BEIS publications.⁴⁰ BEIS also published figures on churn,⁴¹ firm entry and exit.
- 2.16 Aguda, Hwang, and Savagar (2019)⁴² provide another assessment of concentration in the UK, using ONS' BSD data and focussing on the years between 1998 and 2018.⁴³ The authors exclude inactive firms, firms without employees or turnover data and firms with no reported entry/exit year.
- 2.17 The authors assess concentration in two different ways.
- (a) First, they analysed the share of the top 5, top 10, top 20 and top 50 companies in the entire economy. They do this using a sample which includes firms from all available subsectors⁴⁴ and separately for a subsample which excludes firms from subsectors known to be poorly measured or where using turnover to indicate output might be problematic.
- (b) Second, they analysed economy wide average CR5, CR10, CR20 and CR50 measures. To do this they first calculated these metrics at the sector level⁴⁵ and then combined these sector estimates to calculate weighted⁴⁶ averages at the economy-wide level.

³⁹ BEIS/HMT (2020), [State of UK competition report: Commission to the CMA](#)

⁴⁰ Ibid., Annex 2, Footnote 8 and Box 1

⁴¹ Churn is the proportion of the firms in each industry which entered or left the market in each year.

⁴² Aguda, O., Hwang, K.I., & Savagar, A. (2019), Product Market Concentration and Productivity in the UK

⁴³ To account for the SIC code changes introduced in 2007, the authors use ONS guidance to convert SIC 2003 codes to SIC 2007 codes. Additionally, turnover is deflated using ONS guidance.

⁴⁴ Contrary to the Resolution Foundation's definition of subsectors, Aguda, Hwang, and Savagar define broader, two-digit SIC codes as subsectors.

⁴⁵ We understand these sectors to be constructed by the authors and to sit above the two-digit level subsectors.

⁴⁶ These concentration ratios are weighted by sector turnover.

- 2.18 Aguda, Hwang, and Savagar (2019) also assess the levels of firm entry and exit.⁴⁷
- 2.19 There are other works that discuss concentration in the UK. These include Valletti, Koltay, Lorincz, and Zenger (2017)^{48,49} and the Social Market Foundation (2017).⁵⁰ The former discusses concentration trends in the largest five economies in the EU using weighted average country/industry CR4 and HHI⁵¹ on Euromonitor data from 2010 to 2015. The latter use a more disaggregated approach, analysing concentration in ten consumer markets that together are estimated to account for 40% of total consumer expenditure in the UK.⁵² The concentration measures used are HHIs, CR1 and CR4. Given this study focusses on consumer markets rather than industry sectors or subsectors, it does not draw on one single data source. Rather, it combines market specific sources. The timeframe goes as far back as 2000 for certain consumer markets, with other markets being tracked from a later point. Most markets are assessed until 2016, with two being assessed until 2017.
- 2.20 Papers focused on concentration in Europe, the US or both have generally used similar metrics (or variations thereof), albeit with different data sources. The results of these papers are considered at paragraphs 2.35 to 2.40.

Findings

- 2.21 Common, though not universal, themes from these studies are that, over the last two decades and at an economy wide level:
- (a) there was an overall increase in the level of concentration in the UK; and
 - (b) concentration in the UK peaked just after the financial crisis, but was generally stable or fell after the financial crisis back towards pre-financial crisis levels.

⁴⁷ Entry and exit are defined as follows: 'Entry is the first year that a firm is recorded as being active and records employees and turnover as non-zero or missing. Exit is the first year the firm is recorded as being inactive having being active the previous year or the first year a firm records turnover and employees as zero or missing.' Aguda, Hwang, and Savagar (2019, p8f).

⁴⁸ Valletti, T., Koltay, G., Lorincz, S., & Zenger, H., (2017), presentation titled: [Concentration trends in Europe](#)

⁴⁹ This work is currently being updated by the authors; the results have not yet been published at the time of writing.

⁵⁰ Social Market Foundation (2017), [Concentration not competition: the state of UK consumer markets](#)

⁵¹ This is an HHI estimated based on just the data for the four largest firms of each industry. This would lead to a lower HHI than if all firms in an industry were included.

⁵² Based on ONS Family spending data for 2015/16. These markets, which include mortgages, groceries etc, are thus some of the most important markets to consumers, significantly impacting their welfare according to the Social Market Foundation.

Only one study (Aguda, Hwang, and Savagar (2019)) found evidence that concentration fell over the last two decades and this depended on the sample it considered.

- 2.22 In addition, all of these studies show that the economy-wide results mask the fact that different industries followed different trends with some experiencing increases in concentration while for others concentration remained constant or decreased.
- 2.23 The Resolution Foundation found that concentration in the UK economy increased between 2003/04 and 2010/11, before starting to fall back again. This appeared to be the case regardless of the cross-economy measure used.
- (a) Between 2003/04 and 2010/11, the share of the largest 100 firms across the entire economy increased by over a third in the UK, from 18.5% to over 25%, and then began to fall, reaching roughly 23% in 2015/16.
 - (b) With respect to economy-wide average Concentration Ratios,⁵³ the Resolution Foundation found that concentration similarly increased between 2003/04 and 2010/11, albeit to a smaller degree than seen using the CR100 measure. After this spike, the aggregated subsector concentration measures levelled off and then started to fall, not returning to their pre-crisis levels.
 - (c) Finally, economy-wide average HHIs showed concentration rising from below 900 in 2003/04 to above 1,100 in 2010/11, and then falling to around 940 in 2015/16.
- 2.24 Additionally, when looking at changes in concentration in each sector, the Resolution Foundation found that concentration increased in two thirds of all industries over the same timeframe. The sector with the largest observed increase was 'Manufacturing' (over 10% increase) – 'Other' also experienced a 25% increase, driven primarily by the gambling subsector.⁵⁴ Three sectors decreased in concentration, with 'Construction' experiencing the largest decrease (roughly 2.5%).

⁵³ Weighted CR5, CR10 and CR20 averages across 608 five-digit SIC code subsectors.

⁵⁴ 'Other' includes all subsectors that do not fit into the eight defined industries. This includes, for example, the gambling subsector. Given the Resolution Foundation does not discuss the composition of 'Other', it is difficult to deduct any meaningful insight from this grouping. Nevertheless, the Resolution Foundation points out that the strong increase in concentration in 'Other' is driven by the gambling subsector, which makes up 55% of the revenue within 'Other' in 2015/16.

- 2.25 As set out in paragraph 2.12, the Resolution Foundation considered what was driving the changes in its economy-wide averages. It found that the rise was caused by both an increase in the share of the economy accounted for by highly concentrated subsectors and a general increase in concentration within the subsectors. However, while it found a general increase in concentration at the subsector level, this masks the fact that actual trends differ substantially between individual subsectors. For example, based on CR5 concentration figures, 55% of the subsectors analysed saw an increase in concentration from 2003/04.⁵⁵ Similarly, while the share of subsectors with high concentration⁵⁶ grew from 18% to 21%, the number of subsectors with low concentration⁵⁷ increased from 40% to 41% over the same timeframe.
- 2.26 BEIS (2020) found concentration increased across all its Concentration Ratios between 2006 and 2010.⁵⁸ While the absolute levels of concentration found by BEIS are lower than those found by the Resolution Foundation, the percentage increases across CR5 and CR10 are larger in BEIS' results. After this spike, concentration levelled off and slowly decreased, while remaining above pre-financial crisis levels. BEIS found similar results when analysing a weighted average HHI, although this measure found a larger observed fall after the financial crisis than its estimated Concentration Ratios, with HHI decreasing to pre-financial crisis levels in 2017 before increasing again in 2018.
- 2.27 Again however, the economy-wide averages are not representative of the levels as well as trends in concentration that many sectors of the economy experienced.⁵⁹ Generally, around half of the sectors examined by BEIS experienced an increase in concentration between 2006 and 2018 across all concentration measures, with concentration in the remaining sectors remaining constant or decreasing.
- 2.28 Alongside this, BEIS also published data on churn as well as firm entry and exit, finding that firm entry rates fell during the financial crisis and have been stable since.⁶⁰

⁵⁵ It is not clear from the report how the remaining 45% of subsectors were split between sectors where concentration remained the same and where it decreased.

⁵⁶ CR5 exceeding 66%.

⁵⁷ CR5 below 33%.

⁵⁸ BEIS/HMT (2020), [State of UK competition report: Commission to the CMA](#), Annex 2, Paragraph 11.

⁵⁹ One specific example that illustrates this is the difference in concentration experiences in regulated versus unregulated markets, with the former experiencing concentration levels over twice as large as the latter (using HHI).

⁶⁰ BEIS (2020), [Business sectors: Indicators of concentration and churn](#)

- 2.29 Contrary to the other two papers, Aguda, Hwang, and Savagar (2019) found, when using their full sample, broadly decreasing concentration in the UK between 1998 and 2018 based on whole economy CR5, CR10, CR20, and CR50. However, their results are consistent with the other papers when assessing these concentration trends for a sub-sample which excludes firms from subsectors known to be poorly measured or where using turnover to indicate output might be problematic. They found increasing concentration up until 2010, followed by a period of fluctuating concentration until 2016, after which a decrease in concentration can be seen.
- 2.30 As well as whole economy Concentration Ratios, Aguda, Hwang and Savagar (2019) also calculated economy wide average Concentration Ratios. That is, they calculated Concentration Ratios for each sector and then calculated the weighted average across the economy. In doing this they again found decreasing concentration.⁶¹
- 2.31 When comparing both the full-sample results as well as the sub-sample ones with the results reported by the Resolution Foundation and BEIS, the overall levels of concentration exhibited by the different measures in each year are significantly lower in Aguda, Hwang, and Savagar (2019) than in the other mentioned works.⁶² While still significantly lower than the overall levels of concentration reported in the Resolution Foundation and BEIS, the levels exhibited by the sector-level analysis are slightly closer to the levels BEIS reports. Nevertheless, as trends diverge, this gap increases too.
- 2.32 When assessing entry and exit in the UK, the authors found that in most years entry was greater than exit with the difference being greater after the financial crisis.⁶³ The exceptions are during and just after the financial crisis (2008 to 2011) and in 2018 where more firms exited the economy than entered it.
- 2.33 Valletti, Koltay, Lorincz, and Zenger (2017), using both the weighted average CR4 and HHI4, show concentration was constant in 2010 and 2011, before falling concentration afterwards that plateaus around 2014/15 (as outlined in paragraph 2.19, this analysis only considered the period 2010 to 2015). This result aligns with the overall result of falling concentration that Aguda, Hwang, and Savagar (2019) obtain when assessing the full-sample and sector-level

⁶¹ The absolute levels of the Concentration Ratios were higher for the economy-wide average Concentration Ratios than they were for the whole economy Concentration Ratios.

⁶² Where overlaps of measures exist, ie BEIS uses CR15 but not CR20, which is not used by the Resolution Foundation or Aguda, Hwang and Savagar (2019) and can thus not be compared across studies.

⁶³ The ONS points towards increases in PAYE registered firms as part of the reason for increasing entry rates post-2013.

data, even though the year-to-year changes are not the same between the two papers.

- 2.34 The Social Market Foundation (2017) report found that eight out of the ten analysed markets exhibited HHI levels exceeding 1,000 in 2016, of which three showed HHI levels of 2,000 and above. Eight out of nine⁶⁴ markets exhibited CR4 market shares of over 50%, indicating a considerable amount of concentration. Consistent with other studies that identified different trends amongst subsectors over time, the researchers found that markets moved in different directions, with some markets falling in concentration while a number of other markets became more concentrated over the observed timeframe.

UK-specific findings in the international context

- 2.35 In Europe the evidence is mixed, with some papers suggesting increasing concentration, others finding stability, while others suggest concentration has been falling. In contrast, the majority of the literature on the US suggests an increase in concentration, with Gutiérrez and Philippon (2020)⁶⁵ representing an exception to this.
- 2.36 The trend of increasing concentration in the US was most notably put forward when the CEA published a note based on US data which tracked the share of revenue accounted for by the 50 largest firms in the 13 industrial sectors defined by the North American Industry Classification System,⁶⁶ and noted it had increased in 10 of them between 1997 and 2012.⁶⁷
- 2.37 Findings of increasing concentration in the US are also reported in Autor et al (2020),⁶⁸ who generally found increasing concentration across the OECD⁶⁹. Grullon, Larkin, and Michaely (2018)⁷⁰ also report increasing concentration in the US; using HHIs, they suggested that concentration increased in more than three-quarters of US industries over the last two decades, with the average increase reaching 90%. They also found a significant increase in the CR4, including public and private firms, in most industries. Additionally, they

⁶⁴ CR4 data for the credit card market unavailable.

⁶⁵ Gutiérrez, G., & Philippon, T. (2020), [Some Facts About Dominating Firms \(No. w27985\)](#), *National Bureau of Economic Research*

⁶⁶ These include sectors such as 'Transportation and Warehousing' and 'Retail Trade'.

⁶⁷ CEA (2016), [Benefits of Competition and Indicators of Market Power](#)

⁶⁸ Autor, D., Dorn, D., Katz, L.F., Patterson, C., & Van Reenen, J. (2020), [The Fall of the Labor Share and the Rise of Superstar Firms](#), *Quarterly Journal of Economics*

⁶⁹ I.e. across the member countries of the Organisation for Economic Cooperation and Development.

⁷⁰ Grullon, G., Larkin, Y., & Michaely, R. (2018), [Are U.S. Industries Becoming More Concentrated](#)

reported that the average and median size of public firms has tripled in real terms.

- 2.38 Bajgar et al (2019)⁷¹ calculated SIC-code level concentration in Europe and North America using both OECD MultiProd data and Orbis-Worldscope-Zephyr data. In line with the CEA results for the US, the datasets show a rise in industry concentration between 2000 and 2014, with roughly 75% of industries in both continents becoming more concentrated over this period.
- 2.39 On the other hand, Gutiérrez and Philippon (2018)⁷² found stable to decreasing concentration in Europe, which they mainly attribute to a combination of stronger enforcement of pro-competitive policies in Europe, falling product market regulations, more stringent competition laws and lower levels of lobbying compared to the US. While the researchers found concentration increased in Europe during the financial crisis and immediately afterwards, the levels of concentration have been fairly stable since the early 2000s and have fallen since the late 1990s. The US on the other hand witnessed an increase in concentration over the same timeframe.⁷³
- 2.40 Separately, Gutiérrez and Philippon (2020) also looked at the evolution of concentration globally as well as in the US by focussing directly on the largest global and US firms in terms of sales in a given year. They compared domestic sales of the largest US companies with domestic US GDP⁷⁴ and consolidated global sales of the largest global companies with global GDP. Contrary to the other works, they concluded that over the past two decades, the largest firms have not outgrown the global economy and that their domestic share of domestic GDP has been more or less stable over the previous four decades. Additionally, Gutiérrez and Philippon found that the largest firms have witnessed a decline in their share of global GDP.

⁷¹ Bajgar, M., Berlingieri, G., Calligaris, S., Criscuolo, C., & Timmis, J. (2019), [Industry Concentration in Europe and North America \(No. 18\)](#)

⁷² Gutiérrez, G., & Philippon, T. (2018), [How EU Markets Became Free: A Study of Institutional Drift \(No. w24700\)](#), *National Bureau of Economic Research*

⁷³ Similar results have previously been discussed in Gutiérrez, G., & Philippon, T. (2017), [Declining Competition and Investment in the US \(No. w23583\)](#), *National Bureau of Economic Research*, as well as Dottling, R., Gutiérrez, G., & Philippon, T. (2017), *Is there an investment gap in advanced economies? If so, why?*. However, as mentioned in Autor et al (2020), Bajgar et al. (2019) argue that Dottling, Gutierrez, and Philippon are mistaken about concentration decreasing in Europe, pointing to the incomplete coverage of Orbis data as a reason why their finding is spurious.

⁷⁴ Gross Domestic Product

CMA analysis

- 2.41 This section summarises the analysis we have undertaken for this report, with the detailed findings set out in Annex A. This analysis extends the previous research on concentration in the UK economy in several ways. In particular, using the information that the Office for National Statistics (ONS) data provides on enterprise groups reveals links between firms which other concentration statistics do not account for. We also estimate measures of dynamic competition which have not been discussed in the context of the UK before.
- 2.42 As outlined at paragraphs 2.7 to 2.9, there are several caveats when using trends in concentration to measure changes in the level of competition. We have considered the extent to which it is possible to address these caveats in our own analysis.⁷⁵ This includes considering areas where further work could be conducted.

Economy wide concentration trends

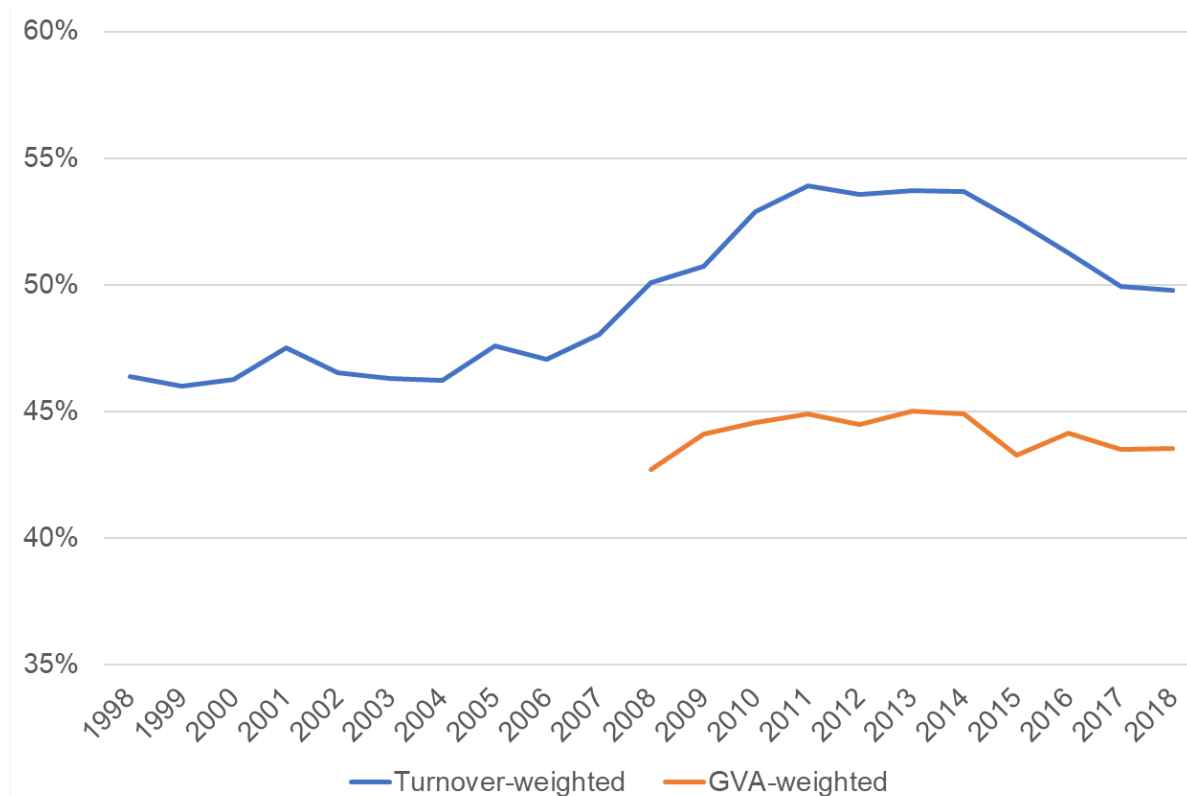
- 2.43 To begin with, we look at the results when aggregating all the individual 4-digit SIC codes to look at the concentration picture cross-economy from 1998 to 2018, as measured by C10.⁷⁶ We can aggregate by either turnover or Gross Value Added (GVA); there are merits to each approach (see Annex A) but we present both results here.⁷⁷ This approach of weighting by GVA as an alternative to weighting by turnover is original to this report. Figure 2.1 shows the concentration measured by C10, both by turnover and GVA.

⁷⁵ As noted at footnote 25, this is not intended to reflect the approach taken in exercise of the CMA's competition enforcement functions.

⁷⁶ We also estimated the C5, C20 and HHI measures of concentration. The same trends are observed over time using these measures as with C10. As set out in Annex A we should take care not to over-interpret the absolute level of the C10 as the optimally competitive level of C10 will vary between industries.

⁷⁷ 4-digit sic codes are aggregated into sector-wide and economy-wide measures using a weighted average, by the total revenue or the GVA of each 4-digit sic code.

Figure 2.1: Average C10, across whole UK economy



Source: CMA analysis of ONS BSD data

Note: Excludes non-market sectors such as government services – including fully government-run sectors such as central banking, and those dominated by the public sector, such as education. Turnover-weighted figure excludes Finance and fuel wholesale as they have outside 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).

- 2.44 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.
- 2.45 The turnover-weighted approach (blue line in Figure 2.1) 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.
- 2.46 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,⁷⁸ 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. In interpreting all these whole economy trends, it is important to note that both measures exclude Finance and insurance, which according to our analysis as illustrated in Figure 2.2, was the higher-turnover sector that saw the largest increase in concentration.

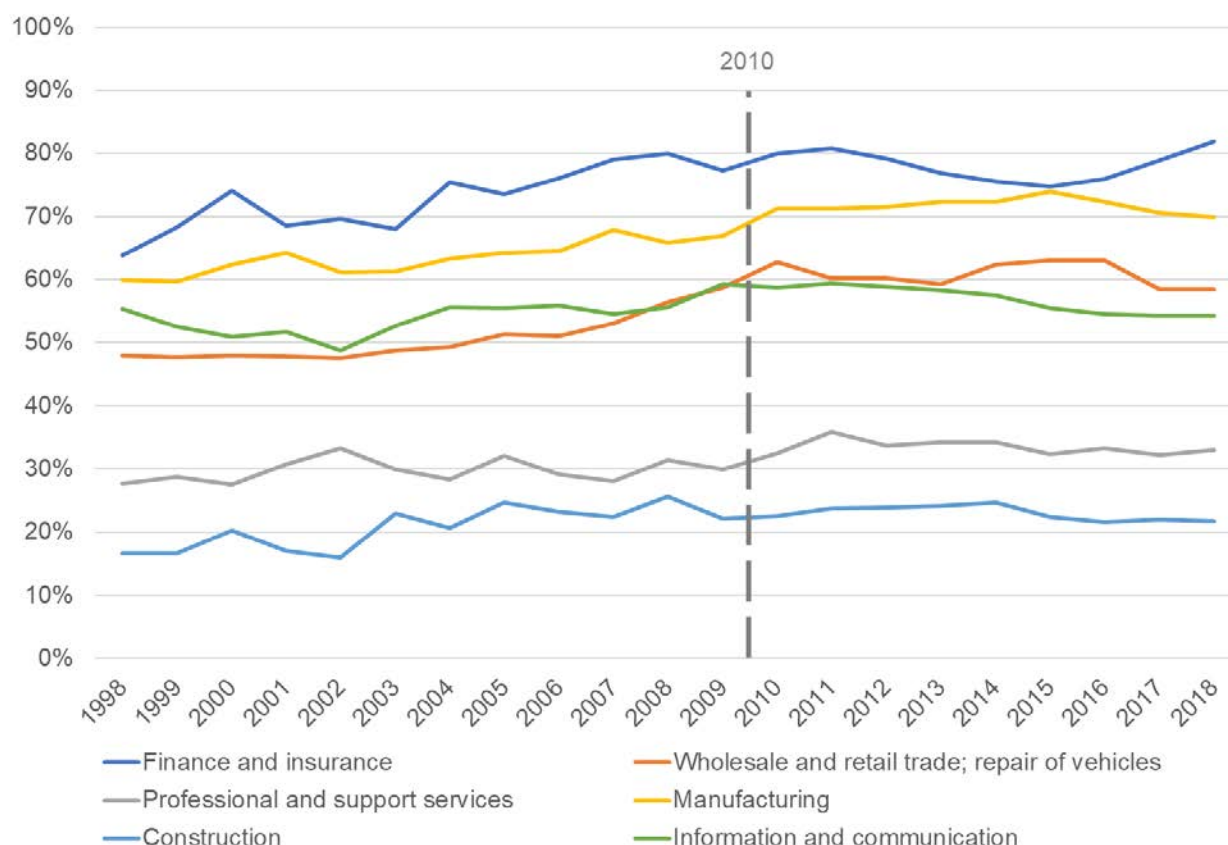
Sector-level concentration trends

- 2.47 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.
- 2.48 Figure 2.2 shows the average C10, weighted by turnover, within each sector for the six sectors in the UK economy with the highest total business turnover⁷⁹ for the period 1998 to 2018. These sectors account for 86% of the combined turnover of firms in the BSD.

⁷⁸ 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.

⁷⁹ Details and charts on the other seven sectors may be found in Annex A paragraph 35 onwards.

Figure 2.2: 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. 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.

2.49 Figure 2.2 shows that concentration 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 these trends mirror the overall picture given these sectors accounted for 86% of total turnover in 2018. Finance and insurance⁸⁰ 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.

2.50 Some of the lower-turnover sectors exhibit similar patterns to that described above as they show a relative peak around 2010 (for example Mining and quarrying; Agriculture, forestry and fishing; and Utilities).⁸¹ In contrast, in

⁸⁰ Care should be taken in interpreting the Finance and insurance figure 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.

⁸¹ See Figure A.3 Annex A.

some sectors concentration increases significantly throughout the period (Transport and storage, and Other services)⁸² while others become less concentrated over the period (Accommodation and food services, and Real estate activities).

- 2.51 The results weighted by GVA are only available from 2008 onwards and for that period they are consistent with our turnover-weighted results. They show stable concentration in most sectors.⁸³
- 2.52 There are also a number of sectors that stand out when weighting by GVA. For example, the level of concentration appears to have fallen in the Construction sector between 2008 and 2018, as does the level in the Utilities sector. Transport and Other services show signs of increasing concentration since 2008.⁸⁴
- 2.53 In interpreting these sector level trends, the importance of imports in many sectors should be borne in mind. The data on businesses we use to calculate concentration is based on UK businesses alone, so competition from imports is likely not to be accounted for in some industries.⁸⁵ This is especially notable in the manufacturing sector, where concentration has increased but which contains industries where imports account for between 20% and 80% of production. In industries where domestic concentration is high and imports are high, international trade is likely to be a crucial component of competition working well. Imports data is discussed in more detail in Annex A, paragraph 36 onwards.

Measures of dynamic competition

- 2.54 Concentration in a given year only gives part of the picture of how well competition is working in a particular industry. A highly concentrated industry may in fact be competitive if it is dynamic, with firms jostling for the top position, and with the most efficient firms increasing their shares of industry turnover, before, in turn, being displaced by other, more efficient, firms. Among individual industries⁸⁶ we found that the majority of industries had stable levels of concentration over time. Only a small handful of industries experienced large changes in concentration in the ten years between 2008

⁸² 'Other services' principally includes Arts, entertainment and recreation, and personal services.

⁸³ See Figures A.4 and A.5, Annex A.

⁸⁴ See Figures A.4 and A.5 in Annex A

⁸⁵ Note that retail sales of imported goods by UK-based retailers will be captured by these statistics. Upstream industries such as manufacturing and wholesale are most likely to be affected by this issue.

⁸⁶ At the 4-digit SIC code level

and 2018.⁸⁷ This stability in headline concentration may conceal other changes in industry structure, however. Metrics which specifically capture dynamic competition are needed to address this.

2.55 Dynamic competition can be considered in many ways, and therefore many different measures are possible. We have chosen to focus on three measures, estimated from the same BSD dataset as the concentration measures. These measures each aim to capture a different aspect of dynamic competition:⁸⁸

- (a) the rates of firm entry and exit include all firms, giving a large weight to the more-numerous smaller firms;
- (b) the average age of large firms narrows our view onto only those firms which employ 250 or more employees; and
- (c) the rank persistence measure focuses on the very top firms in the UK economy (in particular, the ten largest firms in each sector).

Firm entry and exit

2.56 The first dynamic metrics estimated are the rates of firm entry and exit. When a market is well-functioning, we would expect it to be possible for new more efficient firms to enter the market and displace older less efficient firms, which exit the market. 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.

2.57 These rates are found to be relatively stable over the period 1997 to 2017 which they are estimated for. The exception to this is the financial crisis in 2007/08 – this coincided with a sudden spike in the exit rate and a decrease in the entry rate, which took until 2013 to recover. This cyclical trend was driven in particular by Finance and insurance, Professional scientific and technical services, Information and communication, and Construction.

⁸⁷ See Annex A for more detail.

⁸⁸ A more detailed account of these metrics may be found in Annex A.

Average age of firms

- 2.58 A second measure is the average age of large firms (those with 250 or more employees). In particular, we focus on the change in mean firm age from year to year as this indicates the extent to which the population of large firms changes over time. For example, if the group of large firms was the same in each year then the mean age would increase by one each year.⁸⁹ A rate of increase slower than this indicates either newer firms entering the population of large firms or older firms dropping out – or, more likely, a mixture of these two effects.
- 2.59 Among firms with at least 250 employees, the mean age of firms rises from 14 to 27 between 1997 and 2013, a rate of increase of between 0.6 and 1 per year.⁹⁰ This indicates that large firms in the UK economy were a relatively stable group over this period. After 2013, the mean age of large firms increased at a much slower rate – between zero and 0.6 per year (rising to 29 in 2018). Establishing the cause of this would require further investigation, but we can note that it coincides with a sharp increase in the number of large firms, following this figure being relatively stable previously.⁹¹

Rank persistence

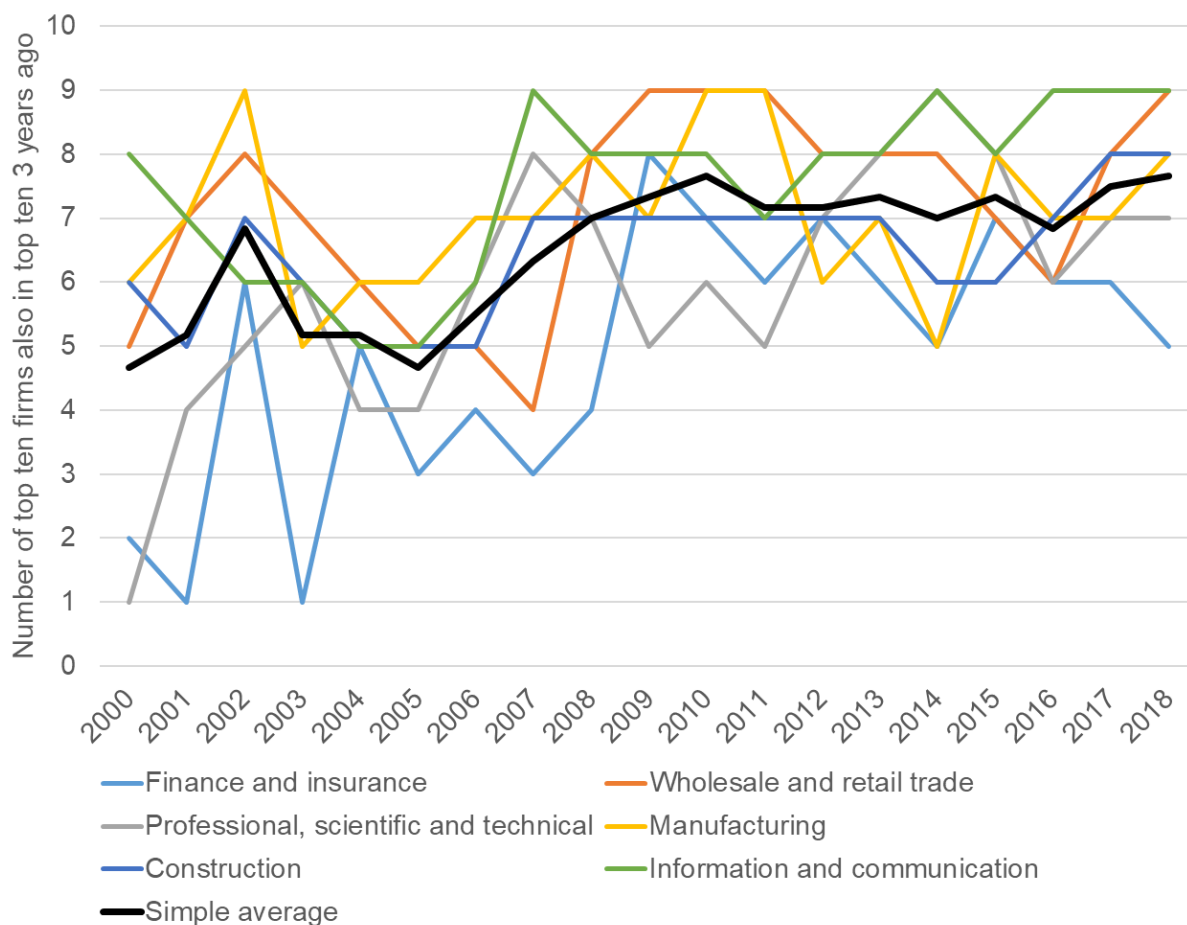
- 2.60 The third measure of dynamic competition that we have used is the likelihood of the very top firms in an industry remaining the top firms. This metric focuses on a much smaller group of the most economically significant firms in the economy. We chose to examine the top ten firms in each sector by turnover, checking, for each year, the number of firms which were also in the top ten three years previously – a metric we termed ‘rank persistence’. Figure 2.3 shows rank persistence for the biggest sectors by turnover.

⁸⁹ For example, if there was only one large firm in 1998 and it was 10 years old then the mean age would be 10. If there was still only one large firm 1999 and it was the same firm then that firm would be 11 years old and the mean age would be 11.

⁹⁰ See Figure A.13 in Annex A.

⁹¹ See paragraph 73 onwards in Annex A.

Figure 2.3: Rank persistence over three years of top ten firms in each sector, higher-turnover sectors



Source: CMA analysis of ONS BSD data

- 2.61 An overall increase in rank persistence over time is visible (bold black line), 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.
- 2.62 Overall, the dynamic metrics that we have estimated complement the concentration figures. All of them show the nature of competition in the UK economy changing over time, with both concentration and the rates of entry and exit showing strong cyclical trends that point to the financial crisis harming competition, then competition gradually recovering afterwards.
- 2.63 The dynamic metrics that focus on larger firms in the economy tell a more complex story. The number of large firms, measured by employment

numbers, increased after 2013, bringing down the average age of large firms. However, the positions of the very top firms in each sector became more stable over the same period. This apparent contradiction indicates that dynamic indicators alone cannot give us a definitive answer on whether the state of competition is improving or deteriorating. A detailed analysis of what dynamic metrics can tell us about individual, narrowly defined industries could be an area for future work.

Partial ownership

- 2.64 Traditional concentration analysis does not take into account partial ownership (eg cross ownership where a firm owns shares in a competitor or common ownership where two rivals have shareholders in common). Partial ownership may essentially dampen – or even at the extremes remove – the incentives to compete for two (or more) seemingly independent firms. As such, treating all firms as independent may underestimate the actual level of concentration (and hence potentially overstate competition) within the economy.
- 2.65 In recent years, competition authorities and academics have considered the impact of partial ownership on measures of competition. We have attempted to account for this by adjusting our concentration analysis using the ONS' 'Who Owns Who' (WOW) data. This data indicates where an individual business is a part of an enterprise group, bound together by legal and/or financial links. This includes holding companies which have control over their subsidiary businesses without 100% ownership. However, this data has limitations in that it does not include partial ownership links which do not confer ultimate control.
- 2.66 We discuss this debate in more detail in Annex B. We also set out some tentative analysis aimed at trying to see the impact on concentration when taking into account levels of partial ownership short of ultimate control, by using data on Persons with Significant Control (PSC) captured by Companies House. Doing this suggests that such partial ownership links may be particularly prevalent in a minority of industries and concentration in those industries could be higher than traditionally thought. However, this analysis needs further development (to account for all the factors of influence) and to consider a wider range of issues (such as common directors/board memberships) to be comprehensive.

Further work

- 2.67 Further work on concentration would be worthwhile for those interested in understanding the state of competition in the UK either across the economy as a whole or in particular sectors.
- 2.68 The metrics we have looked at in this chapter can also be estimated at a granular level, for individual industries which will better approximate economic markets (although will typically still be much broader than an economic market). Doing so may be useful to flag industries with high or rising concentration, indicating that further investigation to understand how well competition is working in the industry might be worthwhile.
- 2.69 Additional work could seek to answer important questions about the effects of international trade on competition. For example, the increased trade penetration observed in many manufacturing industries may represent a reduction in concentration, as domestic firms face competition from a range of importers. However, imports may be dominated by a small number of firms, meaning there is in fact no reduction in concentration.
- 2.70 In several metrics, there are multiple plausible explanations for observed changes. For example, changes in the level of economy-wide and sector-level concentration may be caused by industries becoming more concentrated, or by more concentrated industries increasing in size and so gaining greater weight in the average. Closer examination of these possible explanations could reveal a more nuanced picture of the state of competition.
- 2.71 There are many more dynamic metrics which could be estimated and no consensus among economists about which the best metrics are. Deeper study of the advantages and disadvantages of each dynamic metric, to create a standardised approach to the measurement of dynamic competition, could be informative.
- 2.72 Finally, there is clearly more work to do to fully understand the nature of partial ownership in the UK and to identify all of the links in the UK economy. In particular, further work could consider ways to capture all links between companies at whatever level of the ownership chain they occur and could consider what impact partial ownership links have in terms of incentives to compete and hence competition. It could also look at the impact of common directorships/board membership (as opposed to just shareholdings).

3. Mark-ups and profitability

Summary

Findings

- A firm's mark-up (the ratio of the price charged for a good/service to the incremental cost to produce/provide it)⁹² is taken by economists to be a measure of its market power. We find – using a larger dataset of UK firms than used in other analyses – that the average mark-up has risen from 1.22 to 1.31, or 7%, over the last two decades. Consistent with other analyses of mark-ups in the UK, we find most of that increase comes in the last ten years and is most pronounced among the firms that already had relatively high mark-ups (2% increase at the 75th percentile and 9% at the 90th percentile).
- One plausible explanation for rising mark-ups is that fixed costs have risen⁹³, and so prices need to rise in order to cover these fixed costs. We therefore look at Earnings before Interest and Taxes (EBIT) margins, which take account of fixed costs, and find that they are largely flat over the period – except among the most profitable firms which have seen a small rise in their profits over the last 10 years (albeit within the historical range of our analysis). We consider this is tentative evidence that the trend in mark-ups may not be entirely driven by an increase in fixed costs.
- Given that trends in EBIT margins can be affected by changes in capital intensity (rather than competition), we also look at returns on capital. These appear to have fallen over the period – although this is counteracted to a significant extent by the fall in the cost of capital over the same period. Given this, it is not clear yet what this implies for the state of competition.
- While these results are mixed, what is perhaps more concerning is that across all three metrics (albeit to a lower degree for return on capital employed), many of the firms at the top appear to be the same year after year, and the extent of this stability appears to have increased since 2008. This might suggest there is less scope for firms to break into (or be displaced out of) more profitable positions.

Further work

- Further informative work to explore these trends might include looking at alternative approaches to estimating mark-ups, alternative measures of profitability, whether the trends are due to changes in the relative sizes of firms and the extent to which economy-wide trends mask underlying variation.

⁹² The incremental costs are generally referred to as marginal costs and relate to the cost to produce/provide one more unit of that product.

⁹³ This is plausible given the growth of the digital economy.

Introduction

- 3.1 In this chapter we consider mark-ups and profitability as indicators of competition. We first explain what mark-ups and profitability can and cannot tell us about competition. We then set out the practical challenges with measuring mark-ups and profitability from publicly available accounting data, provide an overview of the existing studies of mark-ups and profitability across the UK economy, and compare the results to work done in other countries.
- 3.2 We then set out our own analysis of mark-ups and profitability. In doing this we consider how measures of mark-ups and profitability have changed across the UK economy since 1998 and examine the trends at the sector level. We also consider the extent to which the same firms have persistently high mark-ups and profits over time. Our more detailed analysis of mark-ups and profitability across the UK economy is set out in Annex C.
- 3.3 Finally, we set out areas for further work and our recommendations.

Mark-ups, profitability and competition

- 3.4 Measures of both mark-ups and profitability have been used in economics literature as indicators of the state of competition at both the global level and at the country level. This section outlines the theoretical justifications for the use of these metrics and discusses some of their limitations.

Mark-ups, market power and competition

- 3.5 Market power is usually defined by economists, particularly in academia, as the ability of a firm to charge a price for a product that is above the additional cost of producing one more unit of that product (the 'incremental cost' or 'marginal cost').⁹⁴ The bigger the gap between the price of a product and its marginal cost the greater the firm's market power.
- 3.6 Therefore, one measure of a firm's market power is the ratio of the prices it charges to its marginal costs. This ratio is called a 'mark-up'. If a firm's mark-up is 1 then the firm's prices are the same as its marginal costs; if a firm's mark-up is 1.2 then the firm's prices are 20% higher than its marginal costs.
- 3.7 Several papers have looked at recent trends in mark-ups and in the distribution of mark-ups across firms to understand the dynamics of

⁹⁴ See, for example, Tirole, J. (1988), *The Theory of Industrial Organization*, p284.

competition at a global level or at the level of a national economy.⁹⁵ The underlying rationale for this type of analysis is that where competition is working well the pressure of competitors and new entrants would lead firms to set prices that reflect costs; whereas if competition is weak, firms gain market power and can set high prices.⁹⁶

- 3.8 The literature has generally found an increase in mark-ups in advanced economies in recent decades (see paragraphs 3.41 to 3.51). This has been interpreted by some as evidence of a decrease in the level of competition around the world (see paragraphs 3.52 to 3.56).
- 3.9 Mark-ups have the advantage of being a relatively direct measure of market power with strong theoretical underpinnings and therefore can provide valuable information on how competition may have changed over time. This is particularly the case where results are consistent across the different methods we use to estimate mark-ups and with other metrics such as profitability.
- 3.10 However, there are several drawbacks that need to be considered when using mark-ups – these relate both to how to interpret trends, and the methodology and data used to estimate mark-ups.
- 3.11 The observed trend in mark-ups may reflect two issues. The first is underlying trends in the cost structure of firms. So far the literature has only been able to estimate mark-ups based on ‘short term’ marginal costs whereas the economic theory relies on ‘long run’ marginal costs.⁹⁷ Therefore, the mark-ups estimated in the literature do not take into account that to stay in business firms need to cover all of their costs in the long run, including those that are fixed in the short term. This means that focusing purely on mark-up would not distinguish cases where observed rises are due to changes in the cost structure of firms⁹⁸ (ie an increase in fixed costs) and not a reduction in competition.

⁹⁵ Among them are De Loecker, J. and Eeckhout, J. (2018), [Global Market Power](#), *NBER Working Paper 24768*; De Loecker, J., Eeckhout J., Unger, G. (2020), [The Rise of Market Power and the Macroeconomic Implications](#), *The Quarterly Journal of Economics*, p561-644; Diez, F., Leigh, D., Tambunlertchai, S. (2018), [Global Market Power and its Macroeconomic Implications](#), *IMF Working Paper* (Diez et al. (2018)); and Federico J. Diez, Jiayue Fan and Carolina Villegas-Sanchez (2019), [Global Declining Competition](#), *IMF Working Paper* (Diez et al. (2019)).

⁹⁶ See De Loecker, J., Eeckhout, J., Unger, G. (2020).

⁹⁷ In economic theory the ‘long run’ is a period of time that is sufficiently long as to allow a firm to make changes in all factors of production. This means all costs are variable in the long run and there are no fixed costs.

⁹⁸ This could be as a result of changes in business models and technologies which shape the cost structure of firms. For example, James Bessen provides evidence that customized software, today used by most large corporations, requires large fixed sunk costs (James Bessen (2017), [Information Technology and Industry Concentration](#), *Boston University School of Law, Law and Economics Research Paper*).

- 3.12 The second is technological changes that allow firms to offer more differentiated products. Increased product differentiation would generally make consumers less price sensitive, allowing firms to sustain larger mark-ups, but could at the same time increase consumer surplus, as products would better match consumer preferences.⁹⁹ In this case, increases in mark-ups would reflect a trend towards a form of competition based more on quality and differentiation, and less on price.
- 3.13 We consider that of these points only the former is likely to materially affect the trend in the economy as a whole over time (with the latter affecting some sectors more than others).¹⁰⁰ The existing literature has considered how to take changes in cost structure into account in a number of ways including considering alternative measures such as profitability as we have done in this report.

Profitability and competition

- 3.14 The CMA's guidelines for market investigations¹⁰¹ set out that in a competitive market, firms would generally not make more than a 'normal' level of profit. This is the level of profit needed in order to justify keeping the capital employed by a firm within it.¹⁰² Therefore, profits persistently above the normal level among a significant number of firms in a market might indicate problems with competition.
- 3.15 When looking at profitability at an economy-wide, or sector, level, high profits above an estimate of the 'normal' level might indicate that, overall, the sector or the economy is characterised by insufficient competition. However, there are several reasons profits apparently above the normal level might, in fact, not be indicative of competition problems:
- (a) at the firm level, one firm may have higher profits than others because it is more efficient or due to past innovation or successful risk taking; and

⁹⁹ For example, James Brand finds evidence that increasing mark-ups for goods sold in US food stores and supermarkets may have been due to greater product differentiation (James Brand (2020), *Differences in Differentiation: Rising Variety and Markups in Retail Food Stores*, Working Paper).

¹⁰⁰ The impact of increased differentiation on mark-ups might be expected to be more significant in some sectors, especially those related to the manufacturing or distribution of consumer goods, or the provision of services to final consumers. However, the aggregate impact at the level of the whole economy would probably be relatively modest and is unlikely to explain the trend observed in the data.

¹⁰¹ CMA (2013), [Guidelines for market investigations: Their role, procedures, assessment and remedies \(Revised\)](#), paragraph 116.

¹⁰² Where the firm's profit level is the rate of return on the capital in the firm (adjusted to take account of risk).

(b) at the economic market level, there may be unexpected increases in demand or falls in cost that create temporarily high (windfall) profits which do not reflect underlying competition problems.

- 3.16 Similarly, low profitability does not necessarily mean that there is an absence of competition problems, given (for instance) the possibility of inefficiency within firms.¹⁰³ For example, in the Energy Market Investigation, the CMA found that the detriment it calculated based on prices on offer to consumers¹⁰⁴ was similar to the net profits earned by the Six Large Energy Firms from their sales to domestic customers from 2012 to 2014. However, this was significantly higher than the CMA's estimates of excess profits from domestic sales over that period. The CMA stated that the implication of this was that there was a material degree of inefficiency in current prices.¹⁰⁵
- 3.17 Given this, our focus is not on the absolute level of profitability, but on changes over time, as we would not expect these effects to drive trends over time.¹⁰⁶ Rises in profits over time might indicate a worsening in competition conditions and a fall in profits might indicate an improvement. Increases in profitability have indeed been used in some recent studies as indicative of a decrease in the level of competition.¹⁰⁷
- 3.18 Assessing trends in profitability is therefore one way in which we can assess changes in competition over time. This is particularly the case where results are consistent across different measures of profitability and other metrics such as mark-ups. However, there are several drawbacks that need to be considered when assessing profitability – these relate both to how to interpret trends, and the data used to estimate profitability.

¹⁰³ This issue could be explored further by looking at productivity trends, however we have not sought to do this in this report.

¹⁰⁴ The CMA called this its 'direct' approach and it involved comparing the average prices charged by the Six Large Energy Firms with a competitive benchmark price which was based on the prices charged by the most competitive suppliers, adjusted to allow for a normal return on capital and where appropriate for differences in suppliers' size, rate of growth and the cost elements that are outside of their control. See the [Energy Market Investigation Final Report](#), paragraph 10.5.

¹⁰⁵ That is, if prices were to decline to the competitive level, the Six Large Energy Firms would need to reduce their cost bases substantially in order to make profits in line with their cost of capital. The Six Large Energy Firms at the time were Centrica plc, EDF Energy plc, E.ON UK plc, RWE npower plc, Scottish and Southern Energy plc and Scottish Power. See the [Energy Market Investigation Final Report](#), paragraph 10.114.

¹⁰⁶ While developments in the economy – for instance an increase in high value innovation – might have a systematic effect on measured profits across the economy that are not a result of changes in competition conditions, we would not expect this effect to persist over time.

¹⁰⁷ See, for example, De Loecker, Eeckhout and Unger (2020); and Jason Furman and Peter Orszag (2015), [A Firm-Level Perspective on the Role of Rents in the Rise in Inequality](#), Presentation at 'A Just Society' Centennial Event in Honor of Joseph Stiglitz, Columbia University.

- 3.19 Cyclical effects and macroeconomic shocks may have an impact on profitability at the sector level and the economy-wide level. Such effects may or may not relate to changes in conditions of competition. For example, a recession:
- (a) may lead to an immediate reduction in profitability unrelated to any change in competition due to a significant fall in consumer demand; or
 - (b) may lead to a longer-term increase in profitability if it leads to businesses exiting such that market concentration increases¹⁰⁸ and the competitive pressure on remaining firms decreases.
- 3.20 Therefore, it is necessary to be mindful of macroeconomic events when interpreting profitability trends over time. With sufficient data over a long enough timescale it may be possible to take into account macroeconomic changes through several economic cycles.

The use of mark-ups and profitability metrics

- 3.21 Overall, an assessment of trends in either mark-ups or profitability at the level of the whole economy (or of a highly aggregated sector) can give only a partial picture of trends in the level of competition. While any observed trends are informative, they do not prove that underlying conditions of competition are improving or worsening. At a whole-economy level, we also need to consider other metrics such as concentration as we have done in this report. We have not sought to carry out the analysis that would be required to conclude whether there are competition problems in specific markets.

Measuring mark-ups and profitability

- 3.22 The limitations discussed in the previous section would apply even if we were able to perfectly compute mark-ups or profitability across the economy. In addition, data limitations affect our ability to do so and limit what estimated mark-ups and profitability levels (and trends) can tell us about the dynamics of competition.
- 3.23 We start this section by first discussing the limitations inherent in using accounting data to estimate mark-ups and profitability. We then discuss

¹⁰⁸ As set out in Chapter 2, we have found increases in economy-wide concentration and concentration among many sectors at the time of the financial crisis and this coincided with a reduction in entry and exit rates.

specific limitations related to estimating mark-ups and profitability respectively.

The use of accounting data

- 3.24 Accounting data has some strengths. Much of it is audited, which makes it reasonably reliable. Common accounting standards also mean that the data should be reasonably consistent across firms, making aggregation meaningful.
- 3.25 However, there are drawbacks to using this data. Accounting data, and the metrics that can be calculated from it, do not map perfectly onto economic principles. The drawbacks include the following.
- (a) Accounting standards change over time. This means that the reported profits, or assets, of a firm may change as a result of changing accounting standards rather than because of any fundamental change such that any trends do not reflect changes in competition.¹⁰⁹
 - (b) There are many companies registered in the UK whose business is largely or wholly overseas¹¹⁰ (this includes exports and business that takes place purely outside the UK).¹¹¹ This means that measures of profitability and mark-ups will be influenced by competitive conditions and other factors outside of the UK.

¹⁰⁹ For example, when an industry, or the economy as a whole, moves its accounting practices over time in a particular direction (e.g. to capitalise more intangible assets), trends in the aggregate metrics may result that are not explained by underlying developments in the industry, or in conditions of competition.

¹¹⁰ While FTSE 350 companies are not representative of UK firms and are instead characterised by much greater levels of business outside the UK, the following statistics will serve to illustrate the point about overseas activity. Analysis by S&P Global in 2016 suggested that less than 43% of the combined revenues of the FTSE 350 index were associated with sales to Europe including the UK, while only 22% of revenues were specifically labelled as having been transacted in pound sterling (S&P Global (2016), [Analyzing the Impact of Brexit Using Geographic Segment Data](#)). To note, regional and currency reporting are not standardised across companies, so these figures represent only an estimate of the revenue exposure of the companies in the FTSE 350 index. For example, only 48% of the revenues analysed specified currency exposure. The regional data is potentially more robust, with S&P Global suggesting that 89% of the companies specified regional revenue exposures. As Europe including the UK will contain a substantial element of sales to European countries, it would seem to be reasonable to suggest that true UK exposure within this broad index of the 350 largest listed companies sits between 22-43%. While we are not able to quantify the proportion of foreign activity among the large companies that we analyse, it is worth noting that our choice of using unconsolidated accounts makes this problem much less severe, as much foreign activity finds its way into UK accounts precisely when the accounts of foreign entities are consolidated by a UK parent (see Annex B).

¹¹¹ For example, this might be where a UK-based mining company sells raw materials mined in country A into country B, neither of which are the UK.

(c) Relatedly, profits may be booked in jurisdictions for tax purposes rather than reflecting underlying economic activity. This may lead to profits based on UK activity being under reported, although it is unclear how this would affect the trend over time.

3.26 As set out in paragraph 3.33, if the CMA was conducting its analysis in relation to a specific market, it would undertake a detailed analysis of the appropriate adjustments to make to the relevant accounting data (and would also be likely to use confidential data in addition to the sort of publicly available data we have used for this analysis).¹¹² However, it is not practical to do such detailed analysis as part of this report or more generally in an assessment of competition across an entire economy.

3.27 Given this we cannot rule out the possibility that these issues may have a material effect on the accounting data used in our analysis. Results from our analysis of accounting data must therefore be treated with caution. Our confidence in the results is greater if we observe common trends across our mark-up and profitability metrics as well as other metrics of competition.

Estimating mark-ups

3.28 Firms' mark-ups are not observed directly, as data on marginal costs is not readily available. Further, when conducting a whole-economy analysis it is not practically possible to adopt the approach often taken in relation to specific firms or economic markets.¹¹³

3.29 Therefore, the literature largely relies on an alternative approach proposed by De Loecker and Warzynski (2012).¹¹⁴ This approach,¹¹⁵ discussed in more detail in Annex C, 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

¹¹² See also CMA (2017), [Guidelines for market investigations: Their role, procedures, assessment and remedies \(Revised\)](#).

¹¹³ In the industrial organisation literature, marginal costs are usually derived by observing the prices charged by a firm, estimating the demand it faces, and solving the firm's profit maximisation problem. This approach, based on an in-depth study of a specific market, is clearly not suitable for estimating mark-ups at the level of the whole economy.

¹¹⁴ De Loecker, J. and Warzynski, F., (2012), [Markups and Firm-Level Export Status](#), *The American Economic Review*, pp2437-2471.

¹¹⁵ 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.

which the firm's output varies based on changes in the quantity of that input used (the 'output elasticity').¹¹⁶

3.30 This approach has strong theoretical underpinnings, but the methodology used to estimate mark-ups from accounting data has some limitations:

- (a) While the methodology should in theory lead to the same results irrespective of the input used for the estimation, Diez et al. (2019) find that the choice of the input used for the estimation may have an impact on the estimated level and trend of mark-ups.^{117,118}
- (b) The methodology is based on the assumption that firms have no market power in the markets in which they purchase inputs.¹¹⁹ If this is not the case, then a firm's mark-up will be overestimated as it will capture a firm's market power in both the markets in which it purchases its inputs and the markets in which it sells its products.¹²⁰ However, trends in a firm's mark-up will be unaffected, unless the market power that a firm has in markets in which it purchases inputs changes during the period.
- (c) Estimating output elasticities requires some assumptions on the form of the production function, and results may be sensitive to the chosen form.^{121,122}

3.31 Therefore, as Syverson (2019) states, 'when it comes to estimating mark-ups or measures of market power for broad swathes of the economy, there may

¹¹⁶ 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).

¹¹⁷ Moreover, Bond et al. (2020) show that, if an input is used to influence demand rather than to produce output – which is the case for advertising or other expenditure related to a firm's 'brand' – the mark-up would be underestimated. Steve Bond, Arshia Hashemi, Greg Kaplan and Piotr Zoch (2020), [Some Unpleasant Markup Arithmetic: Production Function Elasticities and their Production Data](#), *NBER Working Paper No. w27002*.

¹¹⁸ This might be due to the fact that the methodology is based on the use of a fully flexible input, that is, an input that adjusts with the level of production in the very short term. However, accounting data does not typically identify such inputs.

¹¹⁹ That is, input markets are perfectly competitive.

¹²⁰ Syverson, C. (2019), [Macroeconomics and Market Power: Context, Implications, and Open Questions](#), *Journal of Economic Perspectives*, pp23-43.

¹²¹ For example, Raval (2020) shows that the way productivity changes are modelled can potentially have substantial implications on the estimated mark-ups. Raval, D. (2020), [Testing the Production Approach to Markup Estimation](#), working paper.

¹²² Moreover, accounting data covers revenues and expenditure, rather than output and input prices and quantities. Bond et al. (2020) have highlighted several issues arising when the estimation of the output elasticity is based on this type of data. We discuss these issue in Annex C and, as outlined in Annex C, we use an alternative method which does not suffer from this issue.

be no silver bullet. One is left with a menu of imperfect choices.’¹²³ Despite this we consider that an analysis of mark-ups is still informative of the overall state of competition. In doing this it is necessary to check the sensitivity of our results to differing approaches, to focus on trends over time and not absolute levels and to consider the results alongside additional information including metrics of profitability. In particular, we can be more confident in results that are consistent both across different approaches, and with other metrics such as profitability which we discuss next.

Measuring profitability

- 3.32 From accounting data it is possible to compute various measures of profitability and a range have been used to assess the dynamics of competition at the whole economy level (either alongside or separately to mark-ups).¹²⁴
- 3.33 Importantly, when assessing competition, we are interested in economic profits and these can differ in important respects from the profits contained in available accounting data. Normally, if the CMA was conducting profitability analysis in relation to a specific market, it would undertake a detailed analysis of the appropriate profitability metric to use in that market and the appropriate adjustments to make to the relevant accounting data such that economic profits can be calculated.¹²⁵
- 3.34 However, it is not practical to conduct such detailed analysis as part of this report or more generally in an assessment of competition across an entire economy. The main metric of returns on capital that can be calculated using accounting data – the Return on Capital Employed (ROCE) – does not directly reflect economic profits without adjustments for (among others) the following two reasons.
- 3.35 First, it is not possible to adjust the accounting data for each firm to take into account expenditure that constitutes, from an economic perspective, capital

¹²³ Syverson (2019), p40.

¹²⁴ Some authors considering publicly traded firms have used firms’ market value or dividends as a share of sales (see De Loecker, Eeckhout and Unger (2020) and Diez et al. (2018)). Aghion et al. (2005) constructed a price-cost margin measured by operating profits net of depreciation (Aghion, P., Bloom, N., Blundell, R., Griffith, R. and Howitt, P. (2005), Competition and Innovation: An Inverted-U Relationship, *The Quarterly Journal of Economics*, pp701-728). An estimated financial cost of capital, divided by sales and a similar metric is used by Gutiérrez and Philippon (2017) (Germán Gutiérrez and Thomas Philippon (2017), Declining Competition and Investment in the U.S., *NBER Working Paper 23583*). Furman and Orszag (2015) use ROIC (Return on Invested Capital), which is calculated as net operating profit after tax divided by invested capital.

¹²⁵ See CMA, (2017) [Guidelines for market investigations: Their role, procedures, assessment and remedies \(Revised\)](#)

investment, but which might not be recorded as such. For example, if a company purchases a spreadsheet-based client database, the purchase price is likely to be recorded as capital investment; in contrast, if it is built 'in-house', then it is likely that the cost of doing so would not be recorded as capital investment. This could make ROCE inaccurate as a true measure of return on capital. If the true amount of capital employed is higher than that recorded in company accounts, then the ROCE calculated on this basis will produce a misleadingly high estimate of profits.

- 3.36 Second, ROCE does not take account of the cost of the capital that is employed, nor does it make any allowance for past innovation or risk taking. If the cost of capital a firm faces rises exogenously, then, over time, it would be expected that ROCE would rise too as the hurdle rate for investment projects rises too. When the CMA is undertaking a market investigation, it is able to undertake a detailed analysis of the features of the market in order to estimate the allowance appropriate for that market. However, it is not practical to do that for every sector in our analysis and thus a whole economy allowance must be used (see paragraphs 3.80 and 3.81 and Annex C), which may not be appropriate for all sectors.
- 3.37 At the very least, these factors will affect the absolute levels of the profitability metrics we estimate. This means that it is difficult to comment on whether a certain measured absolute level of profit is 'too high'.
- 3.38 Therefore, as with mark-ups,¹²⁶ trends (rather than the absolute level) in profitability metrics are likely to be more informative about the state of competition. However, results may still need to be treated with caution as the issues identified at paragraphs 3.33 to 3.36 may mean that the trend in accounting profits does not follow the trend in economic profits. For example, this would be the case if the proportion of true capital investment that is under recorded grows or shrinks over time (see paragraph 3.35).
- 3.39 Further, trends in profitability metrics based on accounting data at the industry sector or whole economy level may also be affected by various factors other than changes in the conditions of competition. These factors might include:
- (a) changes in the capital intensity of an industry sector or the whole economy;
 - (b) changes in the level of intangible capital and human capital;

¹²⁶ See paragraph 3.30

(c) changes in the overall opportunity cost of capital (which in turn will be affected by the balance between global savings and investment opportunities, as well as factors such as monetary policy, 'country risk', and regulations on the movement of capital); and

(d) where intangible capital is poorly recorded for accounting purposes, these will affect measures of returns on capital as well as measures of profit margins based on accounting data.

3.40 While these factors will have an impact on profitability metrics, we have not seen evidence that they are likely to impact strongly on overall trends. Analysing trends in accounting profits would therefore still provide useful information towards an assessment of the state of competition.

Existing evidence

3.41 The recent literature on trends in economy-wide mark-ups and profitability has generally found evidence of an increase in both metrics in developed economies, including the UK, in recent decades. Whether the results prove that there has been a generalised increase in market power is still debated. Syverson (2019) argues that, while trends observed in the data can be explained by increasing market power, 'there remains considerable empirical uncertainty around the existence and magnitude of any across-the-board increase in market power in the economy'.¹²⁷

3.42 This section summarises the existing evidence on recent trends in mark-ups and profitability for the UK economy and more generally at a global level, and briefly discusses how this evidence has been interpreted.

Trends in mark-ups in the UK

3.43 Two studies have used the De Loecker and Warzynski (2012) method to estimate the trends in mark-ups among listed companies in the UK.¹²⁸ First, as part of a global study of mark-ups, De Loecker and Eeckhout (2018) calculated that average mark-ups among listed firms in the UK increased from 0.94 in 1980 to 1.68 in 2016.

3.44 Second, using a similar dataset, Aquilante et al. (2019)¹²⁹ broadly replicate the same results, finding that the average mark-up increased from 1.2 to

¹²⁷ Syverson (2019), p24

¹²⁸ De Loecker, J. and Warzynski, F. (2012), [Markups and Firm-level Export Status](#), *American Economic Review*, Vol. 102, No. 6, October 2012, pp2437-71.

¹²⁹ Aquilante, T et al. (2019), Market Power and Monetary Policy, *Bank of England Staff Working Paper No. 798*.

around 1.6 between 1987 and 2017. Most of the increase took place since 2000 – from around 1.3 to around 1.6. Mark-up increases were similar across economic sectors but, within each sector, they tended to be concentrated among those firms at the top of the mark-up distribution.

- 3.45 The same study also finds that the rise in mark-up was far larger among firms selling predominantly into foreign markets than in the domestic market. In fact, the increasing trend in average mark-up is much more pronounced when firms are weighted by international sales (from around 1.2 to around 1.8 during the period) than when they are weighted by domestic sales (from around 1.1 to around 1.3). Aquilante et al. (2019) argue that these results are consistent with the view that rising mark-ups were concentrated among internationally operating ‘superstar’ firms, possibly reflecting their greater ability to benefit from global network economies of scale and scope.
- 3.46 These two studies only include data on listed firms in the UK. However, listed companies are different to the overall population of UK businesses and some of these differences may accentuate the issues with using accounting data.
- (a) Listed companies have a different industry mix to the overall population of UK companies. For example, the mining sector¹³⁰ accounted for 40% of the turnover of UK-listed firms in 2017 (excluding financial services),¹³¹ whereas the figure for the UK economy is 1%.¹³²
- (b) Listed firms are disproportionately likely to have significant overseas operations. For example, the largest UK-listed company by turnover in 2017,¹³³ Royal Dutch Shell, employs around 6,000 people in the UK,¹³⁴ or only about 7% of its global headcount of 82,000.¹³⁵ The international scale of many listed companies may require additional analysis of the approach to attribution of profits to UK activity for accounting purposes.
- 3.47 There are currently no UK-specific studies based on datasets of both listed and privately held firms. This is the main contribution of our analysis. However, such a dataset has been used by Diez et al. (2019) for a global-

¹³⁰ SIC section B, Mining and quarrying, which includes the extraction of oil and gas.

¹³¹ CMA analysis of Fame data. Analysis excludes financial services firms because they are excluded from our analysis of mark-ups and profitability and the ONS ABS figures. The mining sector’s share based on the 2019/2020 financials (at the time of publication) of FTSE350 firms is nearly 50%.

¹³² ONS (2020), [Annual Business Survey](#), 2018 revised results

¹³³ The most recent year of the analysis in Aquilante et al. (2019).

¹³⁴ Shell UK website, [Who we are](#), accessed 24/08/2020.

¹³⁵ Shell global website, [Who we are](#), accessed 24/08/2020.

level analysis which, compared to similar studies based on listed firms, finds significantly lower increases in mark-up.

Global trends in mark-ups and profitability

3.48 The UK evidence is broadly consistent with the global evidence on increasing mark-ups. In particular, several studies have found:

- (a) a trend of increasing mark-ups either globally,¹³⁶ in advanced economies¹³⁷ or specifically in the US;¹³⁸ and
- (b) that the increase in mark-ups was concentrated among firms in the upper part of the mark-up distribution.¹³⁹

3.49 Two studies have also considered the extent to which the change in the average mark-up was due to an increase in the mark-up itself or due to an increase in the size of high mark-up firms relative to the size of low mark-up firms. However, the results of these studies point in different directions.

- (a) Diez et al. (2019) using a global dataset for the period 2000 to 2015 found that most of the increase in the average mark-up was due to an increase in the mark-up itself.¹⁴⁰
- (b) De Loecker, Eeckhout and Unger (2020), using a US dataset for the period 1980 to 2016, found that most of the increase in the average mark-up was due to an increase in the size of high mark-up firms relative to low mark-up firms.

¹³⁶ De Loecker and Eeckhout (2018) find an increasing trend for the period 1980 to 2016 based on global dataset of over 70,000 listed firms across 134 countries. They found the trend was broadly comparable in Europe, North America, Asia and Oceania, but that mark-ups were largely flat among the emerging economies of South America, while there was no clear trend in Africa. Diez et al. (2019) find an increasing global trend for the period 2000 to 2015, concentrated in advanced economies. While most studies only look at listed firms, Diez et al. (2019) also includes some private firms and in doing so finds significantly lower mark-up increases.

¹³⁷ Diez et al. (2018) find an increasing trend for the period 1980 to 2016 for advanced economies, but find less evidence of this happening in emerging markets and developing economies.

¹³⁸ De Loecker, Eeckhout and Unger (2020) find that the average mark-up in the US increased from 1.21 in 1980 to 1.61 in 2016.

¹³⁹ De Loecker and Eeckhout (2018) find the increase is concentrated among firms in the upper part of the mark-up distribution. Diez et al. (2019) find that the increase has been concentrated in the top decile of the mark-up distribution, both listed and unlisted. De Loecker, Eeckhout and Unger (2020) find that the increase in the average mark-up comes entirely from the firms with mark-ups in the top half of the mark-up distribution.

¹⁴⁰ Diez et al. (2019) use a dataset covering 20 countries including the US, however, it is unclear what proportion of the dataset is made up by US firms and the extent to which differences in results are due to the different samples used or not.

- 3.50 In terms of sector level results, two studies have found evidence that the increase in mark-ups differs between sectors based on how Information, Communication and Technology (ICT) focused they are. Specifically, Diez et al. (2019) found that, while increases have been seen in a broad range of economic sectors, mark-up growth has been twice as large in ICT-intensive sectors.¹⁴¹ This result is consistent with what was found by Calligaris, Criscuolo and Marcolin (2018),¹⁴² who consider a sample of 26 countries for the period 2001 to 2014.
- 3.51 The existing empirical evidence on profitability is more limited and largely based on US studies. The data in these studies generally shows trends towards increasing average profitability and increasing dispersion of profitability among US firms, consistent with the evidence on mark-ups.¹⁴³

How the trends have been interpreted

- 3.52 While there is general consensus that average mark-ups, and probably other measures of profitability, have increased in recent decades, the underlying causes of these trends are debated. The main factors suggested are of three types: technological change, globalisation and the rise of ‘superstar’ firms, and increased rent seeking.
- 3.53 Technological change can explain at least part of the trend in mark-ups. As discussed at paragraph 3.11, a general trend in increasing fixed and sunk costs due to changes in technology would be expected to lead to rising mark-ups. However, the results in De Loecker, Eeckhout and Unger (2020) suggest that while overheads as a share of total expenditure have increased, such increase was not large enough to fully account for the trend in mark-ups.

¹⁴¹ Diez et al. (2019) use a categorisation of economic sectors developed by the OECD based on software investment, ICT tangible investment, intermediate ICT goods, intermediate ICT services and robot use. A sector is classified as ICT intensive if it is above the median in at least four of these categories.

¹⁴² Calligaris, S., Criscuolo, C., Marcolin, L. (2018), Mark-ups in the digital era, OECD Science, Technology and Industry Working Papers, 2018/10.

¹⁴³ For example, Bessen (2016) presents evidence of increasing operating margins in the US, showing an increasing trend beginning around 1990. Similarly, De Loecker, Eeckhout and Unger (2020) show evidence of increasing profitability for US-listed firms between 1980 and 2016 that broadly mirrors the increase in mark-up during the same period. Furman and Orszag (2015) show data on the evolution and distribution of ROIC (excluding goodwill) among US publicly traded non-financial firms between 1965 and 2014. The data shows an increase in ROIC (Return on Invested Capital) especially since the early 2000s, concentrated on the firms at the top of the ROIC distribution. Bessen, J. (2016), [Accounting for Rising Corporate Profits: Intangibles or Regulatory Rents?](#), Boston University School of Law, *Law & Economics Working Paper No.16-18*.

- 3.54 Globalisation can also be part of the explanation for rising mark-ups (see Berry et al. 2019).¹⁴⁴ Firms with access to a global supply chain can get lower-cost inputs and achieve greater economies of scale. In the presence of competing firms unable to globalise, globalised firms will be able to sustain higher mark-ups. If, within an industry, globalised firms gain market share, the average industry mark-up will rise. This theory is linked to the argument, developed by Autor et al. (2020), that the recent trend in increasing mark-ups can be explained by the rise of ‘superstar’ firms.¹⁴⁵
- 3.55 Some of the evidence discussed (at paragraphs 3.43 to 3.47) is compatible with this theory. For example, Aquilante et al. (2019) find that the rise in mark-up was far larger among UK firms selling predominantly into foreign markets than in the domestic market. The theory, however, relies to a large extent on the more productive firms with higher mark-ups growing relative to other firms. The evidence on the extent to which higher mark-up firms have grown relative to other firms is mixed and thus whether this theory holds is still an open question which requires further research.
- 3.56 Finally, increasing mark-ups and profitability may reflect an increased ability of firms to exploit their market power. This could be due both to increased managerial ability to take advantage of inelastic demand (see Berry et al. 2019) and/or to a decline in antitrust enforcement. Gutiérrez and Philippon (2017) have argued that laxer antitrust enforcement has been one of the main factors contributing to weakening competition in the US. On the other hand, Gutiérrez and Philippon (2018)¹⁴⁶ have also praised the stronger antitrust enforcement in the EU in recent years. However, as seen at paragraphs 3.48 to 3.51, evidence on mark-ups shows increasing trends both in the US and in Europe.

CMA analysis

- 3.57 This section summarises the analysis we have undertaken for this report. Our analysis includes an assessment of mark-ups as well as an assessment of profitability using both Earnings before Interest and Taxes (EBIT) margins and Return on Capital employed (ROCE).

¹⁴⁴ Berry, S., Gaynor, M., Scott Morton, F. (2019), [Do Increasing Markups Matter? Lessons from Empirical Industrial Organization](#), *Journal of Economics Perspectives*, 33(3), pp44-68

¹⁴⁵ Autor, D., Dorn, D., Katz, L.F., Patterson, C., & Van Reenen, J. (2020), [The Fall of the Labor Share and the Rise of Superstar Firms](#), *Quarterly Journal of Economics*, pp645-709.

¹⁴⁶ Gutiérrez, G. and Philippon, T. (2018), [How European Markets Became Free: A Study of Institutional Drift](#), *NBER Working Paper 24700*

- 3.58 This analysis extends previous research on mark-ups in the UK in several ways.
- (a) First, our sample includes both listed and private companies as it is based on data on large companies (those with more than 250 employees) sourced from the FAME database¹⁴⁷ (see Annex C for detail). It is therefore more representative of the population of UK businesses than previous UK studies.
 - (b) Second, as well as considering mark-ups we have also considered two measures of profitability – EBIT margins and ROCE – which has not been done previously in UK studies.
 - (c) Third, we have also considered the extent to which the same companies have persistently high mark-ups and profits.
- 3.59 Details on the dataset used in our analysis are set out in Annex C. As set out at paragraph 3.11, an increase in mark-ups may be driven by an increase in fixed costs and one way of testing for this possibility is to assess measures of profitability which take into account fixed costs. Therefore, it is important that we use the same sample for both metrics to ensure comparability. This means that we exclude some firms where the relevant information for EBIT margins is available, but we cannot estimate mark-ups. We discuss the implications of this in Annex C.
- 3.60 Finally, our results do not include the Finance and Insurance sector. This is because a large number of firms in that sector do not report turnover data which we use to calculate mark-ups and to weight out results.

Mark-ups

- 3.61 In this section we present our findings on the evolution of the average mark-up across large firms¹⁴⁸ in the UK economy. As discussed at paragraph 3.28, firms' mark-ups are rarely observed directly so need to be estimated. We have largely followed the approach proposed by De Loecker, Eeckhout and Unger (2020) as set out in Annex C.¹⁴⁹

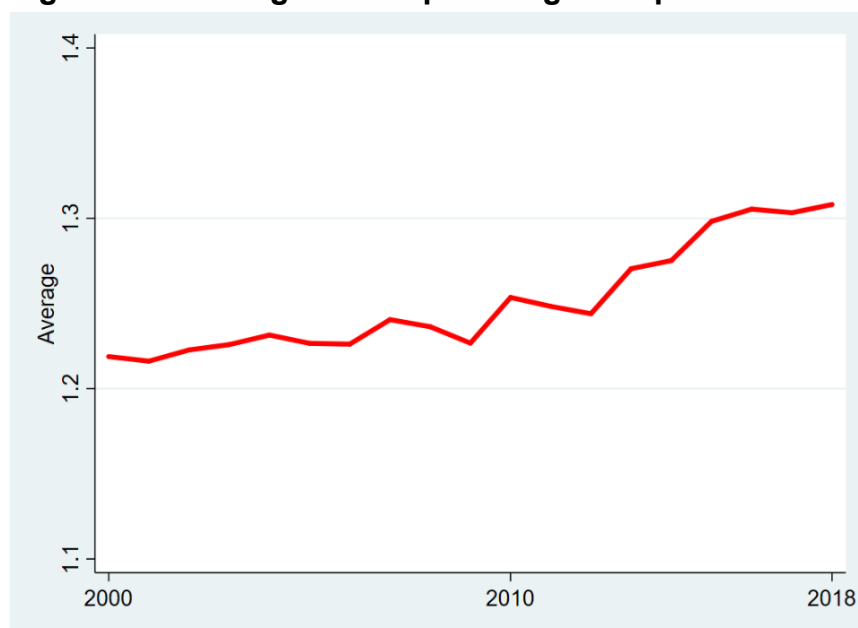
¹⁴⁷ The Forecasting Analysis and Modelling Environment database

¹⁴⁸ Those with more than 250 employees.

¹⁴⁹ Unlike the main approach adopted in De Loecker, Eeckhout and Unger (2020) we do not use an econometric approach when calculating the output elasticities needed to then calculate the mark-up. Instead, we use a cost-share approach, which has been used in the academic literature as well. See Annex C.

3.62 To begin with we look at the annual weighted average mark-up, where each firm is weighted by its turnover.¹⁵⁰ Figure 3.1 shows the average mark-up across the entire sample for the period 1998 to 2018.

Figure 3.1: Average mark-up for large companies in the UK



Source: CMA analysis of FAME data

3.63 Figure 3.1 shows an upwards trend in average mark-ups, with an increase from 1.22 to 1.31, or 7%, since 2000. We also note that mark-ups exhibited higher volatility around the time of the financial crisis.¹⁵¹

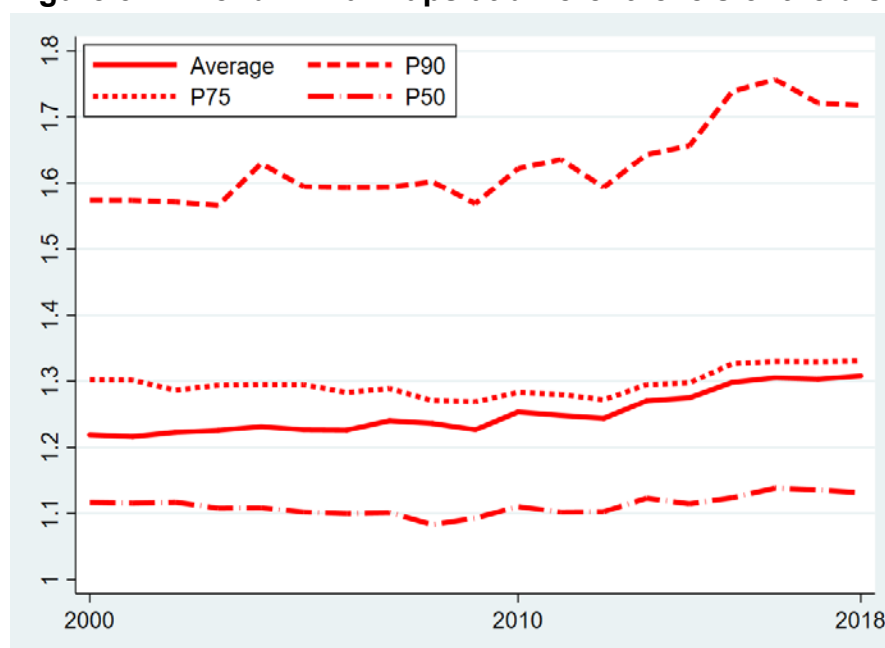
3.64 While overall there has been an increase in average mark-ups, trends vary when considering mark-ups at different levels of the distribution. Figure 3.2 shows the trend in average mark-up alongside the trends in mark-ups at the 50th percentile, 75th percentile and the 90th percentile. In doing this we have considered the sales-weighted mark-up distribution over time.¹⁵²

¹⁵⁰ The weights are a firm's turnover in a given year relative to the total turnover of all firms in that year.

¹⁵¹ We have tested whether the pattern from 2008 onwards is caused by variation in the elasticities by assuming a constant elasticity. While patterns around the financial crisis look different, the broad pattern of an increase in mark ups is unchanged.

¹⁵² Following De Loecker, Eeckhout and Unger (2020), we order firms by mark-up and then compute the percentiles based on turnover. We do this to be consistent with the weighted average mark-up.

Figure 3.2: Trend in mark-ups at different levels of the distribution



Source: CMA analysis of FAME data

- 3.65 Figure 3.2 shows that the increase in average mark-up comes from an increase in the mark-ups of firms above the 75th percentile, with a larger increase in mark-ups at the 90th percentile (9%). Therefore, our finding suggests that the increase in average mark-ups comes from an increase in mark-ups in the upper end of the distribution.
- 3.66 This pattern is broadly consistent with both the UK and international evidence on mark-ups outlined at paragraphs 3.43 to 3.51. However, the magnitude of the changes is smaller than that found by De Loecker, Eeckhout and Unger (2020) and Aquilante et al. (2019), whose economy wide results focus on listed companies in the US and UK respectively.¹⁵³
- 3.67 This could be explained by the differences in the samples used, including our inclusion of non-listed companies.¹⁵⁴ Consistent with this, Diez, et al. (2019) is the only other study we are aware of that included both listed and non-listed companies and they found increases in average mark-ups that were smaller than those estimated by De Loecker, Eeckhout and Unger (2020).
- 3.68 Overall, we find that average mark-up has increased over the last two decades in the UK. This increase mainly comes from an increase in the upper

¹⁵³ De Loecker, Eeckhout and Unger (2020) use data from the US Census to look at mark-ups in three sectors of the US economy and in doing so include both listed and non-listed firms.

¹⁵⁴ In addition, this could be due to our sample dropping some large firms, for which we do not have information on cost of sales, as discussed in more detail in Annex C.

end of the distribution. This is consistent with Aquilante et al. (2019), who find a similar result for listed firms in the UK.

Profitability

3.69 While an increase in mark-ups may indicate an increase in market power among firms, it may also be due to an increase in fixed costs as a proportion of all costs (see paragraph 3.11). Therefore, we have also considered EBIT margins and ROCE as measures of profitability.¹⁵⁵

Earnings before Interest and Taxes (EBIT) margin

3.70 EBIT is a standard measure of operating profits and thus the EBIT margin (ie EBIT divided by turnover) is a useful indicator of how profitability might have changed across a large group of companies over time.¹⁵⁶ Further, while there are some caveats around measuring EBIT margin, there is no strong evidence to suggest that these materially affect trends over time.

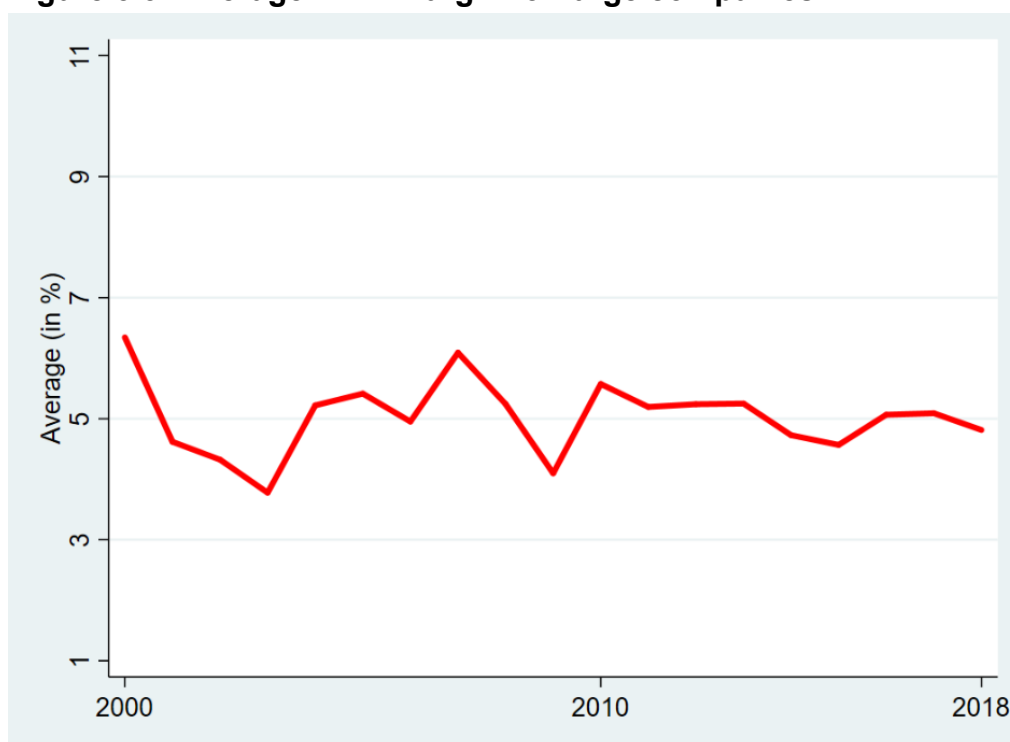
3.71 As with mark-ups, we have first looked at the annual weighted average EBIT margin for large companies, which is shown for the period 1998 to 2018 in Figure 3.3 below.¹⁵⁷

¹⁵⁵ Unlike the EBIT margin, De Loecker, Eeckhout and Unger (2020) use a measure of profitability that takes into account the cost of capital.

¹⁵⁶ As the EBIT margin does not take into account capital intensity, it may not be an appropriate measure to consider when comparing the absolute level of profits across different industries with different capital intensities. However, that is not the purpose of the exercise here, where we are considering general trends over time rather than the absolute level of profits.

¹⁵⁷ As with mark-ups the weights are a firm's turnover in a given year relative to the total turnover of all firms in that year.

Figure 3.3: Average EBIT margin for large companies



Source: CMA analysis of FAME data

3.72 Figure 3.3 suggests that the weighted average EBIT margin has remained broadly constant.^{158,159}

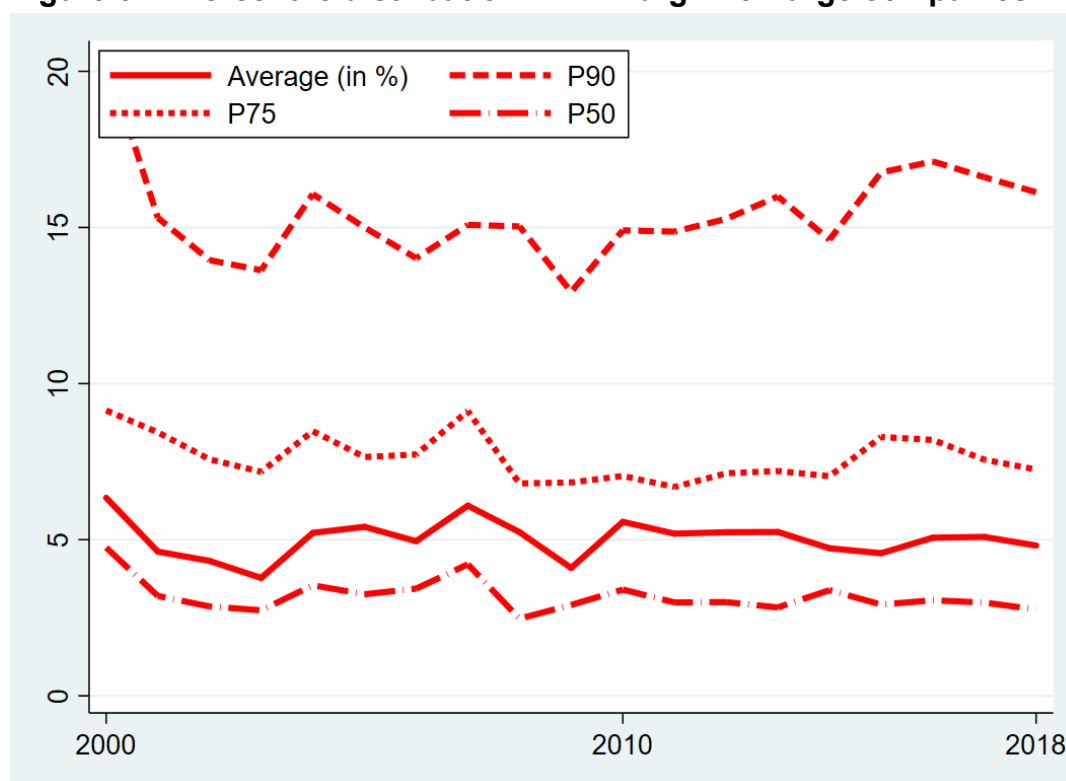
3.73 We have also considered trends in EBIT margins at different levels of the distribution, with Figure 3.4 showing the trend in the average EBIT margin alongside the trends in EBIT margins at the 50th percentile, 75th percentile and the 90th percentile. In doing this we have again considered the sales-weighted distribution over time.¹⁶⁰

¹⁵⁸ In contrast, the unweighted average EBIT margin has increased by 18% over the same period.

¹⁵⁹ The trend in the estimated average EBIT margin was more volatile than the trend in the estimated average mark-up. Given this, we also looked at a 3-year rolling average for EBIT margin and found a similar picture.

¹⁶⁰ Following De Loecker, Eeckhout and Unger (2020), we order firms by EBIT margin and then compute the percentiles based on turnover. We do this to be consistent with the weighted average EBIT margin.

Figure 3.4: Percentile distribution EBIT margin for large companies



Source: CMA analysis of FAME data

- 3.74 Figure 3.4 shows that, while there was an initial decline in EBIT margin in the first year of the data, firms in the 90th percentile generally had a flat trend until 2008, after which there has been a small upwards trend.^{161,162} In contrast, below the 90th percentile there is a flat or slight downward trend over time.
- 3.75 As outlined in paragraph 3.58, we are able to conduct our analysis of EBIT margins using a larger sample of firms (this is because not all firms report the information needed to estimate mark-ups). When looking at the trends among this larger sample we see the same pattern – at the 90th percentile there is an initial decline before a flat trend through to 2008 and then an increasing trend from 2008 to 2018. Therefore, taking both samples together, our analysis shows that since 2008 profitability in the UK economy, as measured by EBIT margins, has increased over recent years at the upper end of the distribution (albeit within the historical range of our data).

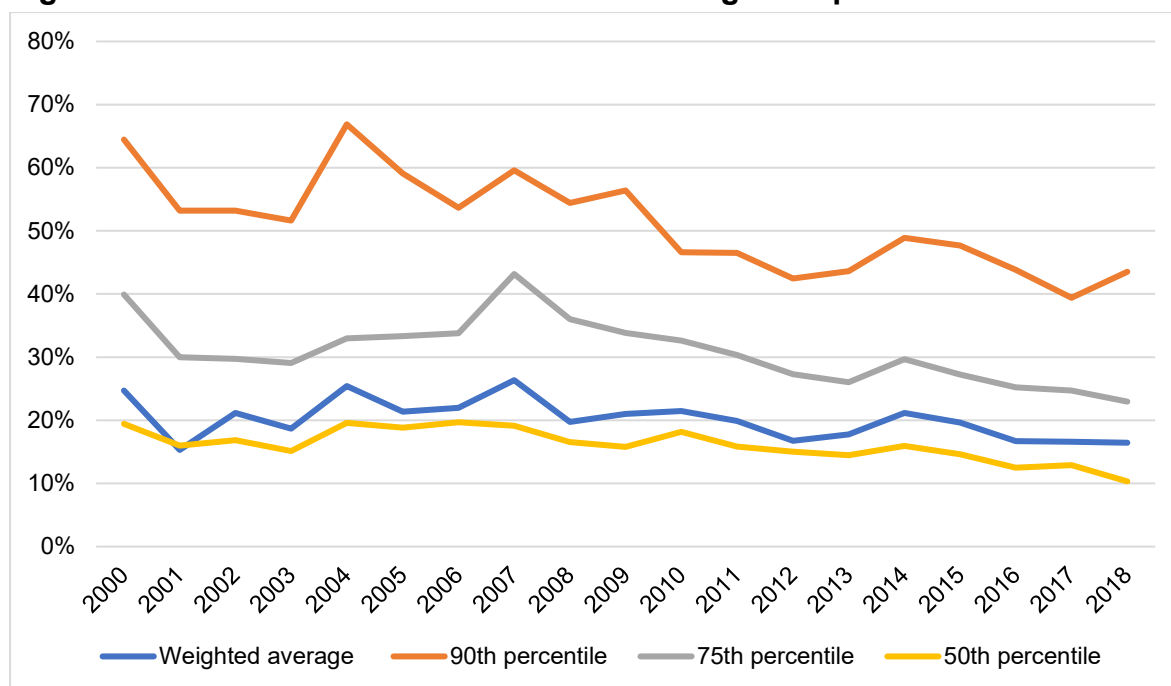
¹⁶¹ In 2000 there are a few firms with very high EBIT margin in the data. A large fraction of those high-margin firms experience a drop in their margins in 2001 and 2002. This explains the drop in EBIT margins between 2000 and 2001.

¹⁶² In 2008 the EBIT-margin of the top decile firms was 15%, which increased to 16.1% in 2018.

Return on Capital Employed (ROCE)

- 3.76 The second measure of profitability we use is ROCE which the CMA has used in past Market Investigations.¹⁶³ While EBIT margin is EBIT divided by turnover, ROCE is calculated by dividing EBIT by Capital Employed (measured as total assets minus current (short-term) liabilities, or equivalently, equity plus long-term liabilities).
- 3.77 Theoretically, ROCE has advantages over EBIT margin as a profitability measure as it takes into account the capital intensity of a firm. This means that comparison between firms' ROCE are likely to better account for differing levels of capital intensity than EBIT margins.¹⁶⁴
- 3.78 We have considered trends in ROCE at different levels of the distribution, with Figure 3.5 showing the trend in the average ROCE alongside the trends in ROCE at the 50th percentile, 75th percentile and the 90th percentile. In doing this we have again considered the sales-weighted distribution over time.¹⁶⁵

Figure 3.5: Percentile distribution ROCE for large companies



Source: CMA analysis of FAME data

¹⁶³ For example see [Appendix 9.10](#) of the Final Report of the CMA's Energy Market Investigation.

¹⁶⁴ In general, to stay in business in the long run a firm with a higher capital intensity will require a higher EBIT margin to cover its cost of capital than a firm with a lower capital intensity.

¹⁶⁵ Following De Loecker, Eeckhout and Unger (2020), we order firms by ROCE and then compute the percentiles based on turnover. We do this to be consistent with the weighted average ROCE.

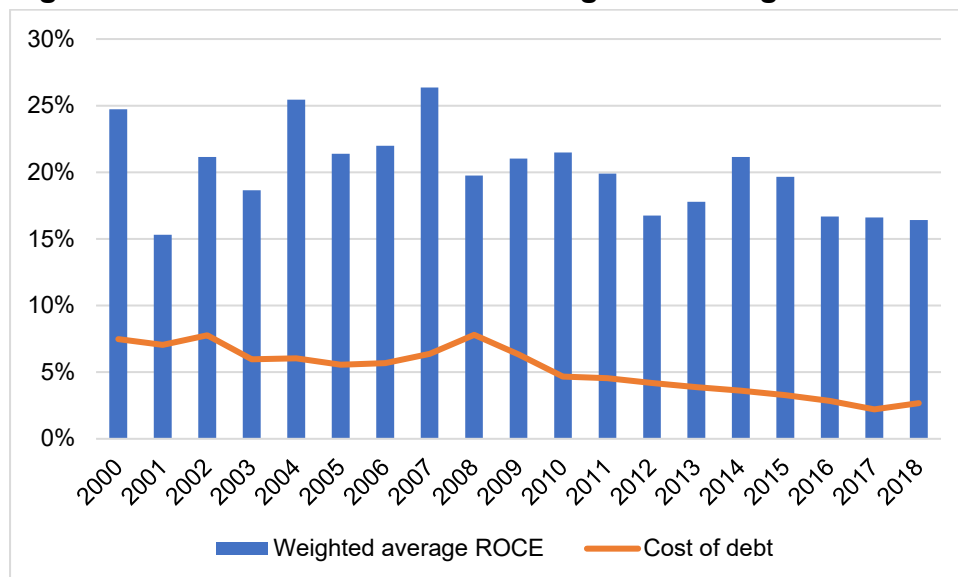
- 3.79 Figure 3.5 shows that leading up until the financial crisis ROCE was fairly flat across the distribution. We then observe a sudden fall in ROCE at the time of the financial crisis (which is to be expected as ROCE is sensitive to macro-economic events as discussed at paragraphs 3.19 and 3.20).¹⁶⁶ This sudden fall is followed by a downward trend for the rest of the period considered.
- 3.80 All else being equal, we can interpret ROCE in a similar way to mark-ups and EBIT margins – rising ROCE might indicate weakening competition and falling ROCE might indicate strengthening competition. However, as set at paragraphs 3.35, when considering ROCE it is necessary to take account of the cost of the capital that is employed. If a fall in ROCE coincides with a similar fall in the cost of capital, then it may be the case that the actual economic profits earned by the firm have not in fact fallen. The cost of capital has not been constant over time – particularly over the course of the 20 years we have considered. This makes it harder to interpret the downward trend in ROCE as it must be considered in the context of a downward trend in the cost of capital.
- 3.81 As explained in Annex C, for the purposes of this analysis we have used a measure of the cost of debt as a proxy for the cost of capital (which is conceptually made up of the cost of debt and the cost of equity). This is because the cost of debt is largely tangible and observable while the cost of equity is unobservable, and we are interested in aggregate trends over a 20-year period; over the long-term returns to debt and equity can reasonably be expected to trend in the same direction.
- 3.82 Our measure of cost of debt is the IHS Markit iBoxx GBP Non-Financials BBB 5-7 index. This is a low investment-grade rating, which is likely to be more representative of the credit worthiness of the large (mostly private) companies in our dataset than higher ratings. The ‘cost of debt’ line on Figures 3.6 and 3.7 is therefore two steps removed from the cost of capital in the economy; first it is measure only of debt, and not of equity capital, and second it is based on the cost of debt faced by a small portion of all UK companies.
- 3.83 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

¹⁶⁶ See paragraphs 3.19, 3.20 and 3.38.

interpretation of a suitable level of, or calculation approach for, the cost of capital of any business or industry.

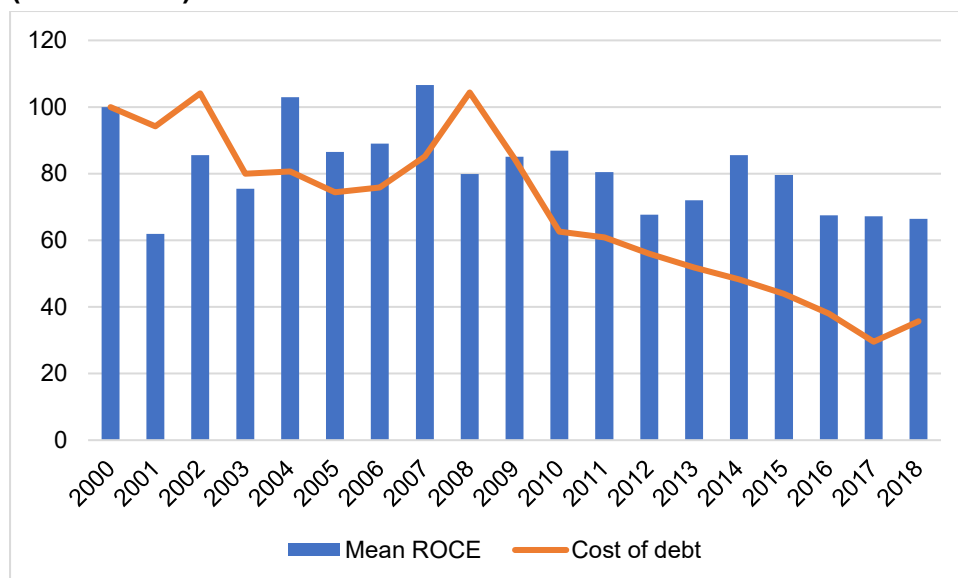
3.84 Figure 3.6 compares the absolute trend in the weighted average ROCE and our measure of the cost of debt whereas Figure 3.7 shows the relative trend in the weighted average ROCE and the cost of debt, with the values for both indexed at 100 in 2000.

Figure 3.6: Absolute trends in the weighted average ROCE and the cost of debt



Source: CMA analysis of FAME data and IHS Markit data

Figure 3.7: Relative trends in the weighted average ROCE and the cost of debt (2000 = 100)



Source: CMA analysis of FAME data and IHS Markit data

3.85 From Figure 3.6 it can be seen that for the period 2000 to 2018 our measure of the cost of debt has declined in absolute terms by approximately 5 percentage points. This is smaller than the decline in weighted average

ROCE measured from the start point to the end point; this could be consistent with a picture of falling economic profits and increased competition. However, there is a lot of year to year variability in the weighted average ROCE figure; if the measurement period started in 2001, 2002 or 2003, then the fall in ROCE would have been smaller than the decline in the cost of debt. Furthermore, Figure 3.7 shows that for the period 2000 to 2018 our measure of the cost of debt has seen a greater decline in relative terms than the weighted average ROCE for the same period. (Figure 3.7 shows how average ROCE and the cost of debt have changed in relative terms between 2000 and 2018, with the values for both indexed at 100 in 2000).

- 3.86 Overall, there is uncertainty over our analysis of weighted aggregate ROCE. As set out at paragraph 3.35, we cannot be certain if ROCE accurately reflects intangible capital (and hence whether trends in ROCE reflect changes in intangible capital or its measurement). It appears that both ROCE and the cost of capital have fallen over the period. However, it is not clear which has fallen by more; and in any case our measure of the cost of debt is an imperfect proxy for the cost of capital faced by large firms across the economy.
- 3.87 More work is needed to understand better the implications of the trend we have seen in ROCE. In particular, further consideration is needed on how trends in returns on capital should be interpreted, and how to take account of trends in the cost of capital when doing so.

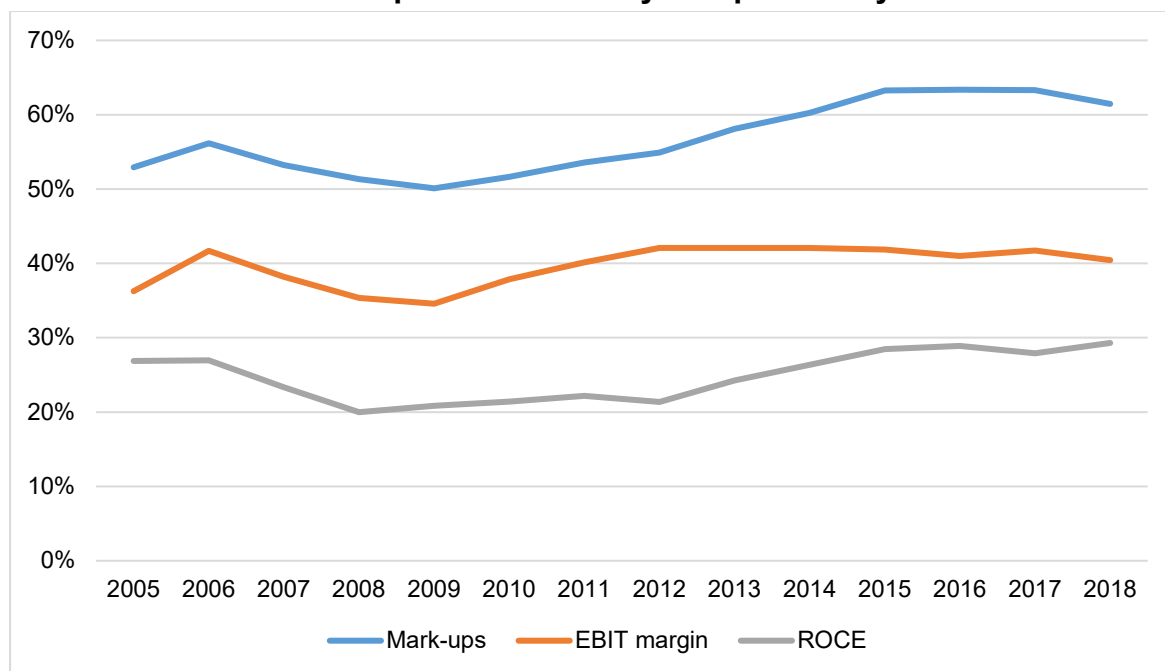
Persistence

- 3.88 While our analysis shows that mark-ups and EBIT margins have increased since 2008 among large firms in the 90th percentile, it does not tell us whether the 90th percentile is made up of the same large firms over time. Further, even if the results of our analysis of ROCE are unclear it is informative to understand whether the same firms are consistently in the 90th percentile for the purposes of this analysis.
- 3.89 If the composition of the 90th percentile does not change over time, then this may be worth investigating further. While it may indicate that there are a group of large firms who are consistently outperforming other firms because they are more efficient, it may also indicate a lack of competition.

3.90 Therefore, separately for each metric we have estimated the extent to which the same firms are persistently in the 90th percentile for that metric.¹⁶⁷ To do this we have considered the proportion of companies in the 90th percentile in a given year that were also in the 90th percentile 3 years before.¹⁶⁸

3.91 Figure 3.8 shows the persistence of companies in the 90th percentile for mark-ups, EBIT margins and ROCE when looking across the whole economy. This is based on a three-year rolling average for the period 2005 to 2018.

Figure 3.8: The proportion of companies at or above the 90th percentile that were at or above the 90th percentile three years previously



Source: CMA analysis of FAME data

3.92 Figure 3.8 shows that for both mark-ups and EBIT margins there is a material level of persistence in the 90th percentile, although the absolute level is higher when considering mark-ups than EBIT margins. It also shows that persistence has increased since the financial crisis, most clearly for mark-ups. Persistence among the 90th percentile is materially lower for ROCE and was much slower to increase after the financial crisis, but it has risen by a similar amount since the financial crisis as for the other two metrics.

3.93 As outlined in paragraph 3.58, we are able to conduct our analysis of EBIT margins using a larger sample of firms (this is because not all firms report the

¹⁶⁷ As with our trends analysis, we ordered firms by mark-up/EBIT margin/ROCE and then computed the percentiles based on turnover shares. We do this to be consistent across our analysis.

¹⁶⁸ We have also considered this metric based on five years and, while the absolute levels of persistence change, the overall trends do not substantively differ.

information needed to estimate mark-ups). When looking at persistence among this larger sample we see the same general trend.

Conclusion

- 3.94 Overall, our analysis of mark-ups is consistent with the existing evidence from the UK and other countries such as the US. We have found that since 2008 there has been an increase in average mark-ups which mainly comes from an increase in the upper end of the distribution. While we find an increase in the EBIT margin in the 90th percentile since 2008, this increase is smaller compared to the increase in mark-ups in the 90th percentile (and within the historical range of our data). Further, we have found that over time there is material persistence in terms of the firms that make up the 90th percentile for both these measures – and that, most clearly for mark-ups, this persistence appears to have increased since the financial crisis.
- 3.95 Our analysis shows that ROCE has fallen over the period – although it is unclear if this is mitigated by a fall in the cost of capital over the same period. In addition, there is materially less persistence in terms of firms that make up the 90th percentile when considering ROCE – although there has been a rise in this persistence since the financial crisis.
- 3.96 Overall, we take our analysis as tentative evidence that the upward trend in mark-ups may not be entirely driven by an increase in fixed costs. However, at present we cannot say that it shows there has been a reduction in competition. For example, as outlined at paragraphs 3.51 to 3.55, it may be due to other factors such as globalisation and the rise of ‘superstar’ firms.
- 3.97 Given these various possible explanations, further work to explore the reasons for the observed trends and what they can tell us about competition in the UK economy would be useful. Further, as outlined elsewhere in the report, economy-wide results can mask underlying differences between sectors and further work in this area would be informative.

Further work

- 3.98 Overall our analysis of mark-ups and profitability is consistent with the theory that there may have been a reduction in competition, because companies in the 90th percentile have seen an increase in both metrics since 2008. However, there are other plausible explanations for the trends, including that these trends may be due to globalisation and the rise of superstar firms.
- 3.99 Therefore, further work to explore what is driving the trends we have observed would be informative. This may include exploring the following areas:

- (a) alternative approaches to estimating mark-ups and profitability to see if the results we have found are consistent with results obtained using different approaches;
- (b) further consideration of how trends in returns on capital should be interpreted, and how to take account of trends in the cost of capital when doing so;
- (c) consideration of whether the observed trends are due to changes in the relative size of firms or due to changes in the underlying metrics – as discussed at paragraph 3.54, the current evidence on this is mixed; and
- (d) consideration of the extent to which the economy-wide trends masks underlying variation in the trends between different sectors of the economy.

4. Summary of consumer and business survey evidence

Summary

Findings

- The latest data on consumer perceptions of market performance shows the UK has room to improve its international ranking, sitting in 11th place out of 30 European states included in the study, below Germany (fifth) and France (sixth).
- UK goods markets consistently outperform UK services markets whether comparing markets directly to each other within the UK or to the EU average. While the poorer performance of services markets is also observed at a European level, it is particularly marked for the UK.
- The UK's better performance in goods markets is linked to stronger scores on consumer trust in providers to respect consumer rights, satisfaction with the choice of providers in markets and how far markets have met consumer expectations.
- Multiple surveys show UK consumers experience a relatively high level of consumer problems worthy of complaint (for service markets in particular). This is an area where the UK can improve its performance across markets.
- Surveys show consumers who are less financially secure and/or on lower incomes tend to have a poorer experience of a wide range of markets. This raises questions of how well markets understand and service the needs of these less affluent consumers.
- Transport, utilities and telecommunications/media consistently feature lower down the rankings when measuring different consumer and business outcomes.

Further work

- Consideration should be given to filling the survey evidence gap on business perceptions and experiences of competition.

Relevance of survey data

- 4.1 The metrics in the rest of the report provide indirect evidence of the level of competition across the economy. We are ultimately interested in assessing the level of competition because competition can deliver good consumer outcomes. Another way to consider the issue, therefore, is to look directly at the outcomes consumers and businesses believe markets are delivering.
- 4.2 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. In addition, some of the outcomes considered in this chapter, such as consumer perceptions of choice, can tell us more directly about how well the process of competition is functioning.

- 4.3 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 markets.¹⁶⁹ Differences in reported outcomes across industries, and trends over time, may reflect competition or may reflect other unrelated factors.
- 4.4 In using existing consumer and business survey evidence to inform a comprehensive assessment of competition across the economy, the approach we take is necessarily different to that the CMA would normally take to survey evidence, for example when carrying out an in-depth review of a market. It would not be practical nor realistic to commission in-depth surveys of every product market across the economy, and no single existing survey covers all the topics we are interested in.
- 4.5 Therefore, the survey evidence analysed in this chapter 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 competition in the UK economy in different ways.¹⁷⁰ To attempt to make such an assessment, we must utilise these different approaches to piece together a more complete picture.
- 4.6 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.
- 4.7 There are however limitations (from the perspective of this report) specific to the survey sources we have identified in terms of their ability to inform our analysis, which we cover in more detail in paragraph 4.36.

¹⁶⁹ 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.

¹⁷⁰ 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.

Methodology

- 4.8 In this chapter we are interested in assessing the outcomes consumers and businesses believe markets are delivering for them. In reviewing the existing literature, we have identified a wide array of potential sources and structured our search for evidence against the following metrics:
- (a) choice;
 - (b) shopping around;
 - (c) switching;
 - (d) consumer problems;
 - (e) satisfaction; and
 - (f) trust.
- 4.9 For businesses only, we also looked at:
- (a) barriers to expansion;
 - (b) innovation; and
 - (c) perceptions of competition.
- 4.10 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, but they are valuable indirect evidence.
- 4.11 For instance, in a market with effective competition, we would expect that consumers would opt to make purchases from firms whom they trusted based on their satisfaction with previous performance, and with whom they had experienced fewer problems.
- 4.12 In terms of firm behaviour, we might expect that, in a competitive market, firms would want to ensure that consumer expectations were met, that problems were dealt with, and that they provided a good choice of products.
- 4.13 Finally, some of these metrics might tell us about the process of competition itself. Consumers' ability to compare providers and products, and to exercise choice are key to effective competition; poor scores here might indicate that the process of competition is not working well. Nevertheless, it is important to note that interpretation is not always straightforward – for example, the

reporting and resolution of consumer problems can be influenced by regulatory activity.

- 4.14 Similarly, it is difficult to determine what the optimal level of switching is in a particular market. There is no specific level of switching that we would expect to see in a competitive market. For example, a competitive market might exhibit high levels of switching where consumers frequently move between firms giving each firm an incentive to compete strongly for those consumers. Equally, a competitive market may see low levels of switching but in which the very threat of switching (eg due to small differences in price) are enough to give each firm an incentive to compete strongly for consumers. There is a much fuller discussion of the rationale for each metric and specific caveats in terms of how results should be interpreted in Annex D.
- 4.15 The survey evidence that best meets the requirements of this project comes from the European Commission's Consumer Markets Scoreboard (EC CMS)¹⁷¹ 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.
- 4.16 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. 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 paragraph 2.9, relevant markets are likely to be far narrower).

Summary of findings

Consumer perceptions of market outcomes

- 4.17 To compare performance between different countries, the EC CMS surveys consumers on five components in each market (trust that retailers/suppliers comply with consumer law; ease of comparing different offers; problems and detriment experienced; whether a market lives up to expectations; and whether it offers sufficient choice) and these attributes are aggregated to create a composite index out of 100 – the Market Performance Indicator (MPI).

¹⁷¹ European Commission (2018), [Consumer Markets Scoreboard](#)

4.18 The UK ranks 11th out of 30 European states in the last full survey measuring consumer perceptions of market outcomes across 40 goods and services markets.¹⁷² Table 4.1 shows the UK's performance compared to the EU for goods, services and all markets.

Table 4.1: UK MPI performance vs EU-28 for goods, services and all markets

	2017 UK MPI (0-100 index)	2017 EU- 28 MPI	Diff. in UK vs. EU-28 MPI 2017	UK ranking 2017 out of 30 European countries	UK MPI diff. 2013-2017	EU MPI diff. 2013-2017
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)

4.19 As shown in Table 4.1, the UK performs slightly above the EU-28 average,¹⁷³ a gap that has remained stable since 2011. Since 2013, almost all UK markets covered by the survey have improved their MPI score. This is reflected in an average improvement of 2.9 on the 100-point scale, though this is below the EU average improvement of 3.3. As shown in Figure 4.1, the one exception to this improvement was train services which saw a decline, especially since 2015. While trends over time are consistent, there is significant divergence in terms of relative performance amongst those 40 markets in the UK. Goods markets receive consistently better scores than services markets across all countries in the study and over time, and this is particularly the case for the UK.

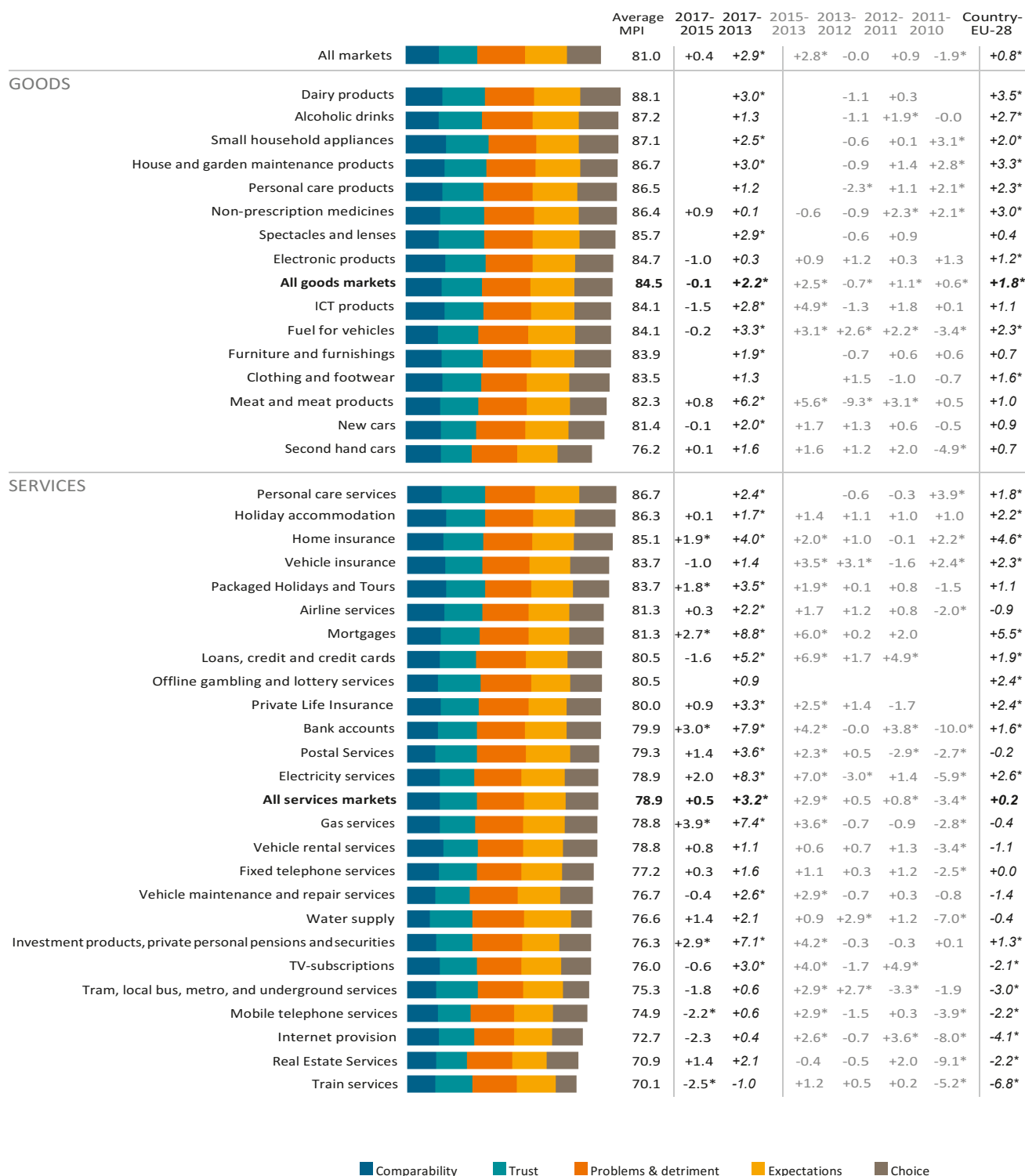
UK goods markets provide better consumer outcomes than services markets

4.20 In fact, almost all of the (positive) performance gap between the UK and Europe is driven by UK goods markets. Figure 4.1 shows the UK's MPI scores by market over time and compared to the EU-28 average.

¹⁷² European Commission (2018), [Monitoring Consumer Markets in the European Union 2017 Final Report – Part I – 2017](#), p168

¹⁷³ 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 4.1: UK MPI by UK Market



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

Source: Source: EC CMS (2018), p186

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

4.21 In 2017, UK goods ranked seventh out of 30 European states compared to 13th for UK services. UK consumers reported stronger performance in all UK goods markets than the EU average. Dairy, alcoholic drinks and small household appliances were the strongest performing UK markets.

- 4.22 Areas of stronger UK performance, especially for UK goods, include satisfaction and aspects of consumer trust and choice in markets. For example, the EC CMS shows UK goods performing more strongly on consumer trust and choice components¹⁷⁴ and the European Commission's Consumer Conditions Scorecard (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).¹⁷⁵
- 4.23 However, there is a different story told by the EC CMS in services markets, with around half the UK services markets studied performing worse than the EU average across consumer indicators such as satisfaction, trust and consumer detriment. The UK service sectors identified by consumers as performing poorest were:
- (a) transport;
 - (b) real estate services; and
 - (c) mobile telephone services and internet provision.¹⁷⁶
- 4.24 We note that other survey sources highlight similar sectors performing less well on satisfaction measures. For example, Figure 4.2 shows results from the Institute of Customer Service Customer Satisfaction Index (ICS CSI)¹⁷⁷ by sector for 2019-20.

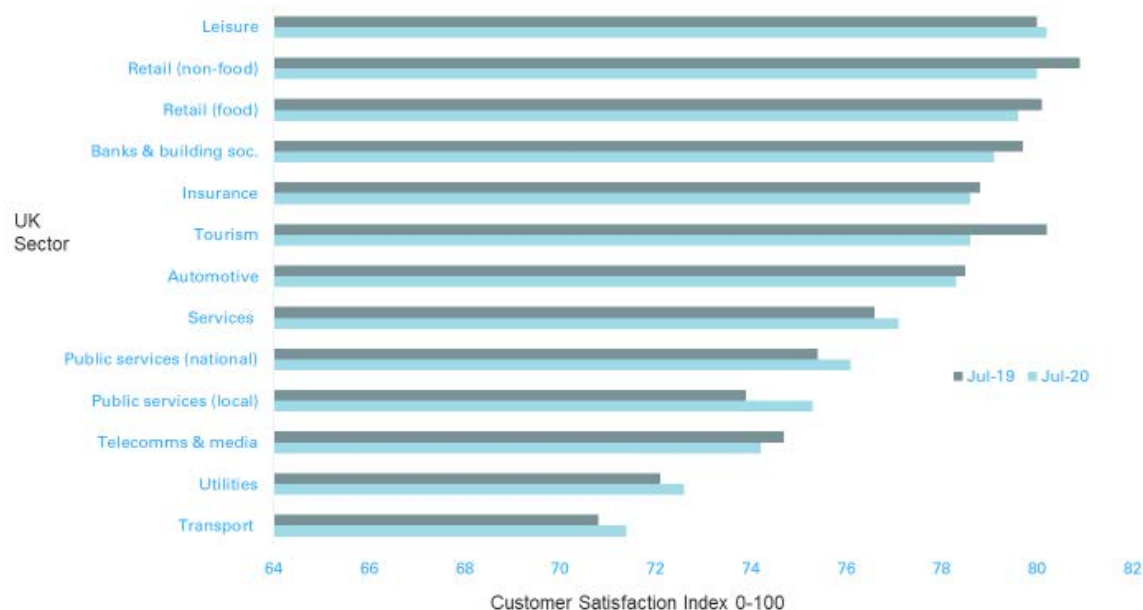
¹⁷⁴ European Commission (2018), [Consumer Markets Scoreboard](#), pp187-189

¹⁷⁵ European Commission (2019), [Consumer Conditions Scoreboard](#), pp29 and 63

¹⁷⁶ For comparison, the 4 lowest scoring sectors on average across the EU-28 are: 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).

¹⁷⁷ Institute of Customer Service (July 2020), [Customer Satisfaction Index](#)

Figure 4.2: ICS's UK CSI by sector 2019-20



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

4.25 This shows the three UK sectors with the lowest satisfaction scores are transport, utilities and telecommunications and media. We additionally note that these have consistently been among the poorest performing sectors covered in the survey over recent years (while reiterating that there might be reasons other than competition driving these scores).

Consumer problems

4.26 One area the UK appears to perform particularly poorly on is the 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 average of 8.5%.¹⁷⁸ This UK figure increased by 1.4 percentage points from 2013 to 2017, in contrast to a fall of 1.2 percentage points in the EU average. Consumers were more likely to have experienced problems worthy of complaint in services markets (14.2%) than in goods markets (10.7%).

4.27 This finding is supported by other survey evidence on consumers experiencing problems in markets. The EC CCS¹⁷⁹ and the Citizens Advice Consumer Detriment study conducted by Oxford Economics (2016)¹⁸⁰ both suggest that UK consumers experience a high incidence of consumer

¹⁷⁸ European Commission (2018), [Consumer Markets Scoreboard](#), CMA analysis using the [data dashboard](#)

¹⁷⁹ European Commission (2019), [Consumer Conditions Scoreboard](#), p113

¹⁸⁰ Citizens Advice (2016), [Consumer Detriment: counting the cost of consumer problems](#), pp17-18

problems worthy of complaint such as a poor-quality service/product, problems with prices charged or failure to provide an item.

- 4.28 Both these surveys estimate 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 study^{181,182} and the highest in the EU (EU average is 22%). The 2016 Consumer Detriment survey estimates this level of detriment equates to significant costs in time (1.2 billion hours in a year) and money (£22.9 billion) to UK consumers.
- 4.29 The survey evidence also points to relatively poor performance by firms in handling complaints once these problems have been reported. The Ombudsman Services Consumer Action Monitor survey¹⁸³ shows that in 2019 the average number of complaints¹⁸⁴ rose sharply in Great Britain 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) 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.¹⁸⁵ The ICS CSI reported complaint handling by companies as the lowest scoring dimension (58.8) of the customer satisfaction index in July 2020.¹⁸⁶

Experiences for less affluent consumers

- 4.30 There are significant differences in *who* experiences worse outcomes from markets. Across the EU and over time, consumers who are constrained financially generally assess markets less favourably than more financially secure consumers. There is a 4.7 point gap on the MPI scale 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.¹⁸⁷
- 4.31 In the UK this pattern is apparent in survey evidence looking at consumer engagement in services markets – that is, of those who shop around or switch providers. While engagement levels are not a concrete indicator of market performance in themselves and the optimal level of engagement will differ

¹⁸¹European Commission (2017), [Consumer Conditions Scoreboard](#), p62

¹⁸² European Commission (2019), [Consumer Conditions Scoreboard](#), p46

¹⁸³ Ombudsman Services (2019, 2018, 2017, 2016, 2015), [Consumer action monitor report](#)

¹⁸⁴ Any kind of complaint – so not just complaints to the Ombudsman.

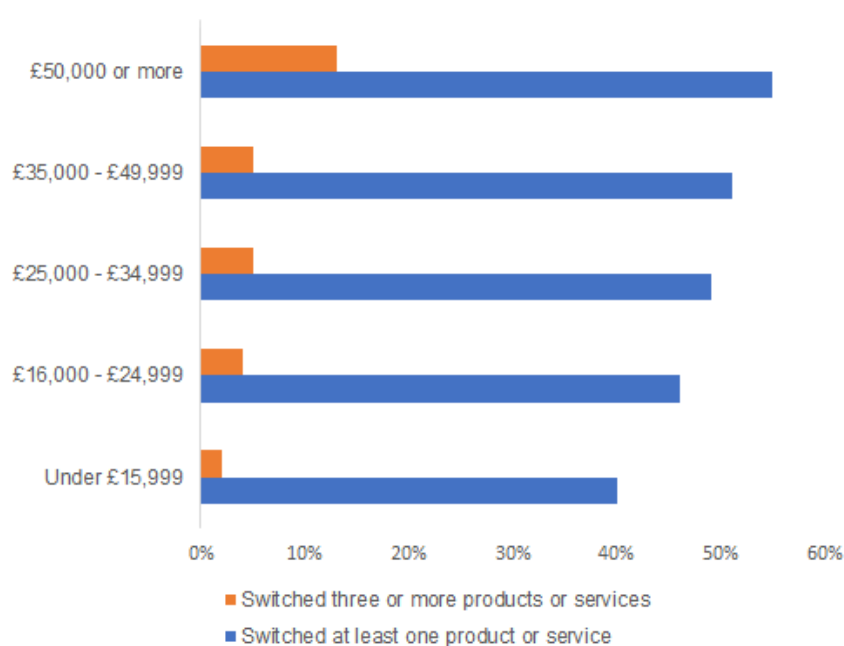
¹⁸⁵ Citizens Advice (2016), [Consumer Detriment: counting the cost of consumer problems](#), p48

¹⁸⁶ Institute of Consumer Service (2020), [UK Customer Satisfaction Index](#), p18

¹⁸⁷ European Commission (2018), [Consumer Markets Scoreboard](#), pp44-48

between markets (see discussion in Annex D), they can be important in driving outcomes.¹⁸⁸ The survey evidence shows that the UK has relatively high levels of switching compared to the EU average,^{189,190} and the process of switching is reported to be relatively easy. However, there are significant differences in who is likely to engage, whether through shopping around or switching provider. Figure 4.3 shows results from BEIS' Public Attitudes Tracker on the proportion of people who have switched provider since June 2018, split by household income.¹⁹¹

Figure 4.3: Proportion of people who have switched provider or contract for any products or services in the past 12 months (since June 2018), by household income



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

¹⁸⁸ 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 a good outcome. See [Loyalty Penalty Supercomplaint](#) for further detail on the CMA's findings.

¹⁸⁹ European Commission (2018), [Consumer Markets Scoreboard](#), p67

¹⁹⁰ This does not mean there is sufficient switching or shopping around in the UK – the CMA's work on the Loyalty Penalty, for example, indicates that a significant number of consumers in certain markets do not switch or shop around, and experience poorer outcomes as a result. The CMA estimates that the loyalty penalty from not switching could cost 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. 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](#)). The CMA and Regulators are working to improve issues related to the loyalty penalty and switching, eg see the FCA's [General insurance pricing practices market study](#) and [Ofgem's Consumer Engagement Trials](#).

¹⁹¹ BEIS (2019), [BEIS Public Attitudes Tracker: Wave 30](#), pp22–23

- 4.32 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) homeowners (18%, compared with 10% of private renters and 5% of social renters).

The reasons for this difference are not clear and are likely to vary by individual market.

Businesses' views of competition and innovation

- 4.33 On the business side, there is far less relevant evidence available on businesses' views of competition across markets. BEIS' Innovation Survey (2019) looks at innovation activity by business size, sector and location and suggests innovation levels in the UK have been falling in the past few years. For example, between 2016 and 2018, 38% of UK businesses were engaged in innovation¹⁹² – a decrease of 11 percentage points compared with 2014 to 2016 (49%) and the lowest level recorded since 2008 to 2010 (37%).
- 4.34 The survey also looks at why businesses do not innovate. However, the results are not conclusive, and traditional 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%. 'Existing market conditions' is a more commonly cited reason (24%) among these businesses, but 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. Interestingly, some of the sectors with lower levels of innovation activity (utilities, transport,

¹⁹² 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.
- (BEIS (2020) [UK Innovation Survey 2019](#))

communication and storage) are also those that have shown up as areas where consumers experience poor market outcomes.

- 4.35 Similarly, a BEIS longitudinal survey of UK small and medium sized enterprises (SMEs) consistently reports competition in the market as the greatest obstacle to business success, followed by regulation and taxation.¹⁹³ However, the survey does not go into any additional detail about the nature of this competition and whether businesses perceive this competition to be fair or otherwise. In general, we would expect competition to be an obstacle to a firm's success and would consider this an indication of competition. However, this finding would be concerning if the suggestion is that competition is unfair in some sense. This is an example of where further research among UK businesses would add value in assessing the state of competition in the UK.

Further work

- 4.36 While we have been able to identify certain trends in the data, our analysis has also highlighted limitations in much of the available survey evidence in terms of meeting the needs of this project:
- (a) many surveys focus on service sectors as opposed to goods sectors, especially given much of the most relevant in-depth research is specific to regulated service sectors like utilities;
 - (b) several of the key relevant consumer surveys (EC CMS, EC CCS, consumer detriment surveys) have undergone changes to their methodology which makes time series analysis problematic;
 - (c) other surveys suffer from methodological constraints (eg those using online panels which bias to online populations or have limited sector coverage) which mean the data should only be used indicatively; and
 - (d) the existing survey data for businesses is less comprehensive than for household consumers and there is relatively little information available on the experience of businesses to assess the state of competition economy-wide.
- 4.37 For these reasons, further work on improving gaps in this data and ensuring it is collected in future could be valuable. In particular, thought should be given

¹⁹³ BEIS (2019), [Longitudinal Small Business Survey](#), pp31-32

as to whether a new survey of businesses covering business perceptions and experiences of competition (in their own markets but also as purchasers themselves) and proxies for this (satisfaction, trust, confidence, etc.) in the main consumer markets for goods and services would be of benefit to future analyses of the state of competition.

5. Real time indicators: Assessing the impact of coronavirus (COVID-19) on competition¹⁹⁴

Summary

Findings

- Using two high-frequency data sources we can obtain a more ‘real time’ picture of competition developments across the economy, which helps us to consider the impact of the pandemic.
- However, these sources are more prone to measurement issues, less representative, and less direct proxies of competition than other indicators. There also remains a lag between when changes in the real economy occur and when they are visible in our data (especially for business closures).
- Notwithstanding these caveats, these high-frequency metrics are useful and will continue to provide early sight of the impact of the economic effects of the pandemic on competition.
- These metrics show that the wave of business closures we would expect following a recession is yet to hit, but there are signs that the sectors most affected by pandemic restrictions have seen a decline in the number of active businesses.
- There is also clear evidence that expansion plans have been adversely affected by the pandemic.
- For consumers, we find evidence that individuals have shopped around less than usual – which is particularly the case for older age groups and those with limiting illnesses.

Further work

- Analysis of the impact of the pandemic on competition could be revisited in due course to fully capture the effects.

Relevance

5.1 The metrics we use in this report are, as we have noted, proxies rather than direct measurements of competition.¹⁹⁵ 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

¹⁹⁴ 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.

¹⁹⁵ See paragraph 1.20 for an overview of the measures we use and each individual chapter for an overview of the rationale for individual measures and the key caveats in using those measures.

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.

- 5.2 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.
- 5.3 In doing so we have used different 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.
- 5.4 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 Survey, BICS) on various aspects of the impact of the pandemic.¹⁹⁶
- 5.5 However, there are limitations in trying to assess competition using these data sources:
 - (a) they are more prone to measurement issues¹⁹⁷ 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 more indirect as 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 subsectors in the same way (business demographics data is only available at a high level, and survey

¹⁹⁶ Our questions were included in two consecutive waves of both the OPN (wave W 26-30th August, wave X 9-13th September) and BICS (wave 12 10-23rd August, wave 13 24th August – 6th September).

¹⁹⁷ In relation to each metric we set out the relevant issues, Annex E particular.

coverage of businesses used here is not as representative as those used in Chapter 4 and Annex D¹⁹⁸); 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. Furthermore 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 5.9).

5.6 Consequently, we need to treat the analysis as exploratory at this stage. In particular, it is difficult to draw conclusions at this time 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 might appear to contradict each other.¹⁹⁹

5.7 Despite these limitations, we believe that these metrics are informative as they do give us a high-frequency assessment of competition across the economy, particularly when used to supplement the analysis presented elsewhere.

Summary of findings

Businesses

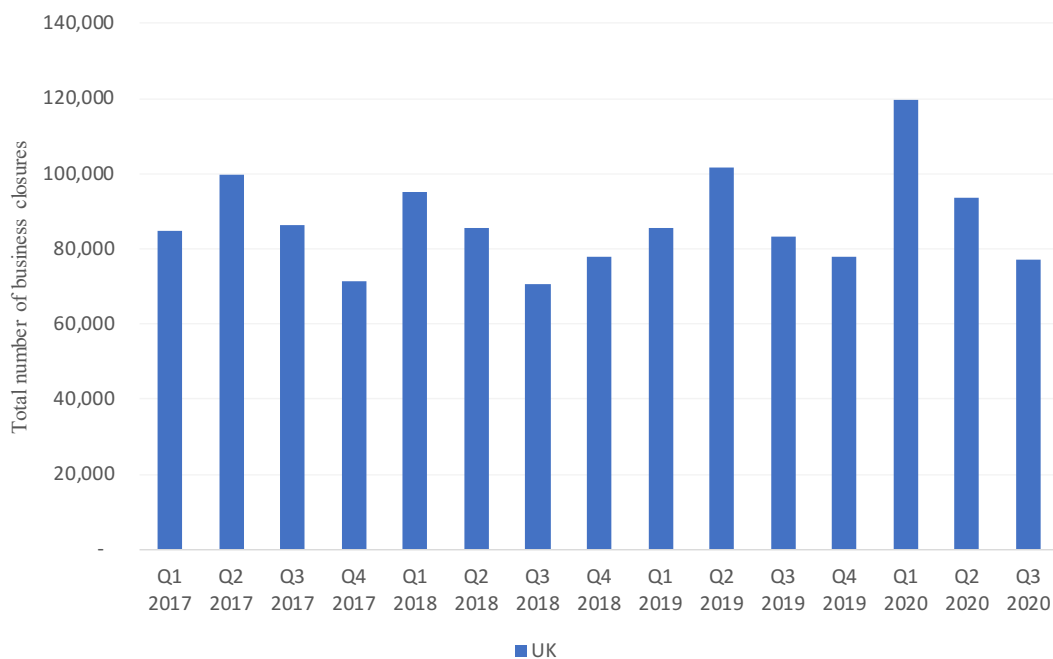
5.8 Previous crises (like the financial crash in 2008) have usually been followed by a rise in business closures and decline in business creations. However, the headline findings from business demographics data do not appear to show this occurring following the first wave of the pandemic. Figure 5.1 shows the total number of business closures across the UK between Q1 2017 and Q3 2020 and Figure 5.2 shows the year-on-year percentage change to smooth out seasonal impacts. They appear to indicate that the number of business

¹⁹⁸ 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.

¹⁹⁹ 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.

closures since the start of the pandemic is lower than in the equivalent quarters of the year before.²⁰⁰

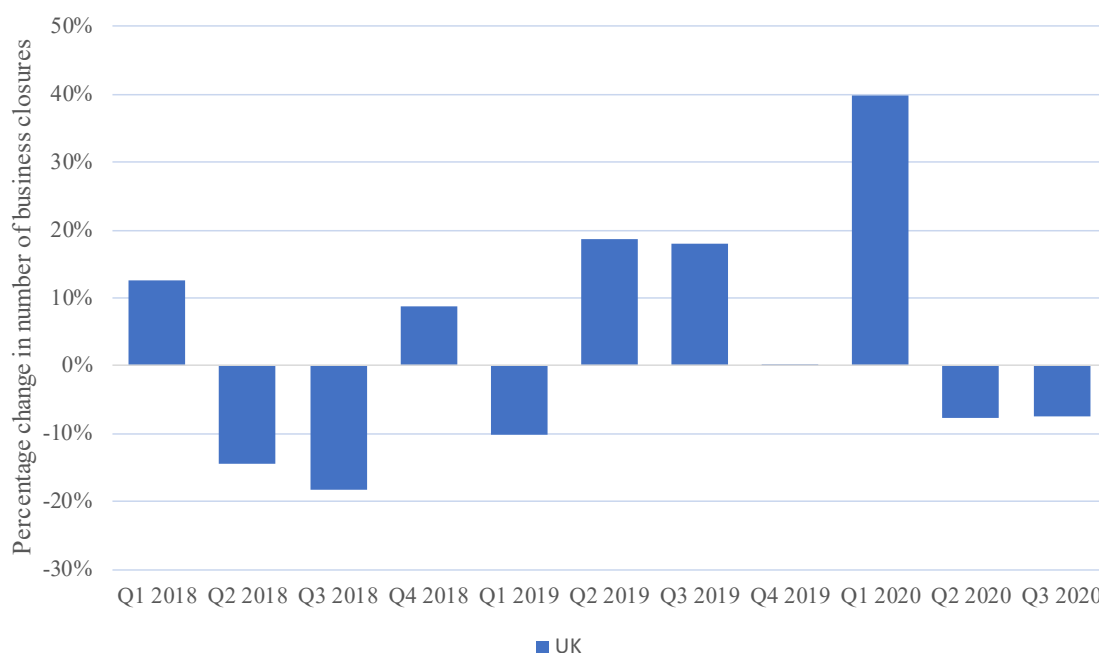
Figure 5.1: Total number of business closures by quarter across the UK between Q1 2017 to Q3 2020



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

²⁰⁰ See Annex E paragraph 61 onwards for equivalent data for business creations.

Figure 5.2: Year-on-year percentage change in total business closures



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

5.9 For business closures, this may be due to a timing issue with the data²⁰¹ and a spike in business closures may well show up in subsequent quarters. However, there are also reasons to believe that the impact of this crisis may be different to others we have experienced – in particular, the exceptional degree of government support may have suppressed the number of business closures, and the eventual impact may not be apparent for some time.

5.10 That this may not just be a function of timing issues with the data may be supported by findings in the BICS survey data.²⁰² This data showed that the majority of businesses said their number of competitors was the same, while 84%²⁰³ said that their choice of suppliers had stayed the same following the pandemic.

5.11 However, of the remaining respondents, more indicated that their competitors/suppliers had decreased in number than increased (for example, 8% reported their number of competitors had decreased compared to 3% who said it had increased).²⁰⁴ We note that while we asked about changes since the start of the pandemic, we would always expect businesses to enter and

²⁰¹ Due to delays between the effective closure of a business and that being reflected in the data, see Annex E for more discussion.

²⁰² Obtained over August and September 2020

²⁰³ In wave 12 of BICS; in wave 13 the equivalent figure was 85%.

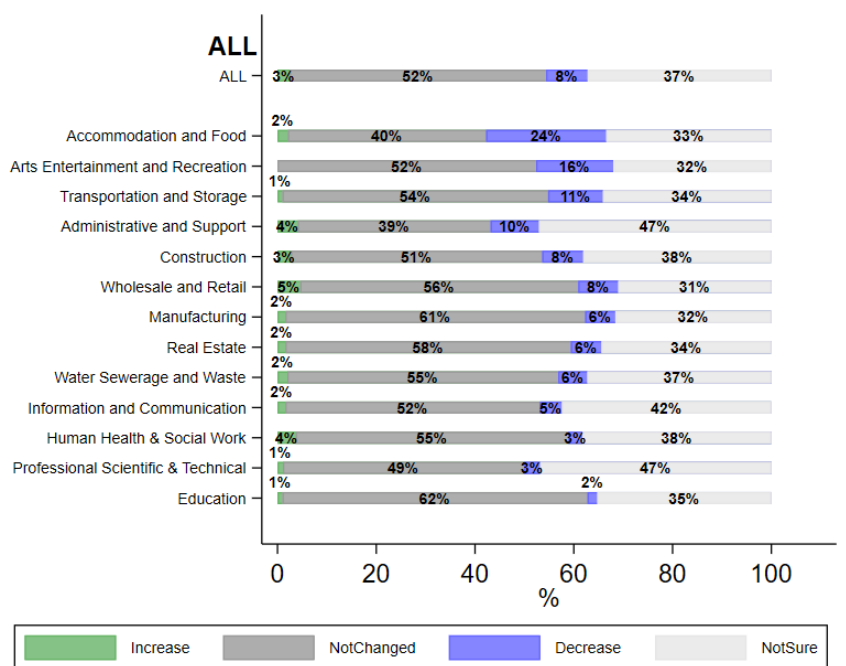
²⁰⁴ Taken from analysis of wave 12 of BICS; see Annex E for more detail.

exit over time (see Figure 5.1) 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.

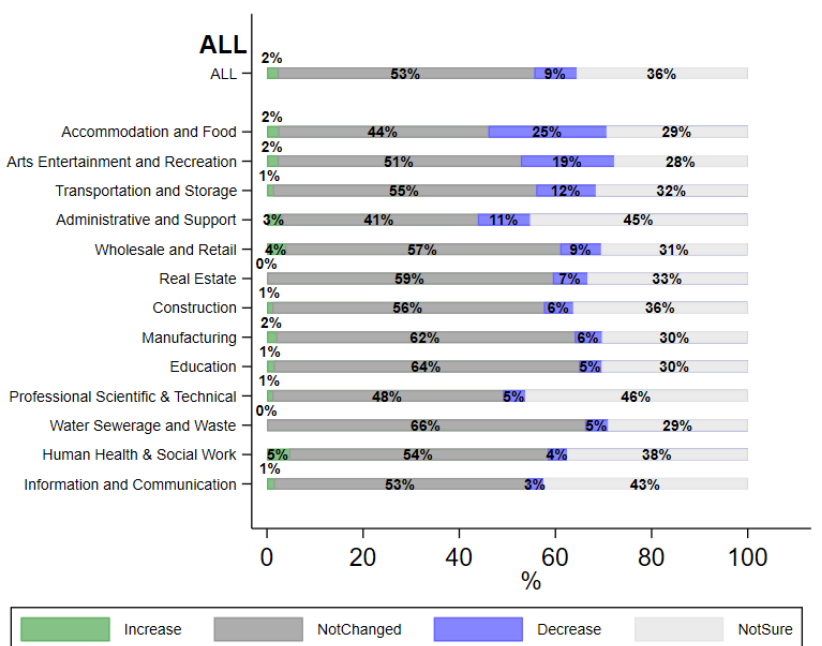
- 5.12 There are no clear regional patterns in administrative business closure data, nor from our survey respondents. However, there are clear signs from ONS survey data²⁰⁵ that those sectors more likely to report that the number of competitors had decreased were those most likely to be impacted by the 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). 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 – although see paragraph 5.14). Figure 5.3 shows the change in number of competitors reported by businesses since the start of the pandemic by sector for each wave of the survey where we asked questions (we need to consider the caveat explained in paragraph 5.9 in interpreting this data).

²⁰⁵ Due to the data lags in administrative business closure data discussed in paragraph 5.5c, we have not placed any weight on sub-group analysis of business closures here. Some of this analysis (see Annex E) contradicts the survey findings – for example closures have fallen in accommodation and food services, and arts and entertainment.

Figure 5.3: Change in number of competitors reported by businesses since the start of the pandemic by sector (results for wave 12 followed by wave 13)
Wave 12



Wave 13



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

5.13 For business creation, trends may be easier to observe given new businesses are reported in the data sooner than the business closure data. There are signs that those businesses being created following the first wave of the

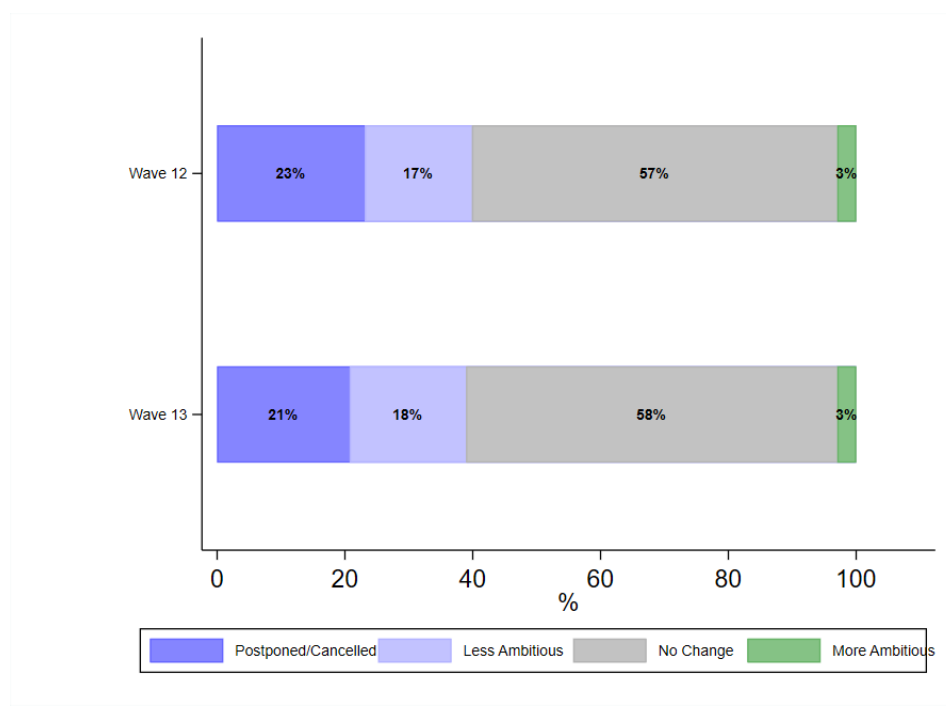
pandemic are smaller than the historical average and more likely to be in industries less affected by the current pandemic. There are no clear regional differences, but we observed drops in the number of businesses being created in sectors that have suffered from the current pandemic, for example, Construction; Accommodation and Food; and Arts, Entertainment and Recreation.

- 5.14 We also saw drops in the number of businesses created in Health and Social Work, suggesting a sector under pressure. However, Health and Social Work was also identified as a sector that had seen a low number of businesses reporting a decrease in the number of competitors, indicating better performance (see paragraph 5.12) and more businesses reporting an increase rather than a decrease in the number of suppliers (see Annex E, 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 these results with caution at this stage.²⁰⁶
- 5.15 We know from elsewhere in this report that business creation on its own does not tell the complete story from a competition perspective. We are also 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. BICS asked about plans for expansion and how that was impacted by the pandemic. Unlike the other indicators discussed in this chapter, here there was clear evidence of an impact – four in ten businesses report having had to postpone or scale back expansion plans following the pandemic²⁰⁷. Figure 5.4 shows the number of firms reporting changes to expansion plans following the pandemic as reported in each wave of the survey where we asked questions.

²⁰⁶ We have discounted sub-group analysis of business closures data here due to substantial reporting lags in the data, but Health and Social Work did see closures fall on this measure.

²⁰⁷ 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 5.4: Changes to expansion plans following the pandemic by wave



'Has the (COVID-19) pandemic affected your business's plans to expand the business?'

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.

5.16 It is potentially concerning from a competition perspective if businesses struggle to grow and challenge incumbents.²⁰⁸ The ability of firms to grow and take market share from incumbents is a key aspect of competition as set out, for example, in paragraph 2.54. This finding highlights the risk that the pandemic could have substantial impacts on competition in the medium-term.

Consumers

5.17 Our main consideration when looking at the impact of the pandemic on consumers, and what this might mean for competition, was how consumer behaviour might change as a result of the pandemic. We were particularly interested in any impact on shopping patterns, and how likely consumers were to compare the price and quality of products between different retailers. Such consumer behaviour is likely to shape the competitive pressure that retailers face, and hence drive market outcomes.

5.18 The results of the OPN survey indicated that since the start of the pandemic, consumers had shopped around less than normal, with over 40% of

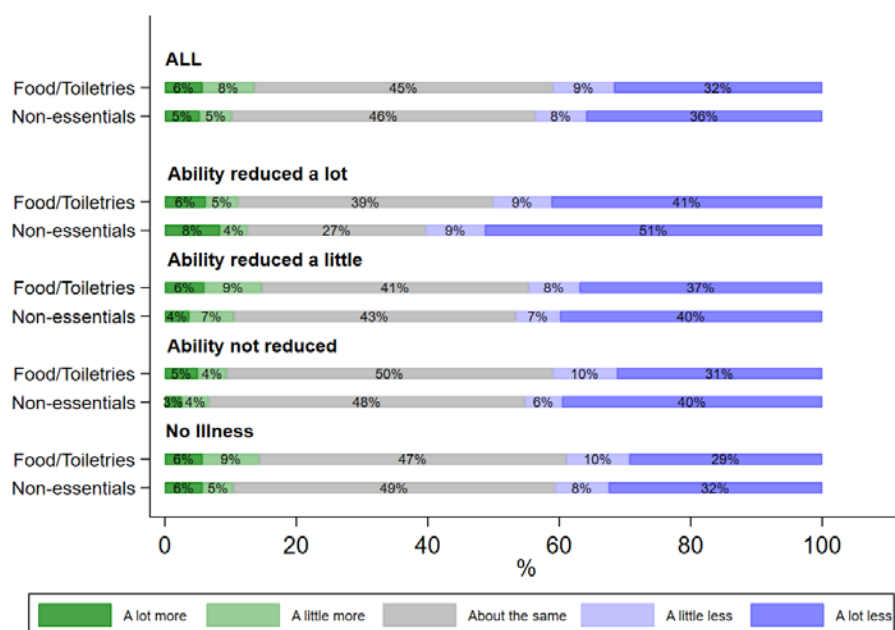
²⁰⁸ However, exactly which cohort of challenger firms drives competition is highly specific to an individual market – something beyond the scope of this work.

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 (eg clothes and toys).

5.19 Should this trend continue as the impacts of the pandemic unwind, it could lead to less competitive pressure on retailers. However, when we looked at the reasons for shopping around less, many directly related to the pandemic (eg safety concerns). This could suggest that these negative impacts on competition are temporary as we would not expect these reasons to exist once the pandemic subsides.

5.20 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. Figure 5.5 shows the percentage of people limited by health problems or disability shopping around more or less than before the pandemic.

Figure 5.5: Percentage shopping around more or less than before – by activity limiting health problems or disability



Source: CMA analysis of OPN survey Fieldwork 26-30th August, 9-13th September
 Base: All respondents. Base size: N = 3,176 (Food/Toiletries), N =3,066 (non-essential items)

- 5.21 Those whose ability to carry out day to day activities is limited a lot by a health condition²⁰⁹ were more likely to have shopped around less compared to before the pandemic than other groups – particularly those with no illness.²¹⁰ 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%. There is a similar story by age, with older groups far less likely to shop around.
- 5.22 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. That these individuals are likely to struggle to shop around or switch service is provider is also something we also found in our Loyalty Penalty work.²¹¹
- 5.23 CMA research on consumer vulnerability has also shown that some people in these groups face particular challenges engaging with markets remotely.²¹² Recent work by the Money and Mental Health Policy Institute has shown that a quarter of adults with recent mental health problems (26%) say they have struggled to stay in control of online spending during lockdown — amounting to 3 million people across the UK.²¹³ This demonstrates how the pandemic may be accelerating and exacerbating existing digital harms to certain groups of consumers.

Further work

- 5.24 Given the impact of the pandemic is not yet fully apparent in the data, it could be valuable to revisit this analysis in the future.
- 5.25 Further, while the pandemic provided the rationale for looking for higher-frequency metrics to assess the state of competition, those we have identified would also prove useful in providing a more ‘real time’ picture of competition

²⁰⁹ Questions were ‘Do you have any physical or mental health conditions or illnesses?’. If they answered yes they were asked: ‘Do any of your illnesses or conditions reduce your ability to carry out day-to-day activities?’ with the options (‘Yes, a lot’, ‘Yes, a little’, ‘Not at all’).

²¹⁰ The statistics are based on a sample, and so there is uncertainty around the estimate. We have calculated 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 in the estimate. See Annex E for detail on confidence intervals.

²¹¹ CMA (2020), [Loyalty Penalty super complaint](#)

²¹² CMA (2019), [Consumer vulnerability: challenges and potential solutions](#)

²¹³ Money and Mental Health Policy Institute (2020) [Convenience at what cost: Online shopping and mental health](#)

across the economy in future. Although the impacts of the pandemic may take some time to be picked up in the data, we think that these are the most responsive metrics that can be used to assess its impact on competition.