



The Department for Business, Energy and Industrial Strategy
Audit Consultation Team
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London
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Submitted via email to: audit.consultation@beis.gov.uk

7 July 2021

Dear Sir or Madam

Restoring trust in audit and corporate governance

Thank you for providing the opportunity to comment on the above discussion document¹.

1. Background

We have previously written to you, on 22 June 2021, as directors of the Corporate Accountability Network² and as Professor of Accounting and Society (Adam Leaver) and

¹ Published 18 March 2021 with the above title

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Professor of Accounting (Richard Murphy) at Sheffield University Management School, where Adam Leaver directs CRAFiC, the Centre for Research into Accounting and Finance in Context³. We trust you received our letter.

We now wish to make a second submission to your consultation as a result of having now published new research into the dividend distributions of UK FTSE quoted companies. The research was published on 29 June 2021. It was undertaken by us in collaboration with Prof Coli. Haslam and Dr Nick Tsitsianis of Queen Mary, University of London. We attach a copy of the report as an appendix to this letter⁴.

In our opinion the research adds important insight into issues relating to capital maintenance within UK quoted companies and does, as a result, justifies an additional submission to your review.

2. New insights into capital maintenance and dividend distributions in the UK

Our work examined the investment and productivity performance of large UK listed firms who make outsized distributions to their shareholders. The research builds on earlier work (Baker et al 2020⁵) which found a significant minority of large US-based corporations made shareholder distributions in excess of their declared income earned over a ten-year period.

We examined accounting information from 182 companies who were members of the FTSE 350 index in every year between 2009 to 2019. Those companies were ranked according to the ratio of paid out dividends and share buybacks to their declared net income attributable to shareholders over that period. These companies were then grouped into quintiles and the investment and productivity performance of those quintiles were then analysed.

The results show that the quintile with the highest distributions to net income ratio paid out on average 178 per cent of their net earnings over the decade reviewed. The next quintile distributed 88 per cent of their earnings, on average. Together these two quintiles represented 60 percent of the market value of the sample of 182 companies. In contrast, the lowest quintile distributed just 37 per cent of their earnings, on average, and represented 7 per cent of the sample by market value (Table 1).

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³ <https://www.sheffield.ac.uk/crafic>

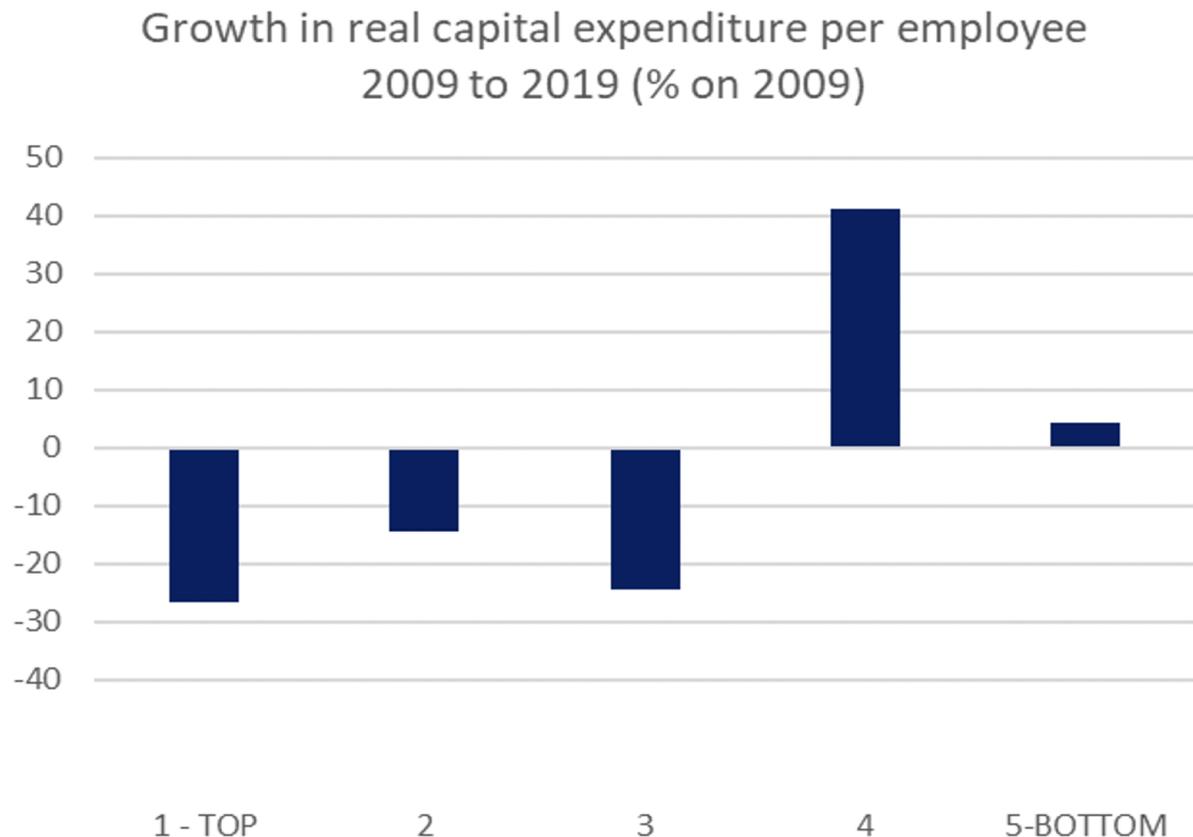
⁴ The original is published here <https://productivityinsightsnetwork.co.uk/app/uploads/2021/06/PIN-Report-29-6-21-FINAL.pdf>

⁵ https://www.sheffield.ac.uk/polopoly_fs/1.892482!/file/Against-Hollow-Firms.pdf

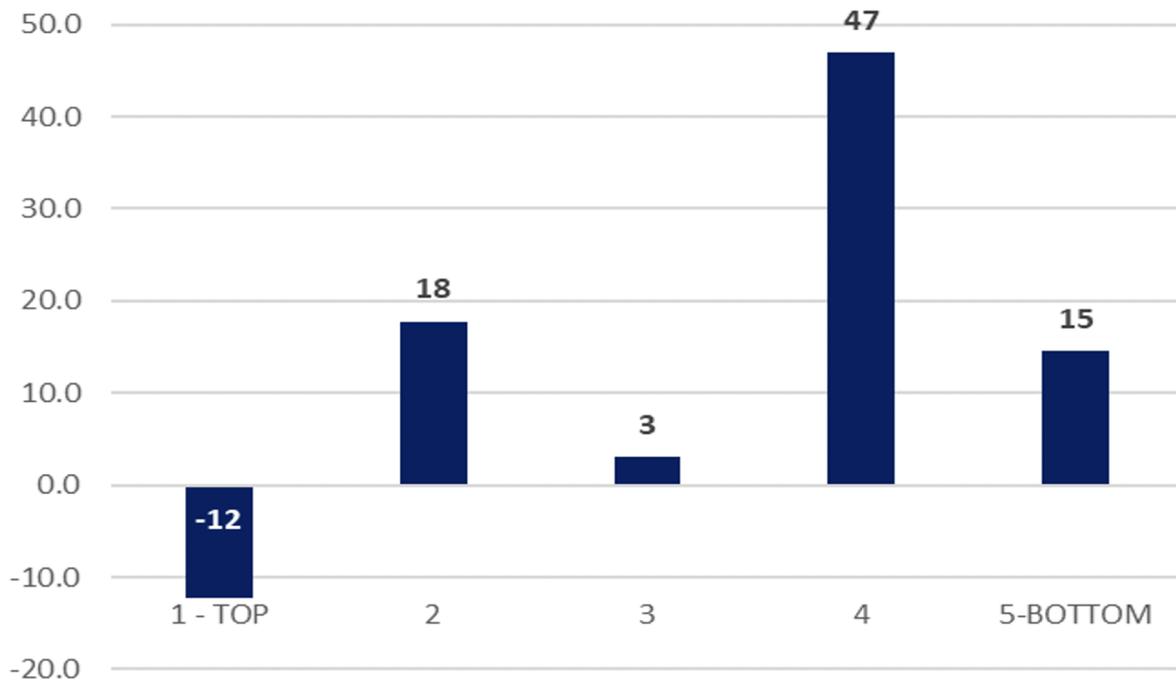
	Share Buy-Backs and Dividends in Net Income	Market Value share	Revenue Share	EBITDA share
	2009 to 2019	2009 to 2019	2009 to 2019	2009 to 2019
	%	%	%	%
1-TOP	178	28	24	22
2	88	32	32	31
3	78	17	26	23
4	57	16	13	19
5 BOTTOM	37	7	5	5
Totals		100	100	100

Source: Thomson Refintiv database

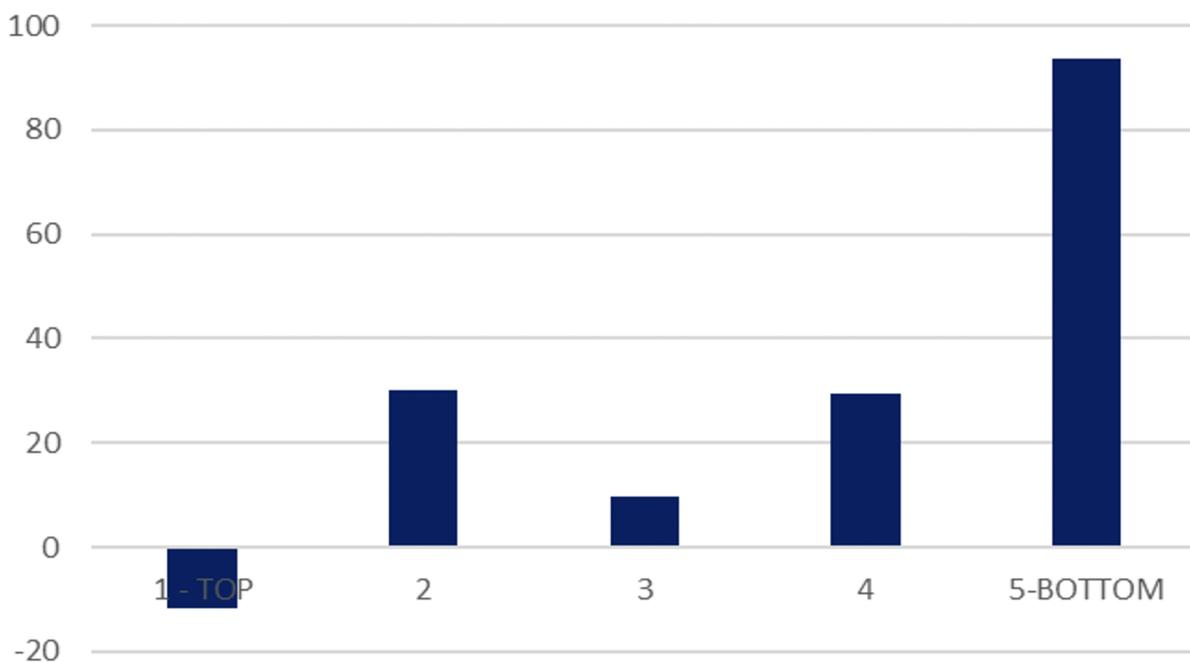
Analysing the data in further detail, the research sought to establish how those high distributors performed in terms of investment measured by capital expenditure per employee and productivity measured by sales and value added per employee. The research found that the highest distributors performed worst on real capex per employee growth and worst on sales and value added per employee growth.



Growth in real sales revenue per employee
2009 to 2019 (% on 2009)

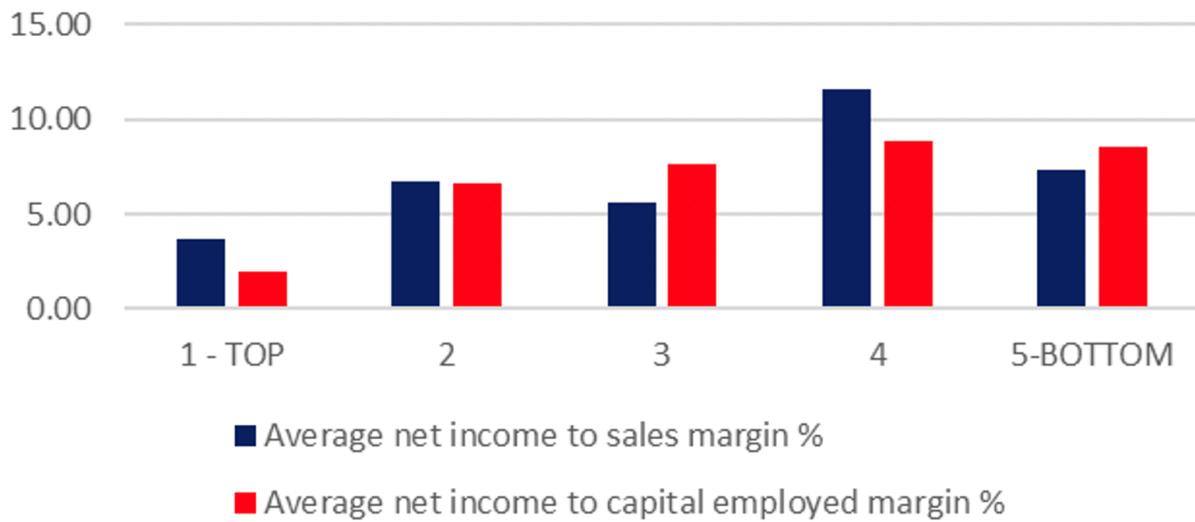


Growth in real value added per employee 2009 to
2019 (% on 2009)



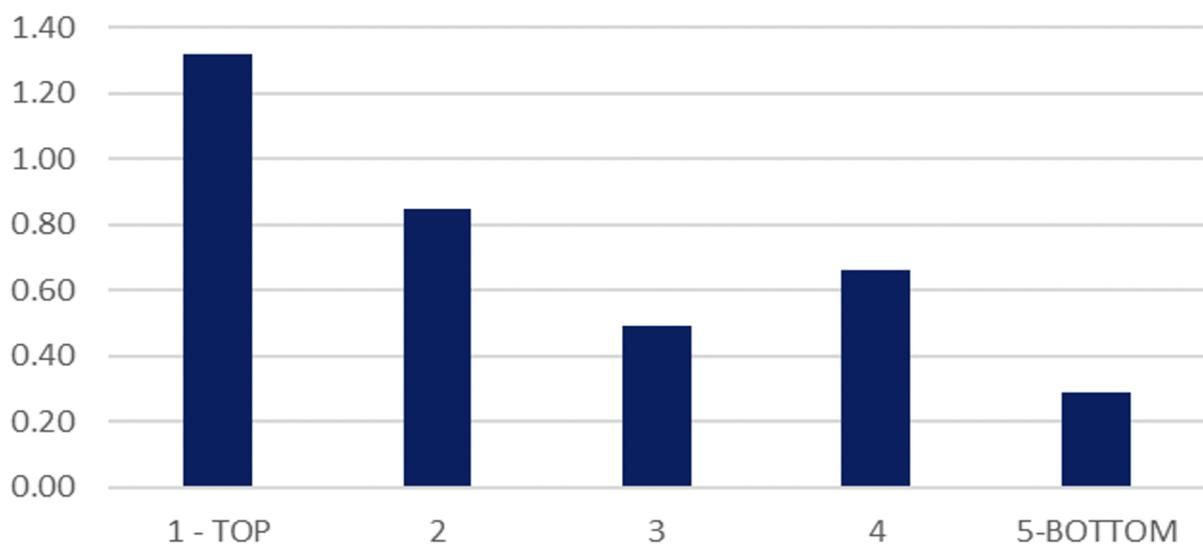
Broadly similar trends were found over a number of other indicators. For example, average margins and average return on capital employed ratios were also lower for the highest distributing firms over the decade

Average net income in sales and net income to capital employed margin % (2009 to 2019)



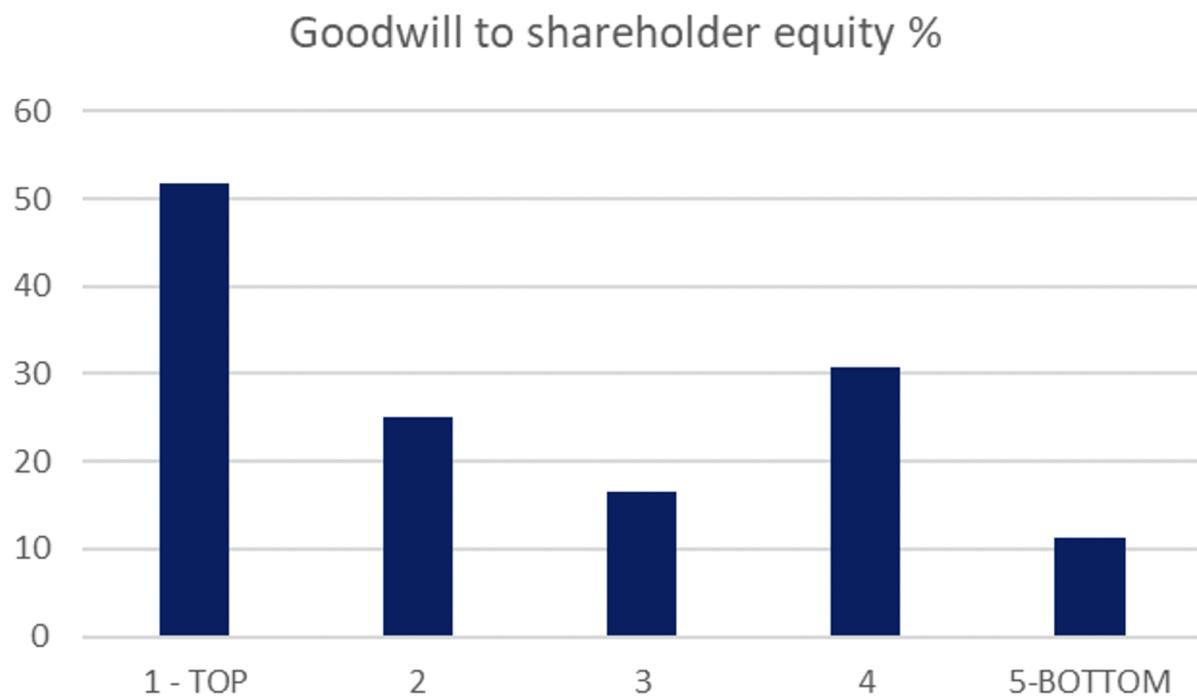
At the same time the researchers note that those companies that distribute most or all of their earnings might also carry greater balance sheet risk. Gearing is a measure of the long-term debt of the company as a ratio to the shareholders' funds invested in the entity. The more debt there is, the higher the risk in the company. In 2019 these ratios for the 182 companies surveyed were as follows, ranked by the same quintile groups:

Long-term debt to equity ratio 2019



It is generally accepted that the higher a company's gearing ratio the riskier its balance sheet is. This risk from borrowing is exacerbated if the funds that are borrowed support assets which are more speculative in nature. Goodwill is arguably the most significant speculative

asset on many balance sheets because it is arguably more prone to impairments. Goodwill arises when one company takes over another and pays more for that company than the book value of their identifiable assets. The excess sum paid – or goodwill – represents the value of the exceptional cashflows that the acquiring group expects to make as a result of buying the enterprise. Impairment happens when it is decided that the valuation of goodwill can no longer be justified because the acquired company isn't making the anticipated profits. The research undertaken shows that the highest distributing companies also have the highest amount of goodwill relative to shareholder equity, leaving them more exposed to impairment risks:



The consequence is that the companies with the highest dividend distributions are also those with the greatest risk of goodwill impairments. In 2019 the potential impact of goodwill impairments on net earnings and equity reserves in FTSE182 were as followed, using the same quintile rankings as in all other analysis:

	Net income £bn 2019	No. of companies where 20% goodwill write down reduces net income by over 50%	No of companies with complete shareholder equity loss with 100% goodwill write down
1-Top	10.5	20	14
2	32.2	12	7
3	28.4	9	3
4	24.2	16	2
5-Bottom	10.2	8	2
Total		65	28
Proportion of FTSE 182		35.7%	15.4%
Proportion of companies in the Top quintile impacted		54.9%	38.5%

Source: Thomson EIKON datasets

35.7% of all companies in the sample face serious impairment risk and 15.4% of companies, would face the entire loss of their shareholder equity if their goodwill was to be written off as a result of impairment provisions. Both ratios are, as noted, much higher amongst the top group of distributing companies, suggesting that there is much greater risk in this group than the others surveyed.

The report then explores the variable performance of the top 20% of highest distributing firms more granularly, noting sectoral variations. It identifies particular weaknesses in large outsourcing firms, who distribute aggressively, have low levels of productivity growth, invest little, generate thin margins yet carry a lot of debt and goodwill.

3. Implications of the research

A number of implications follow from the report.

First, there is a sizeable minority of large UK firms who distribute more to shareholders than they generate in net income. This suggests an increasingly financialised corporate world where financial engineering and creative accounting play an enlarged role.

Second, there is a growing dislocation between the 'firm identity' of a company i.e. its social and technological activities and relations, and its 'corporate identity' i.e. its reporting and legal personality, with the latter being prioritised by some Boards to pay rewards in excess of those that the underlying entity appears capable of supporting.

Third, if shareholder returns can be met from financial engineering and creative accounting practices, as this implies, this may divert corporate efforts towards representational rather than operational concerns, crowding out investment-led productivity-enhancing strategies.

Fourth a closer examination of the outsourcing sector may be necessary to explore the extent of these practices and its relation to the UK's productivity malaise, particularly when public procurement is estimated to account for 12-13% of UK GDP.

And fifth, those seeking long term value in stock markets may need to be aware of these structural and behavioural differences which the research shows can exist between firms and sectors.

4. The relevance of these findings to your review

We draw attention to the comments we made in section 7 of our letter of 22 June 2021.

We also note the questions numbered 15 to 18 in your review document.

We suggest that our new evidence reveals that there is a major issue with regard to over-distribution of reserves as reported on group consolidated balance sheets and that this issue may well be contributing to a significant increase in risk in many, if not all, the companies engaged in that practice as well as to an increased risk of audit failure due to the current failure of financial reporting to provide sufficient information to readily identify the risks in question. As such we reiterate the suggestions we made in section 7 of our previous letter where we suggested that:

In our opinion the following issues need to be taken into account to develop a capital maintenance regime that is fit for purpose, if we are to build fairer, more productive, more resilient and socially responsible enterprises:

- We support the idea that companies should be obliged to report their 'distributable reserves' and to account for how they were calculated; this should separate income arising from trading and those arising through other sources.*
- We support the recommended improvements to going concern assessments, which examine the effects of distributions on capital maintenance, both within the accounting year and beyond.*

- We support the idea that the definition of what counts as 'realisable profits' and thus what forms the distributable reserves of an entity should be handed to ARGA.
- We support the idea that distributable reserves should be reported at group level.

In addition, we would recommend:

- That distributable reserves are determined at group level rather than parent company level, to avoid the gaming whereby parents take the dividends paid up by their profitable subsidiaries and avoid impairments on their loss-making subsidiaries, so that the retained earnings of the parent exceed the retained earnings of the group by some measure.*
 - That the effects of climate change are considered in the context of the capital maintenance regime. These need to be properly costed and legally enforced to prevent companies from paying out dividends now, and not having the reserves to finance carbon reduction targets.*
- *A return to goodwill amortisation, to gradually decrease the holding value of intangibles and thus avoid procyclical 'impairment shocks' – large, unexpected writedowns which coincide with declining profits from trading which put capital at risk.*
 - *Reviewing the tax deductibility of interest payments - it is an incentive for firms to build capital structures that put capital maintenance at risk.*
 - *Group entities should also be required to place the accounts of all their subsidiary entities on public record, free to access, wherever they might be incorporated or trade, together with a group organisation chart, so that the structures used to distribute reserves upwards from subsidiaries to the group parent company, and its durability, can be appraised, and the scale of undistributed losses within the group can also be ascertained as a measure of risk as to future availability of payment of shareholder returns.*

5. Concluding comments

We shall be pleased to meet with you to discuss the issues that we address in this letter.

We provide our consent for this submission to be published by you.

Yours faithfully

Prof Adam Leaver

Prof Richard Murphy

PIN - Productivity Projects Fund

Pioneer Project Report

Assessing the impact of shareholder primacy and value extraction: Performance and financial resilience in the FTSE350

Report prepared by:

Colin Haslam
Adam Leaver
Richard Murphy
Nick Tsitsianis

www.productivityinsightsnetwork.co.uk

About PIN

The Productivity Insights Network was established in January 2018 and is funded by the Economic and Social Research Council. As a multi-disciplinary network of social science researchers engaged with public, private, and third sector partners, our aim is to change the tone of the productivity debate in theory and practice. It is led by the University of Sheffield, with co-investigators at Cambridge Econometrics, Cardiff University, Durham University, University of Sunderland, SQW, University of Cambridge, University of Essex, University of Glasgow, University of Leeds and University of Stirling. The support of the funder is acknowledged. The views expressed in this report are those of the authors and do not necessarily represent those of the funders.

Executive Summary

This paper explores the relation between shareholder distributions, corporate investment, productivity growth and other performance metrics in large listed UK firms.

Using a sample based on accounting information from 182 constituent members of the FTSE 350 from 2009 to 2019 the paper provides new insights into the impact of distribution policy on productivity, investment, operating performance and corporate resilience.

Building on previous research (Baker et al 2020, Leaver and Murphy 2021), we explore whether a proportion of large UK firms follow their US counterparts in paying dividends and share buy-backs in excess of their declared income attributable to shareholders earned over a sustained period. In addition, we examine the productivity, investment, operating performance and impairment resilience profile of high distributing firms.

Our key findings are:

- The top 20% of highest distributing firms **paid out 178 per cent of their net income attributable to shareholders between 2009-19**. The next quintile distributed 88 per cent of their earnings, on average. These two quintiles represented between them 60 percent of the market value of the sample of 182 companies.
- In contrast, the lowest quintile distributed just 37 per cent of their earnings, on average, and represented 7 per cent of the sample by market value over the same period.
- The top 20% of highest distributing firms registered the **lowest productivity increases**, measured by sales growth per employee and value added per employee between 2009-19.
- The top 20% of highest distributing firms also had the **lowest growth in capex per employee** between 2009-19
- The top 20% of highest distributing firms had the **lowest net income margin and net income ROCE** performance between 2009-19.
- The top 20% of highest distributing firms had the **highest gearing ratio**
- The top 20% of highest distributing firms had the **highest goodwill to shareholder equity ratio**, indicating their exposure to impairment 'shocks'

We then explore the variable performance of the top 20% of highest distributing firms more granularly, noting sectoral variations. We identify the particular vulnerability of large outsourcing firms, who distribute aggressively, have low levels of productivity growth and low levels of investment, generate thin margins yet carry a lot of debt and goodwill.

A number of implications follow:

- The presence of a sizeable minority of large UK firms who distribute more to shareholders than they generate in net income attributable to shareholders is reflective of a more financialized corporate world. It suggests an enlarged role for financial engineering and creative accounting.
- This may imply a growing disconnect between the 'firm identity' of a company i.e. its social and technological activities and relations, and its 'corporate identity' i.e. its reporting and legal personality.
- If shareholder returns can be met from financial engineering and creative accounting practices, this may divert corporate efforts towards representational rather than operational concerns, crowding out investment-led productivity-enhancing strategies. More accounting-led case study research is needed to explore this phenomenon.
- A closer examination of the outsourcing sector, where individual examples of such practice have been found (e.g. at Carillion) would be one way of understanding the extent of these practices and its relation to the UK's productivity malaise, particularly when public procurement is estimated to account for 12-13% of UK GDP.

- Those seeking long term value in stock markets may need to be aware of the behavioural differences which the research shows can exist within as well as between sectors.

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1. Objectives

The objective of this report is to explore the relation between shareholder distributions, corporate investment, productivity growth and other performance metrics in large listed UK firms. This study follows on from our previous work on 'hollow firms' (Baker et al 2020) which explored how a minority of S&P500 companies had, since the financial crisis, paid out more in dividends and share buybacks than they had generated in net income available to shareholders (net income hereafter); and that - in aggregate in years like 2019 - US firms were distributing more than they were generating in net operating cash. This study applies a similar, but more extended analysis to the UK large cap sector, focussing on FTSE350 firms. We examine whether large UK firms exhibit the same propensity to distribute more than their net income and look more closely at the investment and productivity performance of the UK's highest distributing firms.

This study therefore aims to do three things:

- To establish whether large UK firms exhibit the same distributional profile as those of large US firms – namely that a not-insignificant minority pay out dividends in excess of their net income over an extended period of time, in this case from 2009-2019.
- To examine the investment and productivity profile of the top 20% highest distributing firms and compare them to the 80% who distribute less.
- To illustrate the diversity of productivity performance in three companies in each of five UK sectors (banking, retail, construction, extraction and business support services) and develop a scoring mechanism which might allow us to rank firms according to low-financial engineering/high-investment/high-productivity features.

2. Introduction

Since the 1990s, scholars have observed the increasing financialisation of the global economy (van der Zwan 2014). That literature has documented a series of changes at different sites and scales, including the expanded role for financial sources of accumulation (Arrighi 1994; Fine 2013; Krippner 2005), the accompanying rise of rentier incomes (Demir 2007; Harrington 2017); the reduction of labour costs to increase shareholder value distributions (Fligstein and Shin, 2004; Lazonick 2010; Lazonick & O'Sullivan 2000; Lin and Tomaskovic-Devey, 2013) and a preference for shareholder distributions and merger and acquisition activity over productive investment (Crotty 2005; Orhangazi, 2008; Stockhammer 2004, 2006).

Definitions of financialisation therefore tend to vary, from the narrow and specific (e.g. Krippner 2005) to more general descriptors which acknowledge multiple features, effects and scales (e.g. Aalbers, 2017; Epstein 2005). This has drawn criticism (with some merit) that the term is beset by problems of conceptual fuzziness (Christophers 2015). Never-the-less financialisation remains an important concept to anchor studies that illuminate the growing incursion of financial market logics and shareholder imperatives in our economy, organisations and 'everyday lives' (Langley 2008; Martin 2002).

The most widely used definition is that of Epstein (2005) who defined financialisation as 'the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies'. At the level of the firm, it has

primarily been used to describe the influence of agency theory as a managerial ideology and the ascendance of the shareholder primacy model as a mode of corporate governance (see Lazonick & O'Sullivan 2000 for the definitive position). Principally it has been associated with the rise of short-termism in a context where shareholder distributions compete with investment in a zero-sum way, with negative outcomes for productivity and accumulation over the longer term.

This link between the shareholder value revolution and short-termism has appeared in a series of recent policy reports. The European Commission sponsored report on *directors' duties and sustainable corporate governance*⁶ for example argued that without EU intervention the social norm of shareholder primacy would remain unchallenged. This, it argued, could lead directors to focus on short-term profit maximisation rather than on making businesses more sustainable through investment-led productivity improvements (EC, 2020:61). That report examined short-termism by looking at the amount of net corporate funds used to pay-out shareholder distributions in the form of dividends or shares buybacks compared with the amount used for the creation of value over the life cycle of the firm through capital investment (CAPEX). Their key finding was that the share of companies allocating more than 75% of their net income to pay-outs had increased from 24% of listed companies in 1992 to 36% by the end of 2010 (see EC, 2020 Figure 4: 14). At the bottom end of the distribution, the share of companies that distributed less than 25% of their net income in the sample of companies had also decreased. The EC report also argued that distributions were crowding out investment: the ratio of CAPEX to total revenues declined from between 8% and 9% in the second half of the 1990's to roughly 6% by 2018.

This EU report, like other discussions about the effects of shareholder value and financialisation, draws on an image of a zero-sum trade-off between earnings distributed to shareholder-investors and capital expenditure as a driver of short-termism. There are, however, reasons to believe that relations are more complex than this framing of the problem suggests:

1. The limit of a firm's distributable capacity is not profit generated but its parent company's distributable reserves. As we will show in the next section, there are many ways firms can pay dividends in excess of profit without affecting the claims of other stakeholders.
2. Firms may borrow to mitigate these supposed zero-sum distributional constraints. They may invest with borrowed money, or even pay dividends with borrowed funds, provided the level of distributable reserves permit it.
3. The focus on pay-out ratios in isolation may present too narrow a picture if companies exhibit variable performance in other metrics, such as the profit margin on sales, return on capital employed, and balance sheet resilience to asset impairments.
 - a. Firms may have varying requirements for larger or smaller amounts of fixed assets. There may, therefore, be quite different requirements for capital expenditure across industry sectors, which are entirely unrelated to their levels of shareholder distribution.
 - b. With regard to high distributing companies, operating characteristics may vary within the specific industry sector. It is therefore important to explore differences between high to low distributing companies where averages can conceal

⁶ <https://op.europa.eu/en/publication-detail/-/publication/e47928a2-d20b-11ea-adf7-01aa75ed71a1/language-en>

considerable firm-level variability in income distribution impacts on CAPEX, productivity, financial performance and resilience.

4. The 'zero-sum' model ignores the intertemporal tensions that may arise through excessive distributions – that is, that excessive shareholder distributions today may undermine the capacity for balance sheets to accommodate shocks in the future. As Baker et al (2020), argue – companies that embark on extensive merger and acquisition activity in search of shareholder returns create an 'impairment shock' risk – i.e. they become exposed to the risk that an exceptionally large write-down of their company's goodwill will lead to a step like reduction in its reserves, leading to financial disruption and potentially, negative net asset worth and 'going concern' problems.

This report will consequently try to address some of these limitations by first analysing differences in shareholder pay-out ratios and providing a broader set of measures to gauge the correlation of high distributions with other financial features. We will then examine individual cases to provide a more rounded and contingent picture of the relationships between the variables.

3. Methods & Data

In this report we take up these challenges by extending the range of variables used to understand the basic relations between distributions, investment, productivity and impairment risk. We built our own database from information provided by the Eikon database on the FTSE350 group of constituent companies between the years of 2009 to 2019.

From the FTSE 350 we obtained a subset of 182 companies who were a) consistently listed in the FTSE350 over the period 2009 to 2019 and b) had complete data for the following 32 data items:

- Bus Sec Name
- Ind Grp Code
- Ind Grp Name
- Industry Code
- Industry Name
- Activity Code
- Activity Name
- Market Value
- Market Price - Year End
- Shares Outstanding
- Total Intangible Assets-Net
- Goodwill - Gross
- Total Assets
- Long Term Debt
- Total Debt
- Total Shareholders Equity
- Common Shareholders' Equity
- Common Stock
- Capital Surplus
- Retained Earnings
- Revenues
- Depreciation And Amortisation
- Earnings Before Interest Tax And Depreciation
- Earnings Before Interest And Tax
- Earnings Before Tax
- Net Inc Avail To Common Shareholders
- Net Income
- Capital Expenditures
- Dividends - Total
- Share Buy Backs
- Employees Number
- Salaries & Benefits Expenses

We refer to this group of companies as the 'FTSE182'. This group of 182 firms formed our benchmark group from which we obtained the weighted average for our key productivity and financial resilience metrics, which form our benchmarks.

This group of 182 companies were then ranked using the ratio of total dividends and share buy-backs to net income for the whole period 2009 to 2019⁷. We then split those ranked companies into quintile groups – with the 20% highest distributing firms denoted as 'Q1' and the lowest 'Q5'. We then examined those quintile groups, assessing whether they over- or under-performed the benchmark average in relation to growth in labour productivity, CAPEX per employee, profit, return on capital and resilience to goodwill impairments. The specific variables we assessed were:

- 'External costs in sales' and 'value added in sales' to provide basic background information on company and index cost structure;
- 'Dividends and share-buybacks to net income' to examine the extent to which a company's propensity to distribute is matched by its operating performance, as measured by net profit;
- 'Sales revenue per employee' as a measure of productivity;
- 'Value added per employee' (or value retained per employee) as a second measure of productivity;
- 'Capital expenditure per employee' as a measure of the financial resources committed to reinvest in product and process renewal on a per employee basis;
- 'Cash return on revenue' and 'cash return on capital employed' as measures of performance and efficiency;
- 'Goodwill to retained earnings' and 'goodwill to total shareholder equity' as measures of impairment risk;
- 'Total longer-term debt to equity' as a measure of leverage and balance sheet risk.

It is important to note that we decided not to exclude firms which reported negative net income in some years, unlike other reports (e.g. the EU report noted above). This is because, in our view, loss making firms who make often large payments to shareholders are part of the phenomena we are trying to understand, and to omit them would be to provide a skewed view of large firm resource allocation.

This report also explores the extent to which high distributing companies have variable performance depending upon the type of industry to which they belong, but does so only after the evidence from the sample as a whole is considered.

For a full discussion of our methodology, including source data and the definitions of the particular variables selected, please see our extended methodological note in the appendix.

⁷ For each company we add up net income for the period 2009 to 2019 and dividends and share buybacks and express these distributions as a share of net income.

4. Performance of the FTSE 182 companies

Table 1 sets out the aggregate descriptive financials for the FTSE 182 group of companies between 2009-2019. From this we can see several notable trends. Market value and shareholder distributions rise in lockstep; however, distributions rise much faster than sales, value added, wages and salaries and profit. Wages and salaries also rise more slowly than value added, reinforcing other studies which observe a decline in labour's share of value added over time (Piketty 2018). Dividends and share buybacks more than double in value between 2009-2019, whilst capital investment stays virtually static. Aggregate dividends and share buybacks are also higher than aggregate net income in 2015, 2016 and 2019. Net income, in fact, struggles to get above the 2011 peak, suggesting a more secular profitability issue in large UK firms, even though distributions rise considerably. And we can see that in all years, capex and distributions exceed net income by some distance, although the excess has grown over time, again suggesting that debt and other forms of external financing bridge the competing claims of capital, wages and investment.

Table 1: Financial characteristics of FTSE 182

	Market Value	Sales Revenue	Value Added	Wages and Salaries	Net Income	Dividends and Share BuyBacks	Capital Expenditure	Employees
	£bn	£bn	£bn	£bn	£bn	£bn	£bn	mill
2009	999.1	1458.2	407.1	194.4	70.7	63.4	98.7	6.0
2010	1279.1	1604.6	471.5	202.5	123.1	63.7	94.4	5.8
2011	1495.6	1709.5	525.3	208.5	156.1	87.7	100.4	5.9
2012	1406.4	1780.3	488.0	214.5	110.3	85.3	120.0	6.0
2013	1664.5	1781.5	468.1	218.1	100.5	92.1	125.9	6.0
2014	1684.5	1703.9	444.0	211.6	102.9	87.1	108.2	6.1
2015	1664.8	1442.9	414.6	217.2	68.0	84.7	104.3	6.0
2016	1681.6	1604.7	444.1	224.3	63.4	92.9	99.7	5.9
2017	1904.1	1756.3	563.2	234.5	150.6	104.6	101.2	5.9
2018	1993.1	1732.7	567.7	239.9	144.3	143.5	106.8	5.8
2019	1978.3	1940.1	559.5	244.9	105.8	138.9	108.2	5.8

Source: Thomson EIKON data.

Table 2 outlines some of the key operating and performance ratios for the FTSE 182 group of companies. Value added (or value retained⁸) after paying out all external costs is roughly 30 percent of total sales. The value of sales revenue generated per employee grew from £224.6k in 2009 to £333.2k in 2019. Value added per employee also grew from £68.3k to £96.1k over the same period. Wages and salaries per employee also grew, but not at the same rate as value added. These ratios were not significantly skewed by a falling headcount: as table 1 illustrates, although headcount did fall, it did not fall precipitously – declining from 6 million to 5.8 million between 2009 and 2019.

Two main trends stand out. First, capital expenditure per employee is practically static between 2009 to 2019, whilst sales and value added per employee all rise. Second, reinforcing table 1, distributions out of net income grow in the post crisis period, as large UK companies distributed practically all profit and more in many cases from 2015 onwards.

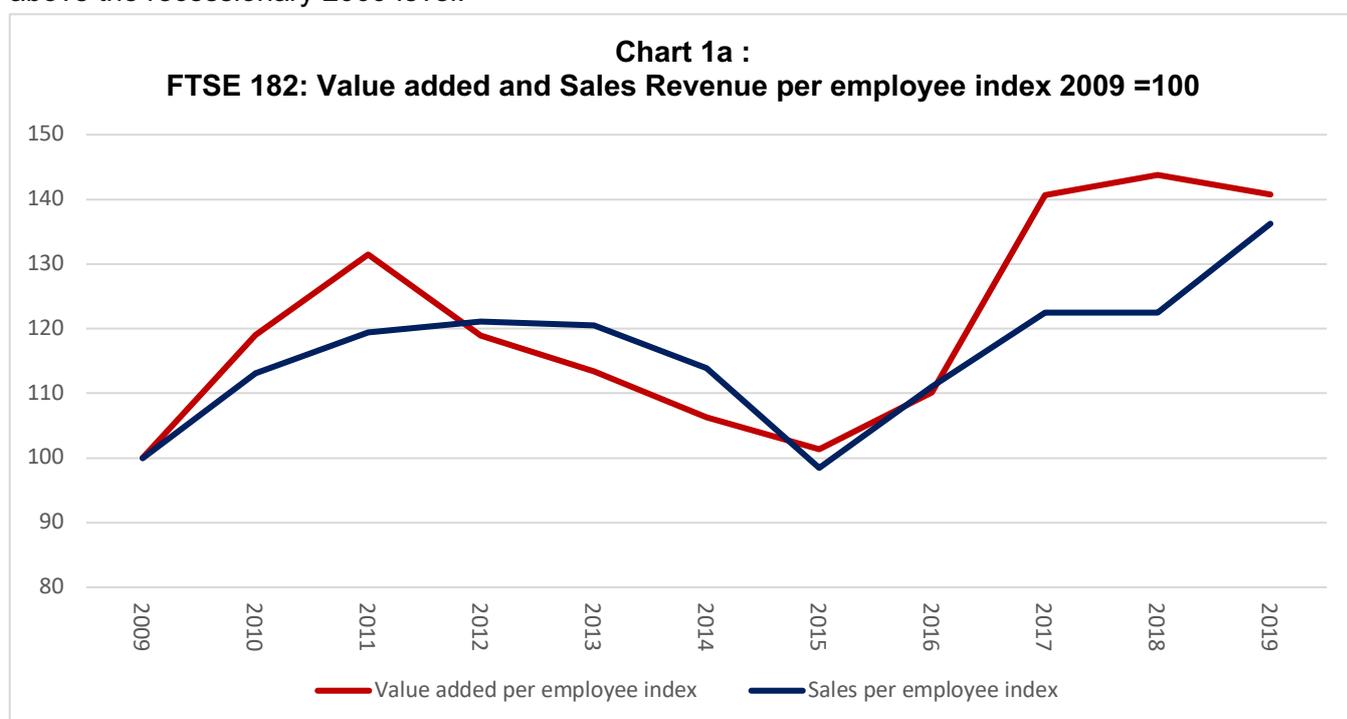
⁸ Value added equals total employment costs, plus depreciation and amortization plus earnings before interest and tax. We also use the term 'value retained' because the value added of a company is found after deducting all external costs from sales revenue.

Table 2: Key Financial Ratios and Metrics of the FTSE182

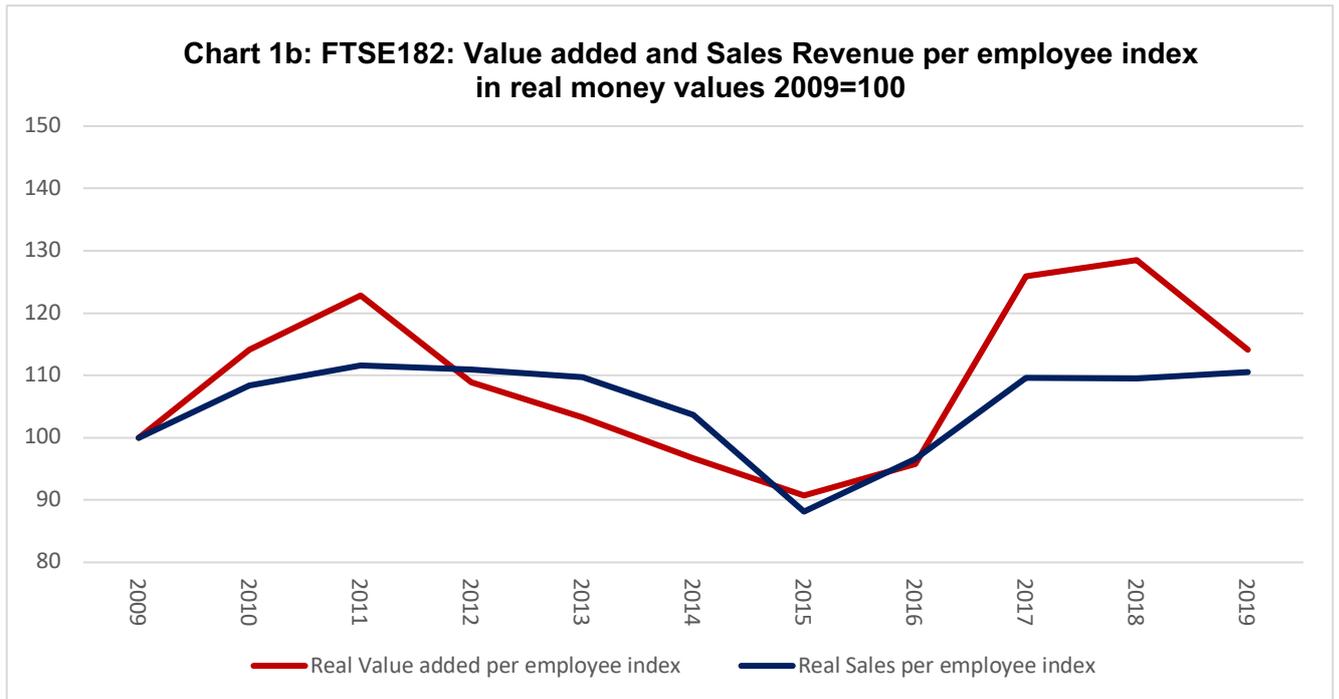
	External costs in Sales	Value added in Sales	Dividends and share buy backs in Net Income	Sales per employee	Value added per employee	Wages and Salaries per employee	Capital Expenditure per employee
	%	%	%	£K	£K	£K	£K
2009	72.1	27.9	89.7	244.6	68.3	32.6	16.6
2010	70.6	29.4	51.8	276.6	81.3	34.9	16.3
2011	69.3	30.7	56.2	292.1	89.7	35.6	17.1
2012	72.6	27.4	77.3	296.3	81.2	35.7	20.0
2013	73.7	26.3	91.7	294.7	77.4	36.1	20.8
2014	73.9	26.1	84.7	278.6	72.6	34.6	17.7
2015	71.3	28.7	124.6	240.8	69.2	36.3	17.4
2016	72.3	27.7	146.5	271.7	75.2	38.0	16.9
2017	67.9	32.1	69.5	299.6	96.1	40.0	17.3
2018	67.2	32.8	99.5	299.6	98.2	41.5	18.5
2019	71.2	28.8	131.2	333.2	96.1	42.1	18.6

Source: Thomson EIKON data.

Charts 1a and 1b provide aggregate data on the per employee productivity performance of all companies in the FTSE182 dataset in nominal (i.e. value stated without adjustment for inflation) and real terms (i.e. value stated with adjustment for changing price inflation levels), with a base year of 2009⁹. A first observation must be that real term productivity improvement of these large firms is underwhelming by most standards: by 2019, real sales per employee were 10 per cent above the 2009 figure (which was still emerging from a recessionary trough) and has yet to exceed the 2011 peak, whilst real value added per employee is only 14 percent above the recessionary 2009 level.

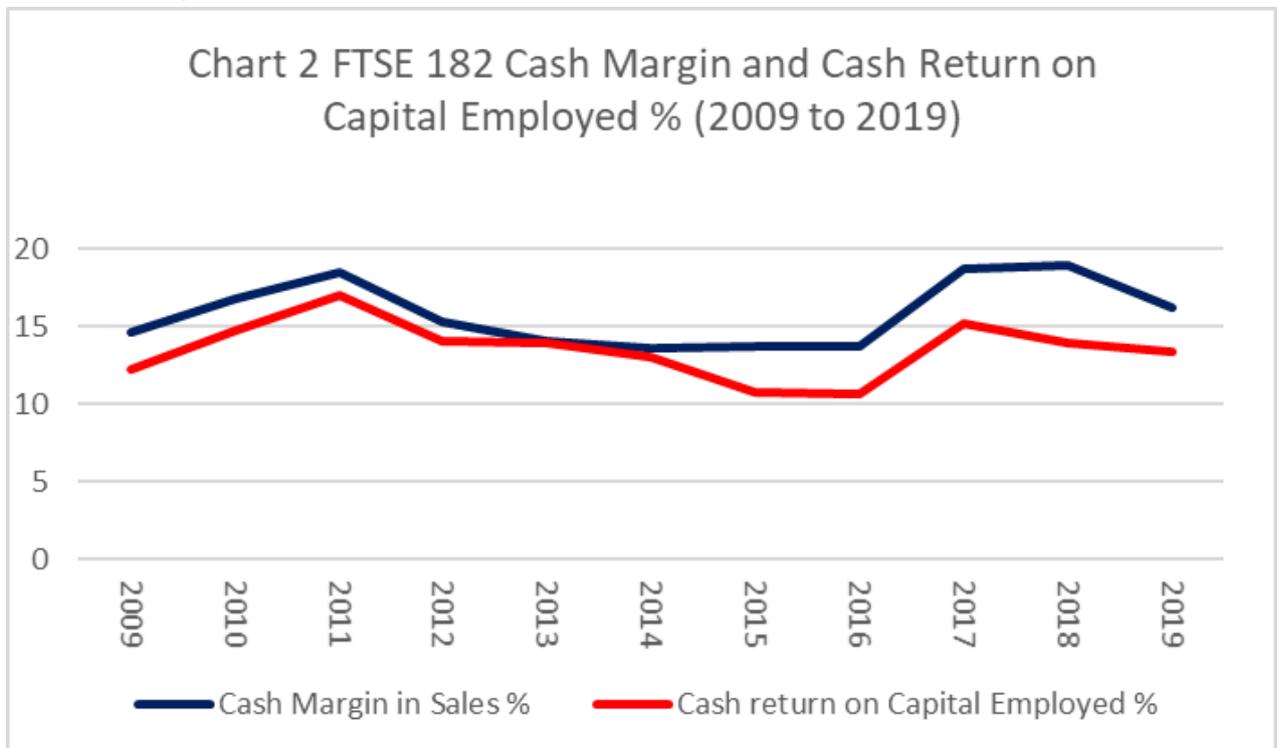


⁹ Adjusted for the CPI index from Office for National Statistics (ONS)



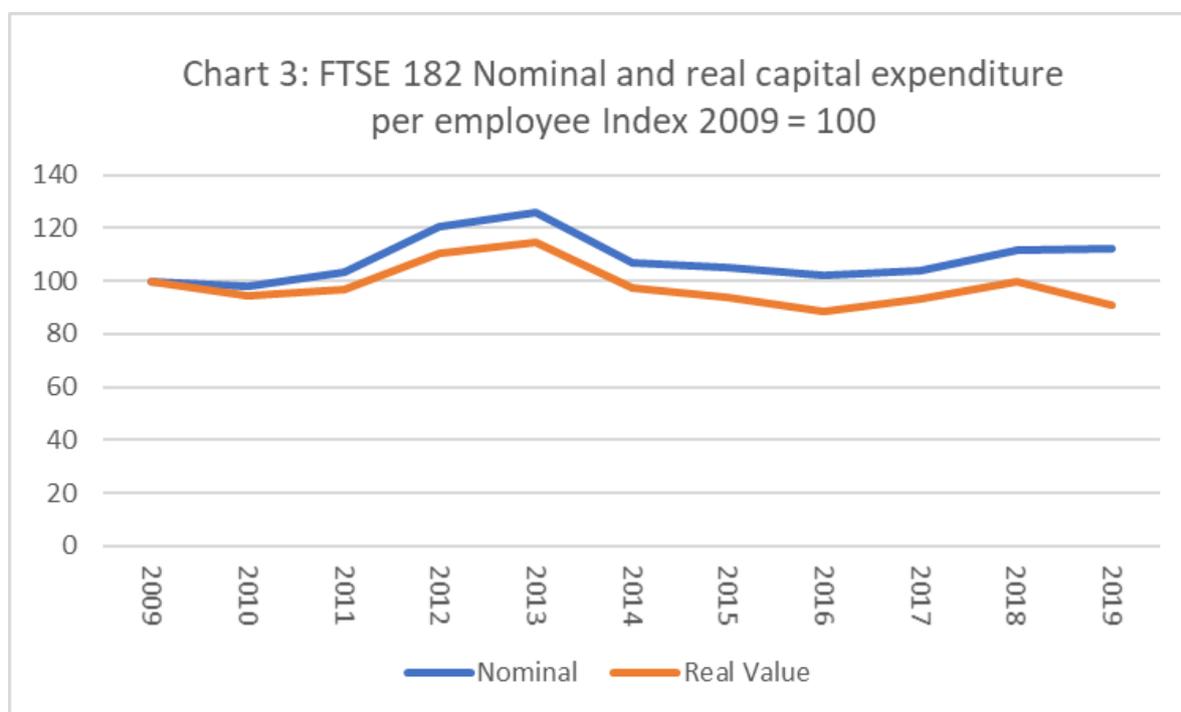
Source: Thomson EIKON datasets

In terms of cash margin (or the earnings before interest tax depreciation and amortisation – the ‘EBITDA’ margin) on both sales and capital employed, Chart 2 shows that these remain steady at and around 15 percent and this suggests that companies were, on average, not able to extract higher margins out of sales and were not able to easily inflate the return on capital employed.



Source: Thomson EIKON datasets

Chart 3 shows that this period was also characterised by declining real capex per employee, which is lower in 2019 than it was in 2009. Again, to note, there is slight decline in the employment level over this period (table 1).



Source: Thomson EIKON datasets

Overall, the aggregate picture for the FTSE182 group of companies is one where key operating ratios (margins) have not been structurally transformed over the period from 2009 to 2019. With regards to labour productivity there are no dramatic improvements in nominal productivity growth since 2011. Finally, there is no significant or consistent transformation in the index of nominal capital expenditure per employee in the FTSE 182 group of companies over the period 2009 to 2019; and real capex per employee was below the recessionary year of 2009 in 2019.

Having noted this, it is appropriate to examine the performance of the FTSE182 cohort in more granular form to examine how this picture of investment and productivity plays out in high and low distributing companies.

5. Distributional features of the FTSE 182 companies.

In this section the companies in the FTSE 182 are ranked by their dividends and share buy-backs as a percent of net income for the whole period 2009 to 2019¹⁰. These ranked companies are then allocated to quintile bandings (1 to 5), so splitting the FTSE 182 into 5 ranked groups. Group 1 (the 'top companies') contains those companies that distributed the highest share of their net income as dividends and share buy-backs over the period from 2009 to 2019. Group 5 (the 'bottom companies') contains those companies that distributed the lowest share of their total net income as dividends and share buy-backs to their shareholders

¹⁰ We total up a company's dividends and share buy-backs for the whole period 2009 to 2019 and divide this by the total of all net earnings for a company for the whole period 2009 to 2019.

over the period from 2009 to 2019. Importantly, although we did not strip out companies that posted negative net income in some years from our sample (for justification, see our methodology section) the top quintile's share of market value is the second highest of the quintiles, suggesting this is not a small firm effect and the share of EBITDA is not out of proportion with its quintile allocation (i.e. in Q1 there are 20% of the firms in the FTSE182 and they account for 18% of the aggregate EBITDA created in the FTSE182). If we include the top two high distributing quintiles these companies account for over half of the FTSE 182 market value, sales revenue and cash earnings (EBITDA¹¹).

Table 3: Key descriptive statistics for the FTSE182 quintile groups ranked by share buy-backs and dividends out of net income 2009 to 2019

	Share Buy-Backs and Dividends in Net Income	Market Value share	Revenue Share	EBITDA share
	2009 to 2019	2009 to 2019	2009 to 2019	2009 to 2019
	%	%	%	%
1-TOP	178	28	24	22
2	88	32	32	31
3	78	17	26	23
4	57	16	13	19
5 BOTTOM	37	7	5	5
Totals		100	100	100

Source: Thomson EIKON datasets

Note 1: For market value, revenue and EBITDA shares these are the total market values, revenues and cash EBITDA for each banding 1-5 aggregated for the whole period 2009 to 2019, ie a weighted average for the whole period 2009 to 2019.

Note 2: MKVAL is the total market value (share price times shares outstanding) of companies within each quintile. Likewise, revenue and EBITDA (earnings before interest tax and depreciation) are the share attributable to companies within each quintile out of total FTSE182 group of companies.

Table 3 reveals that the top quintile (1-TOP) group of companies distributed an average of 178% of their net income over the period 2009 to 2019 with the next quintile group (2) distributing 88 percent of their net income over the same period. Although the top quintile figure is skewed by a small number of outliers, the lowest distributing firm in that quintile distributes 105% of their net income. This pattern follows similar findings with large US companies (Baker et al 2020). Factors that might help to explain such a high level of earnings distribution in the top quintile group are that this group contains companies generating negative earnings in some years during the period 2009 to 2019, or that they were able to borrow to finance distributions, and/or manipulate earnings available for distribution by comingling realised profits with unrealized gains from asset revaluations. To get a clearer understanding of the processes at work, we will next explain the difference between *net*

¹¹ EBITDA is cash earnings and calculated as earnings before interest tax, depreciation and amortization and is roughly equivalent to cash generated from a company's operations.

income (i.e. profit) and distributable reserves, and how companies are able to distribute more than they generate from operations over a length of time.

Distributable Reserves

The amount a firm can pay out to shareholders in the UK is not limited by the profit it makes within a year, but by its 'distributable reserves'. Distributable reserves determine the legal limit of shareholder distributions and are defined by prevailing accounting rules which provide complex guidance on the classification of 'realisable' and thus distributable earnings. Crucially distributable reserves are determined at parent company rather than group level, which opens up opportunities to increase payouts in excess of profit.

Generally, distributable reserves are determined by two elements: the previous year's retained earnings of *the parent company* within a group, plus the net income received by the parent within the current accounting year. The net income received by the parent is normally the dividends paid to it by its subsidiaries, minus costs. Some parent companies have distributable reserves by that measure, but no cash¹² - in which case it is possible to borrow and pay out dividends in that way. Two implications follow.

First, the amount of retained earnings realised depends fundamentally on the holding values of the fixed assets/company subsidiaries and the distinctions between distributable and undistributable reserves (merger reserve, share premium, revaluation reserve etc). This may incentivize companies to devise reporting strategies which seek to inflate - or minimise impairments to - the parent's fixed assets, or to 'release' funds from undistributable reserves like the share premium or merger reserve into a distributable reserve.

Second, it is usual that some subsidiaries are very profitable whilst others are loss making. Under some circumstances the successful subsidiaries may distribute all of their profits to the parent, but loss-making subsidiaries cannot, by definition, distribute negative dividends. This means the parent takes more of the upside than the downside on the performance of its assets, which can lead to divergences between the retained earnings of the parent company accounts and the consolidated group accounts. This allows the parent company to pay out more in dividends or buybacks than the consolidated group creates in net income.

Both situations noted normally suggest an enlarged role for creative accounting and financial engineering in the payment of higher dividends or larger share repurchases; and we have – elsewhere – discussed how asset revaluations levered through the subsidiary network, contract profit reporting, avoiding goodwill impairments (Baker et al 2020) and transfer pricing (Leaver and Murphy 2021) have all been used to maximise the distributable reserves of the parent.

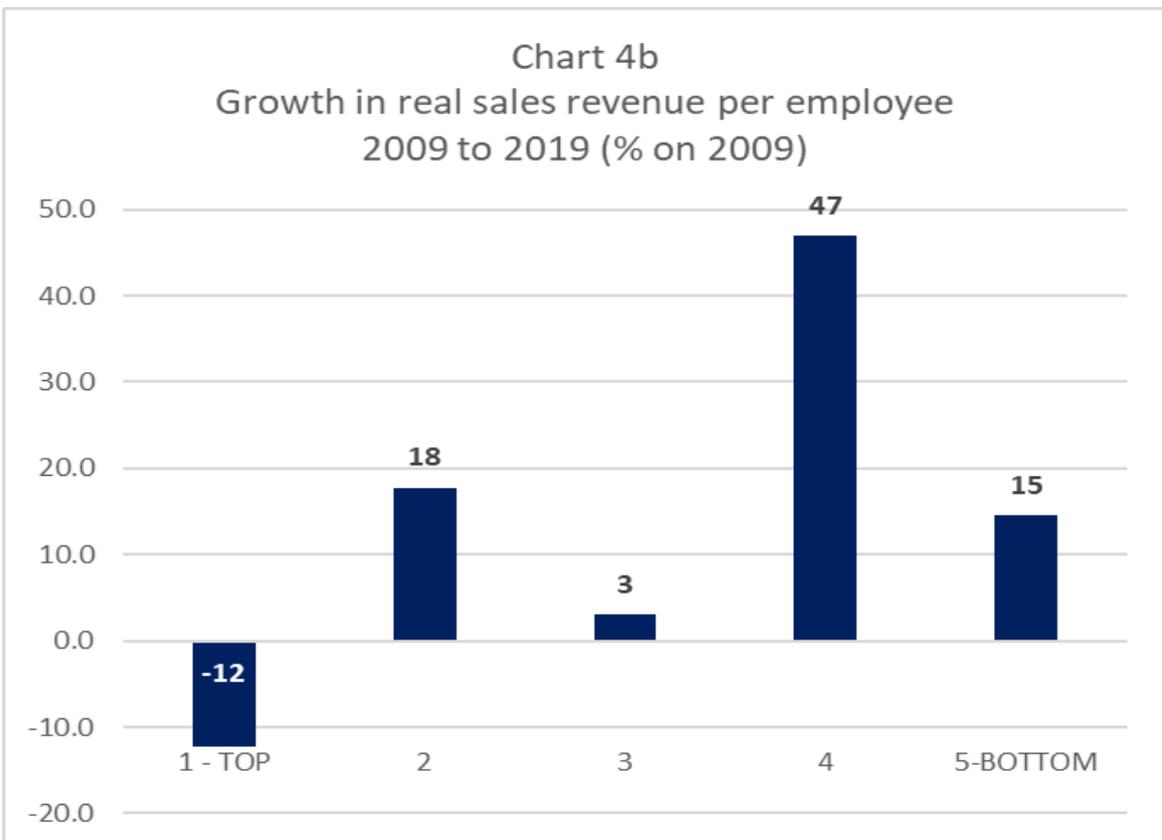
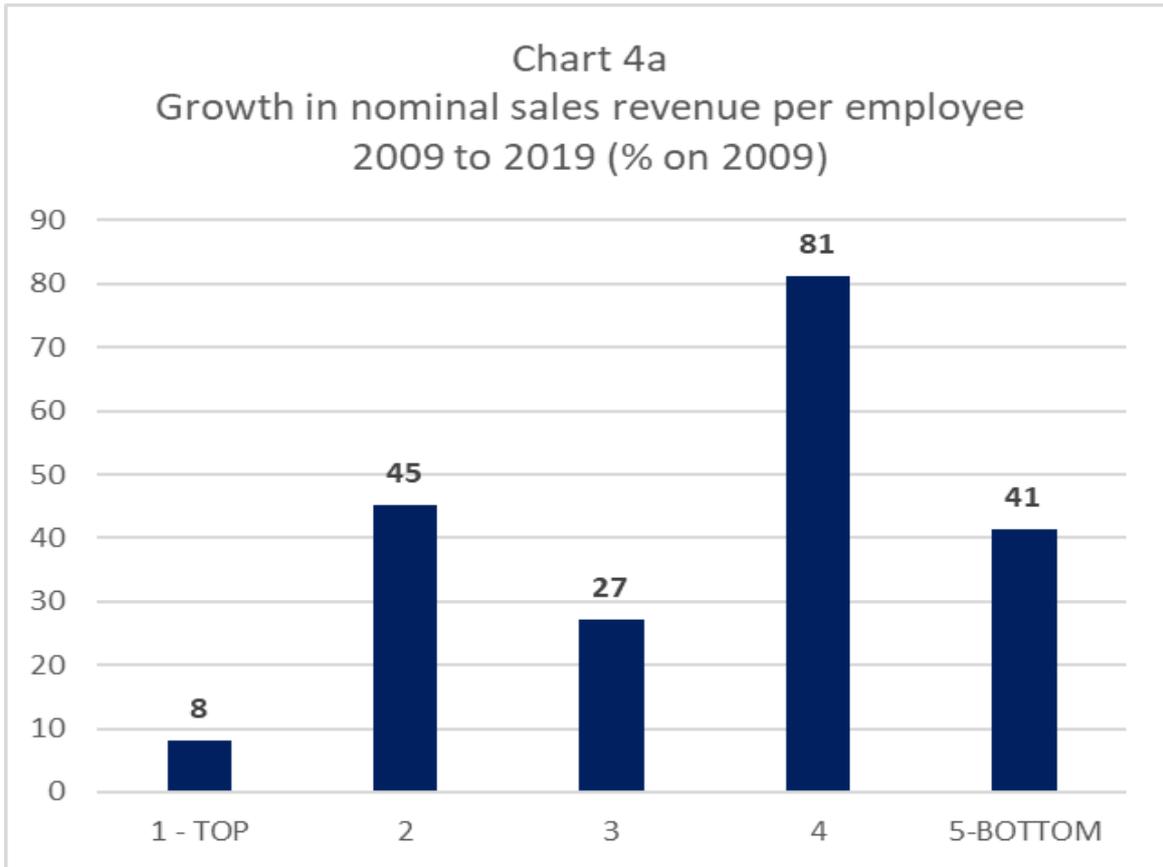
6. Productivity performance of the FTSE 182 quintiles.

Our quintile analysis has identified a sizeable minority of large, listed UK firms who are distributing aggressively relative to their net income generating capacity. We can subsequently

¹² See KPMG (2020) 'Capital Maintenance: Let's Tackle The Difficult Questions', for discussion.

use those quintile bandings to explore the extent to which productivity and financial operating performance varies between high to low distributing companies in the FTSE182.

In chart 4a and 4b we show the nominal and real price adjusted changes in sales revenue per employee, comparing 2009 to 2019. This provides one indication of productivity growth by quintile. The pattern shows that the highest distributors have the lowest growth in sales per employee over the period observed, and in real terms have experienced a fall in sales per employee. Similarly, those who distribute a lower proportion of net income generally have a higher sales per employee growth profile – although the patterns is not entirely even.



Source: Thomson EIKON datasets

It could be argued that sales revenue is an imperfect measure of firm level productivity because it potentially includes productivity benefits located elsewhere through bought in goods and services. For example, Table 4 shows a simple financial value chain as sales are made from one company to another from company A to C. For company B the sales from A become purchases which are then transformed (value added) into 300 units of sales revenue which is then sold on to C. For companies B and C, the sales revenue per employee captures the value of sales also made by A and B. The calculation of value-added¹³ isolates the value captured (or added) by each individual company and this avoids the doubling counting of other company sales revenue. In addition, with company C* the purchases input may be reduced relative to sales revenue boosting the value added per employee index to a much greater extent than the sales revenue per employee. In this respect value added per employee does not double count sales revenue along the value chain and captures changes in the purchases to sales ratio.

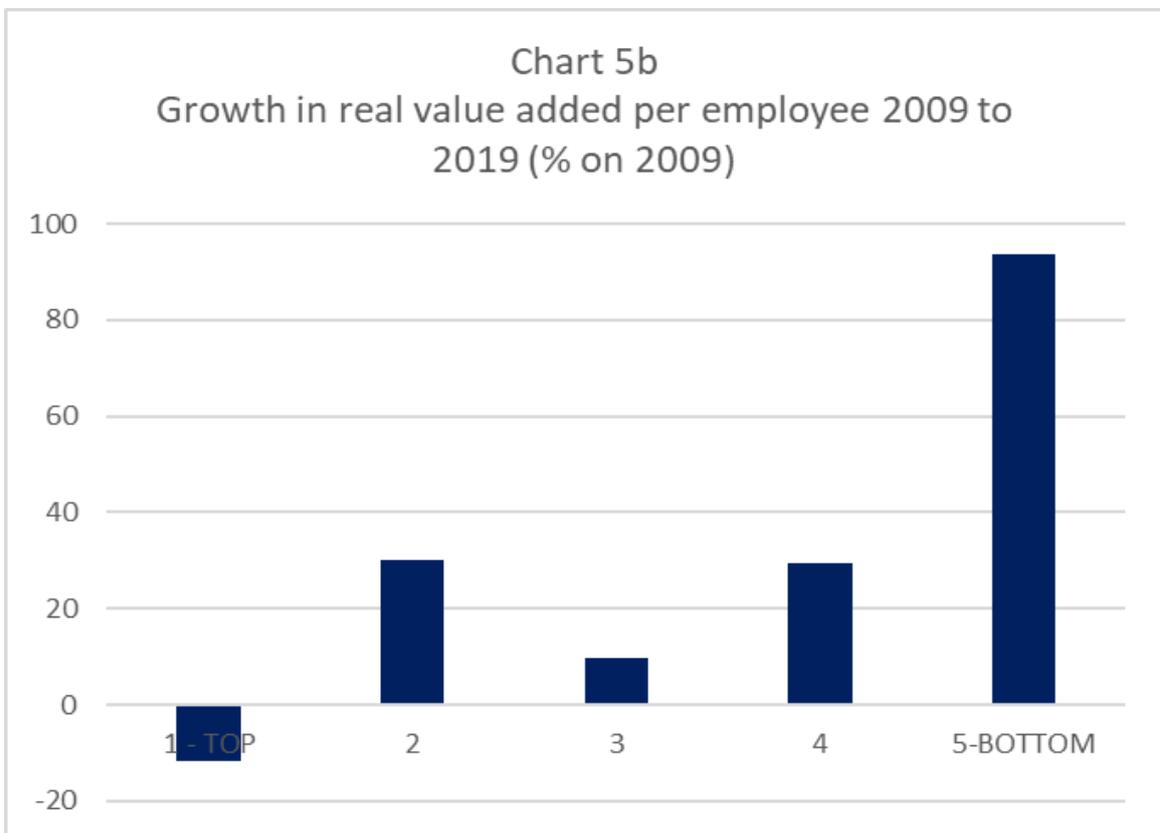
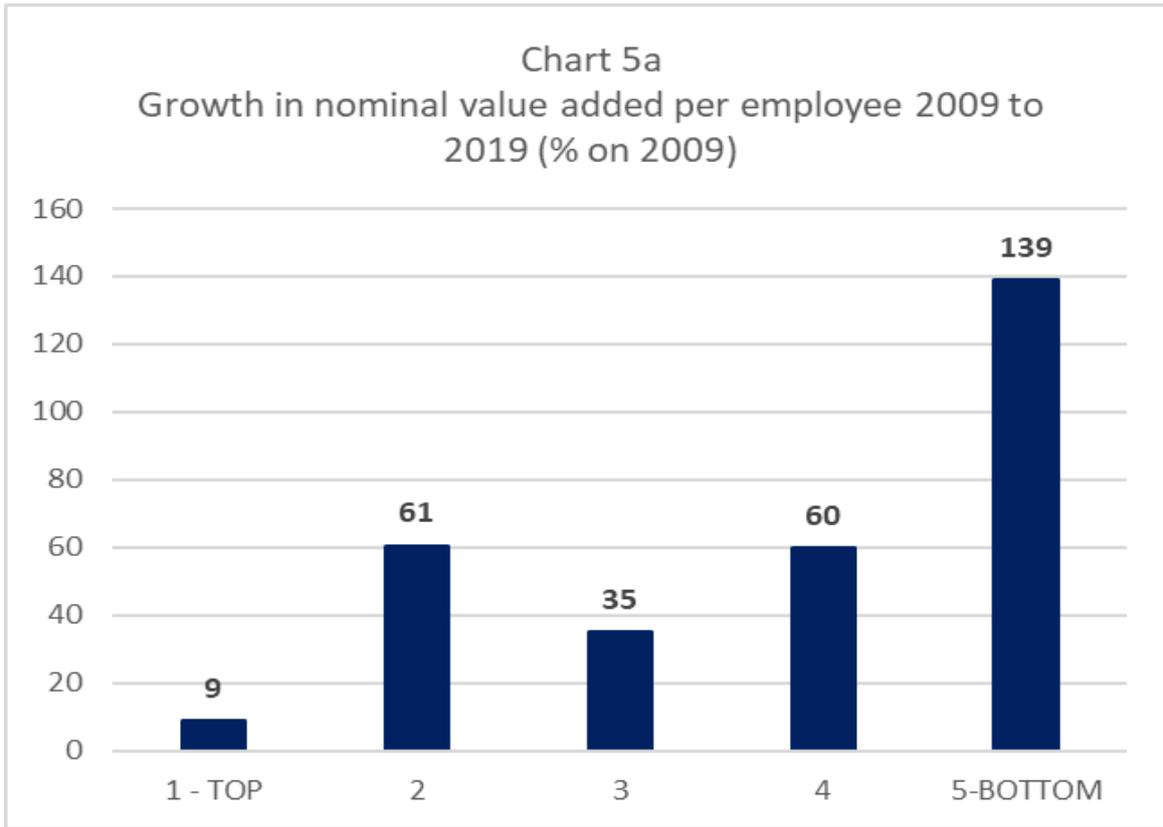
Table 4: Value added and sales labour productivity

	Company A	Company B	Company C	Company C *
Employees	1	1	1	1
Purchases	100	200	300	300
Value added	100	100	100	200
Sales	200	300	400	500
Sales per employee	200	300	400	500
Value added per employee	100	100	100	200

Source: Authors

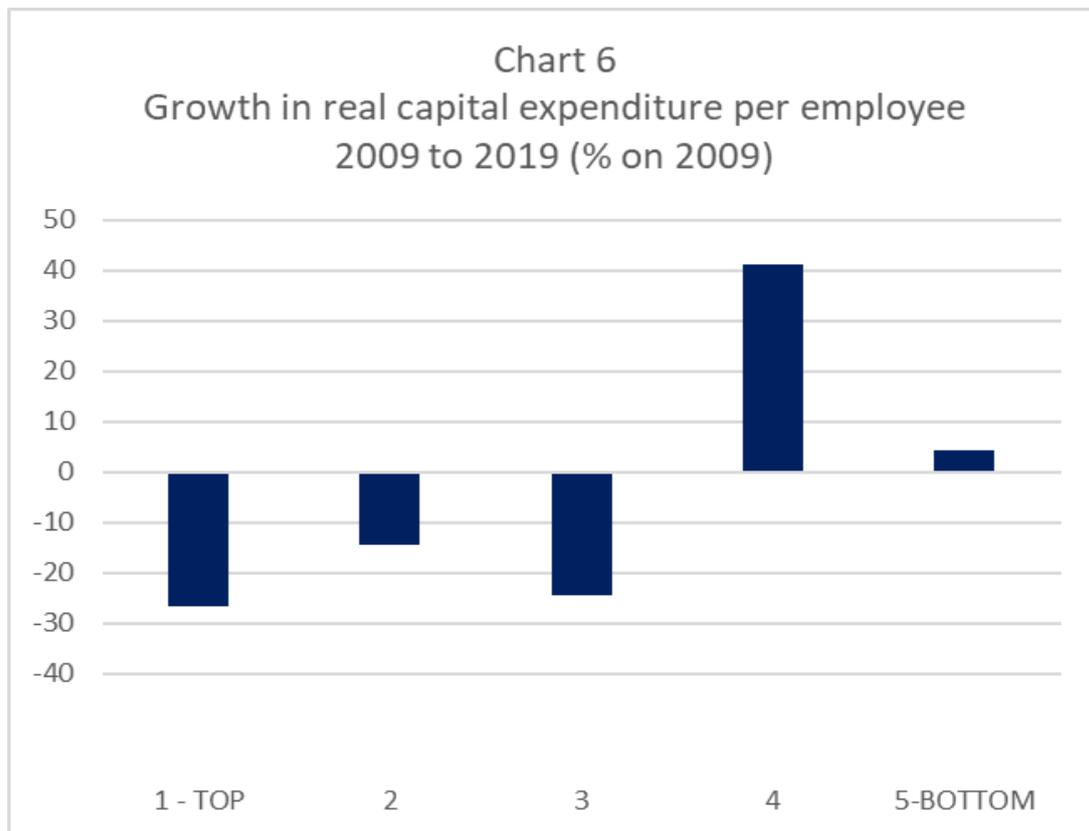
Chart 5a and 5b shows the nominal and real price adjusted change in value added per employee productivity by companies ranked by their distributions to net income ratio. Chart 5b shows that the highest distributing firms exhibit a negative growth of value added per employee in real terms. Generally, there is also stronger growth in labour productivity where companies are less aggressive distributors of earnings to shareholders.

¹³ Value added is the summation of employment costs (including all social charges and pensions) plus depreciation and amortization and profits before interest and tax.



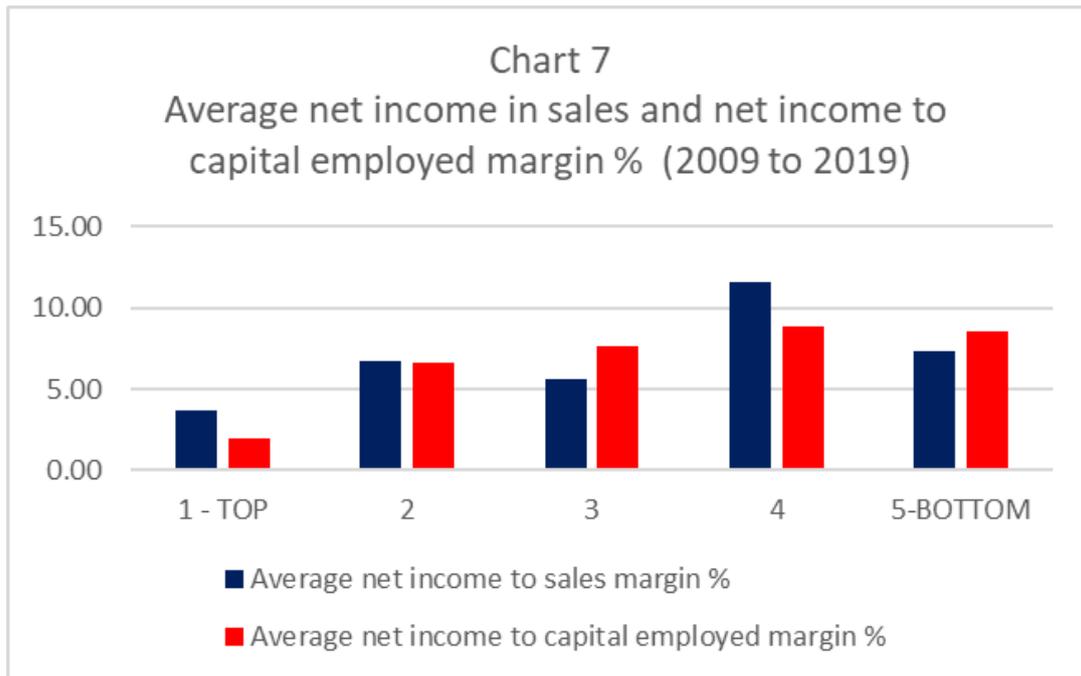
Source: Thomson EIKON datasets

Turning to the growth in nominal capital expenditure per employee chart 6 illustrates that higher distributing companies exhibit a significant fall in real capex per employee between 2009-2019, and that the fall is greater than that experienced in Q2 and Q3. Q4 and Q5 companies – ie those with lower distributional profiles – tend to invest more on a per employee basis; although Q4 companies do much better by this metric than Q5 companies (which are relatively small).



Source: Thomson EIKON datasets

With regards to key operating margins, such as net income to sales and net income to total capital employed, chart 7 shows that the highest distributing companies exhibit the lowest operating performance between 2009-2019. Average net income to sales margin and average net income to capital employed margin for the highest distributors are lower than all other quintile groups.

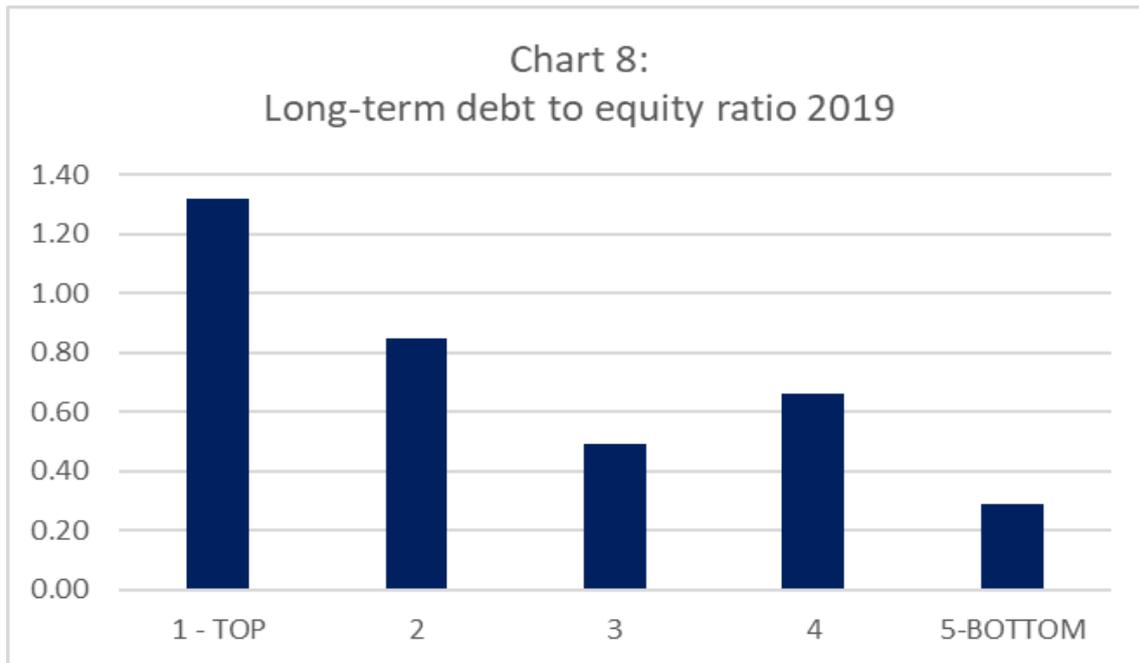


Source: Thomson EIKON datasets

On the basis of the above analysis there is – overall - a different pattern of investment, productivity and operating performance and growth between high and low distributing firms. The pattern is not precise: Q4 firms appear to do much better than Q5 firms, for example, but those Q5 firms are much smaller in revenue, EBITDA and market cap terms (table 3) – i.e. they are smaller firms with high value added and modest requirements for fixed capital investment and employment.

Overall, however, growth in labour productivity and capex per employee growth is higher for companies with lower distributions to shareholders out of net income. In addition, net income margins on sales revenue and net income to capital employed are also lower for high distributing companies.

If high distributing firms are doing so with negative capex growth and declining levels of productivity, it may be that they are engaging in forms of financial engineering which add risk. This raises additional questions about the balance sheet resilience of the different quintiles. We use the same quintiles and examine cohort balance sheet resilience between 2009 to 2019. Aggressive earnings distribution can reduce the accumulation of retained earnings and shareholder equity funds and increase the dependency on borrowed funds within an entity. A simple gearing ratio of debt-to-equity is therefore an important indicator of balance sheet resilience; although we should recognise the growth of other forms of lending – such as supply chain financing – which also add risk, but which often do not appear in the gearing ratio (see BEIS DWP 2019). The general pattern in the FTSE 182 group of companies is one where the higher distributing companies tend to also operate with higher gearing ratios (debt-to-equity), as chart 8 shows.



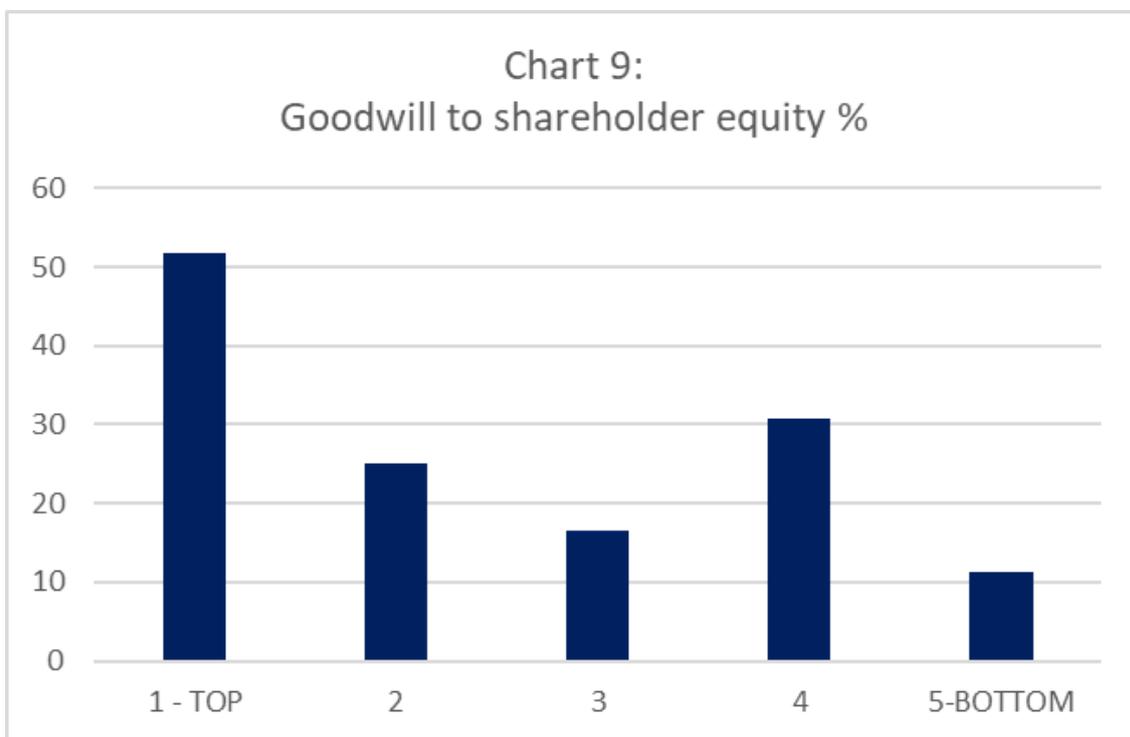
Source: Thomson EIKON datasets

Higher gearing ratios are riskier if they support assets which are more speculative in nature. When firms have more debt and less equity financing assets whose value depends on maintaining often optimistic expectations of future cashflows, then there is the double risk that fair value asset impairments wipe out the equity of thinly capitalised firms when those expectations change. Even more modest asset impairments can lead to damaging effects if they lead to a reduction in equity reserves and thus increase the debt-to-equity ratio. This can have a negative impact on company credit ratings, increasing the cost of debt refinancing or result in breaches of loan covenants, forcing either a repayment of debt when they are less able to meet this commitment, or at least renegotiate debt repayments, usually at a significantly increased cost. It may also simply increase debt servicing costs which eat into operating margins, further reducing equity reserves in a self-reinforcing way.

Goodwill is arguably the most significant speculative asset on many balance sheets, and thus the one most prone to impairment risks. As chart 9 shows, the highest distributing companies have the highest amount of goodwill relative to shareholder equity, leaving them more exposed to impairment risks.

Goodwill accounts for the difference between the market value and the book value of companies at the time of their acquisition and is shown as an intangible asset in the acquiring company's accounts. Prior to the adoption of current accounting regulation by both the US based Financial Accounting Standards Board (FASB) and the European Union orientated International Accounting Standards Board (IASB), the accounting regulations governing goodwill usually required that it should be expensed over a specific period of time. However, changes to the accounting standards governing goodwill from both the FASB and IASB now deem that it should not be written off unless it is assessed to be 'impaired'. Large goodwill impairments can consequently suddenly and seriously undermine balance sheet resilience because reductions on the asset side must have a commensurable reduction on the liability side; and if debts are fixed obligations which cannot be easily adjusted then equity takes the

burden of downward adjustments. This can produce the kind of self-reinforcing weaknesses highlighted above, as debt-equity ratios rise, pushing up costs or introducing restructuring measures which further undermine the resilience of the company.



Source: Thomson EIKON datasets

We estimate that if goodwill were to be completely written down roughly 28 companies out of the FTSE 182 would have their shareholder equity wiped out. In addition, a relatively small goodwill impairment of approximately twenty percent would have the potential to seriously undermine reported net earnings. Our estimate is that a twenty percent impairment to company goodwill would reduce net earnings by over 50 percent for roughly one third of the FTSE 182 companies. Again, Q1 companies are most affected by this risk, as Table 5 shows.

Fair value accounting results in a range of asset classes being marked to speculative market valuations, including financial instruments, property (in certain circumstances), goodwill and other intangibles and biological assets. These speculative asset valuations can become impaired and expensing these losses would have a major impact on company net earnings and balance sheet solvency, especially in those companies where shareholder equity reserves have been eroded because of aggressive dividends and share buy-backs.

Table 5: Impact of goodwill impairments on net earnings and equity reserves in FTSE182

	Net income £bn 2019	No. of companies where 20% goodwill write down reduces net income by over 50%	No of companies with complete shareholder equity loss with 100% goodwill write down
1-Top	10.5	20	14
2	32.2	12	7
3	28.4	9	3
4	24.2	16	2
5-Bottom	10.2	8	2
Total		65	28
Proportion of FTSE 182		35.7%	15.4%
Proportion of companies in the Top quintile impacted		54.9%	38.5%

Source: Thomson EIKON datasets

Our work has shown that the top 20% of highest distributing firms listed in the FTSE182 not only distribute more to shareholders than they generate in profit, but they do so with a markedly inferior investment, productivity and operating profile and with balance sheets that are carrying more debt relative to equity, and greater risks of goodwill impairment. However, it is important to recognise differences within each quintile. Even among the highest distributors there are variations which are concealed in averages. Consequently, it is important to also analyse firms within their sectoral context to better understand the relations between distributions, investment and productivity. We will now do that by looking at a sample of firms in banking, outsourcing, food retail, extractive industries and housebuilding.

7. Performance of high distributing companies and the impact of industry activity characteristics

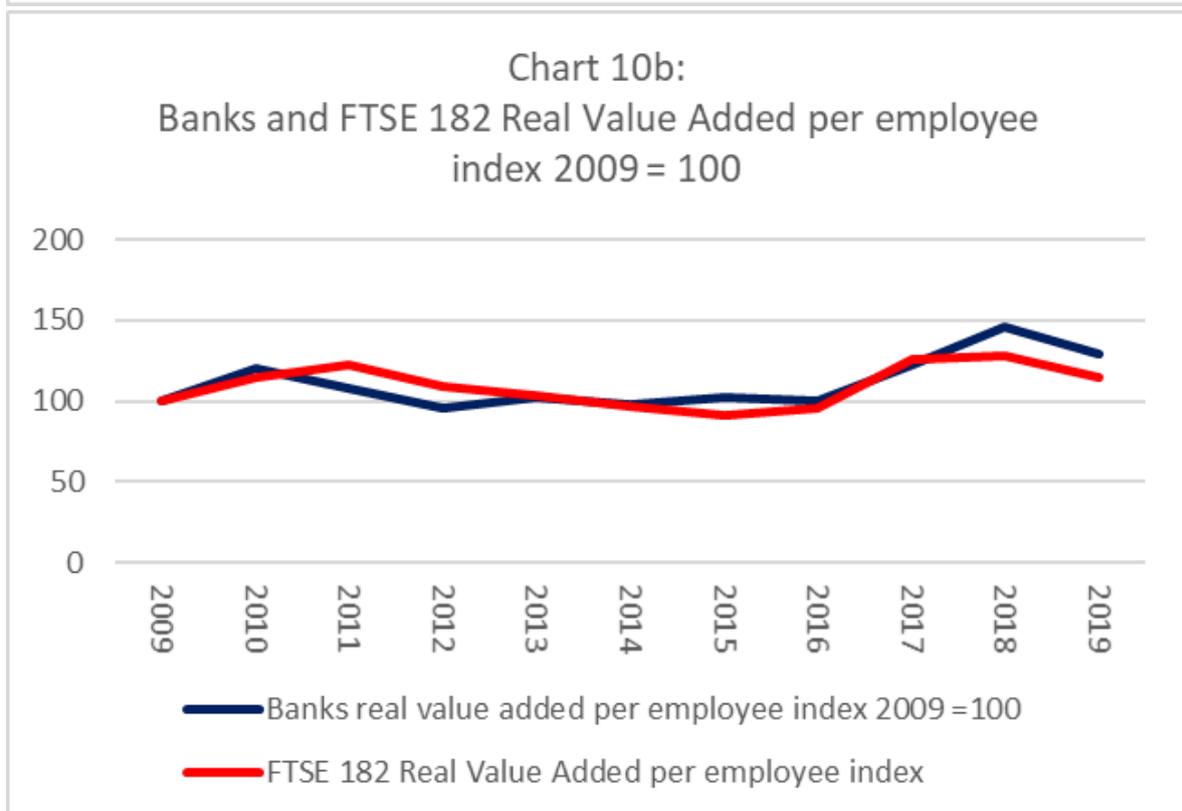
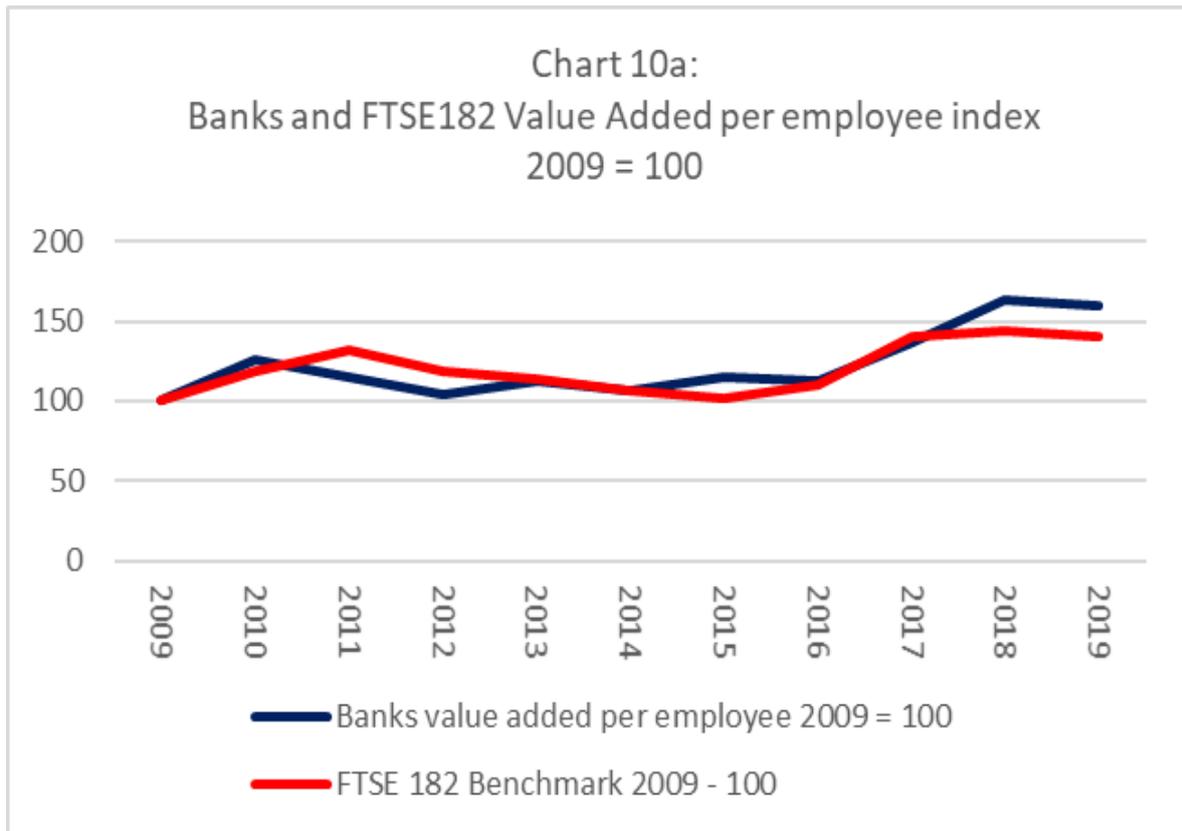
In this section the performance and financial viability of a range of industry sectors whose companies are collectively located in the highest distribution quintile in the FTSE 182 are appraised. Those sectors are banking, outsourcing companies, food retailers, extractive industries and house builders. The objective is to consider the extent to which aggressively distributing companies have variable productive and financial resilience depending on the nature of their industry activity and operating characteristics. The companies included in the analysis are shown in table 6. The key productive, financial and resilience sheet metrics for all three companies in each sector are aggregated, averaged and compared to the FTSE182 average benchmarks. The aim of the work was to determine whether sector analysis is likely to provide useful indicators for productivity and risk appraisal.

Table 6: Case study companies

Industry sector	Companies
Banking	Barclays
Banking	HSBC Holdings
Banking	Lloyds
Outsourcing service provider	G4S
Outsourcing service provider	Capita
Outsourcing service provider	Serco
Food retail	J Sainsbury
Food retail	Tesco
Food retail	Wm Morrison Supermarkets plc
Extractive Industry	BP
Extractive Industry	Dutch Shell
Extractive Industry	Glencore
Housebuilder	Barratt Developments plc
Housebuilder	Persimmon plc
Housebuilder	Taylor Wimpey plc

7.1 Banking

Barclays, HSBC Holdings and Lloyds are considered as representatives of this sector, being (as is the general case with regard to sample selection) the largest companies in the sector that also meet our criteria for inclusion in the FTSE 182 and appear in the top quintile for distributions in the analysis noted previously. The analysis adds up and averages the key performance metrics for this group of three banks and compares these findings with the average for the FTSE 182 benchmark group of companies.

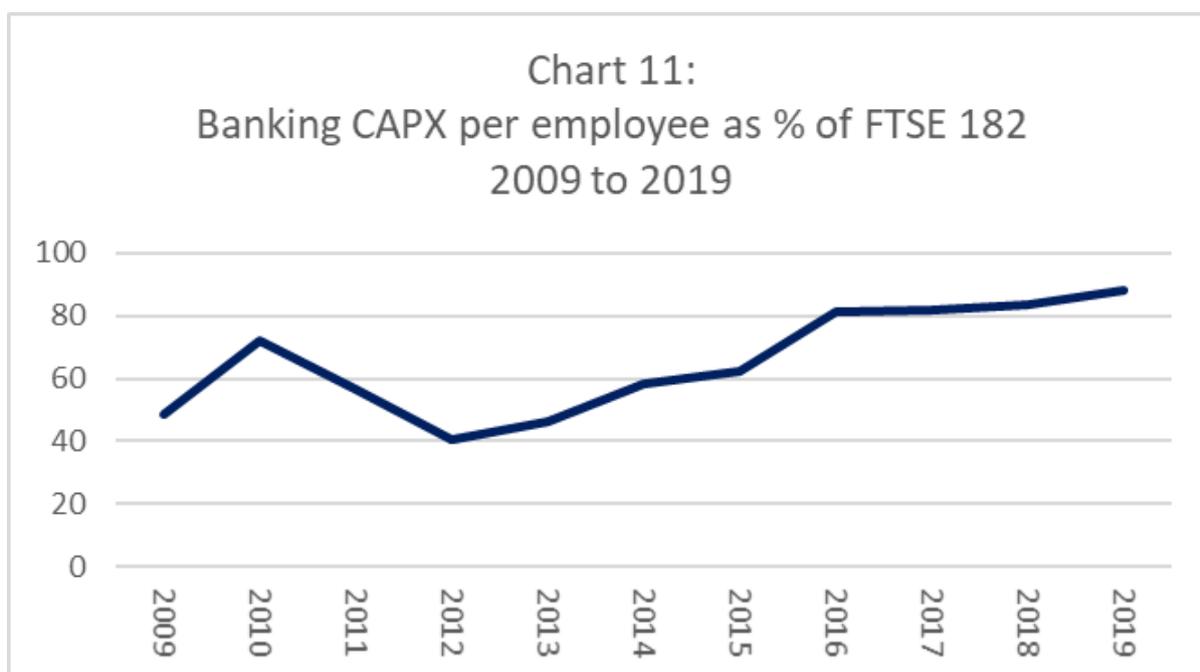


Source: Thomson EIKON datasets

Charts 10a and 10b show that the chosen banks do not outperform the FTSE 182 index for average growth in nominal and real price adjusted value added per employee. It should, however, be noted that employment in the FTSE 182 remained broadly steady throughout the

period 2009 to 2019 at roughly 5.9 million whereas this group of banks reduced employment by 40 percent during this period. This reduction in employment helped to sustain value added per employee growth and so value added per employee would have been no higher than 2009 without this employment loss. The cuts in employment, in this sense, follow real declining performance.

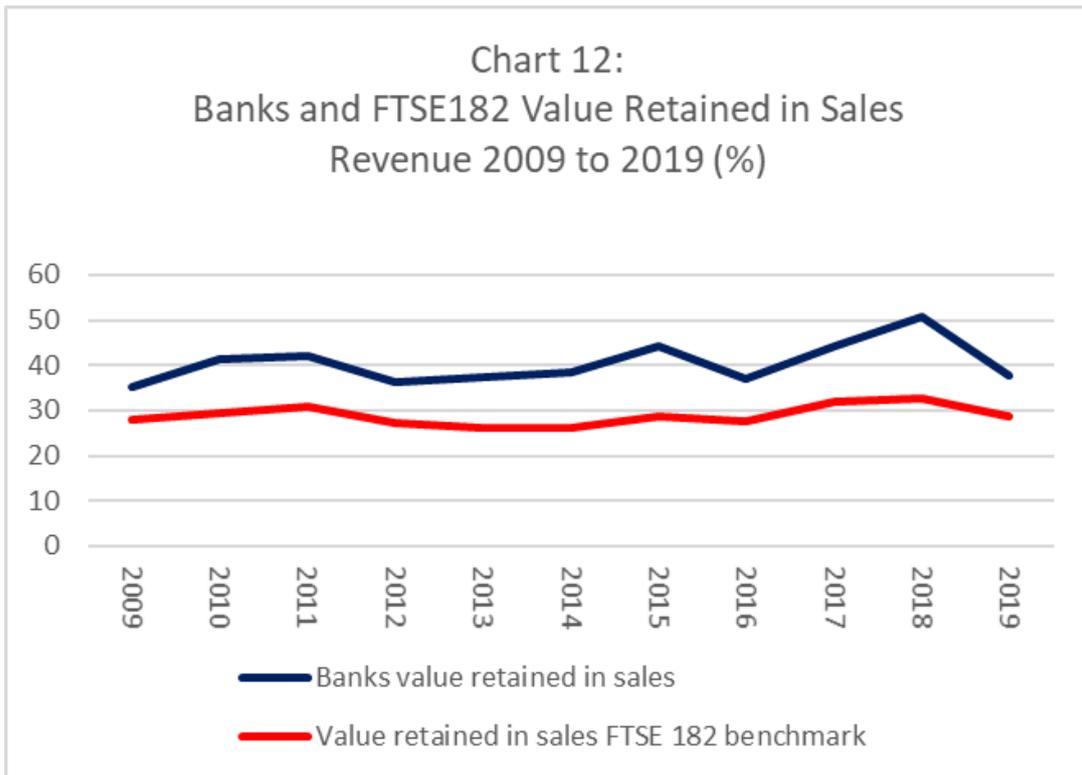
In terms of CAPEX per employee the gap between these banks and the average spend by the FTSE 182 group of companies narrows from a gap to 40-50 percent in 2009 to a gap of 20 percent below the average FTSE 182 company (roughly £18K per employee in 2019, see chart 11). It should, again be noted though that this apparent improvement is in part explained by reduced employment.



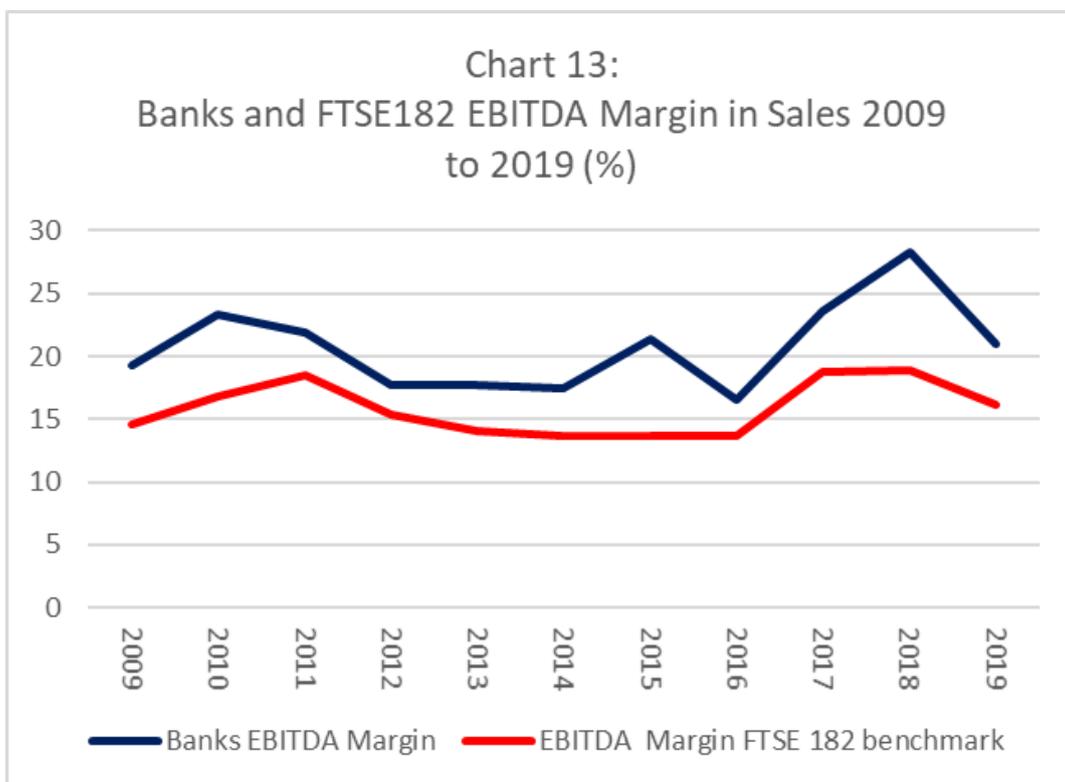
Source: Thomson EIKON datasets

With regards to the retention of value out of sales revenue, the banks have managed to sustain a higher level of value retention from their income (net interest payments and fees) (Chart 12 and Chart 13). In general, retaining a higher share of the value chain provides a favourable platform for a high cash margin and return on capital employed. However, a higher cash margin on sales may not necessarily convert into a higher cash return on capital employed if the capital intensity of a business model is high¹⁴. This is the case for our bank cohort who record an average cash return on capital employed below our benchmark average (see chart 14)

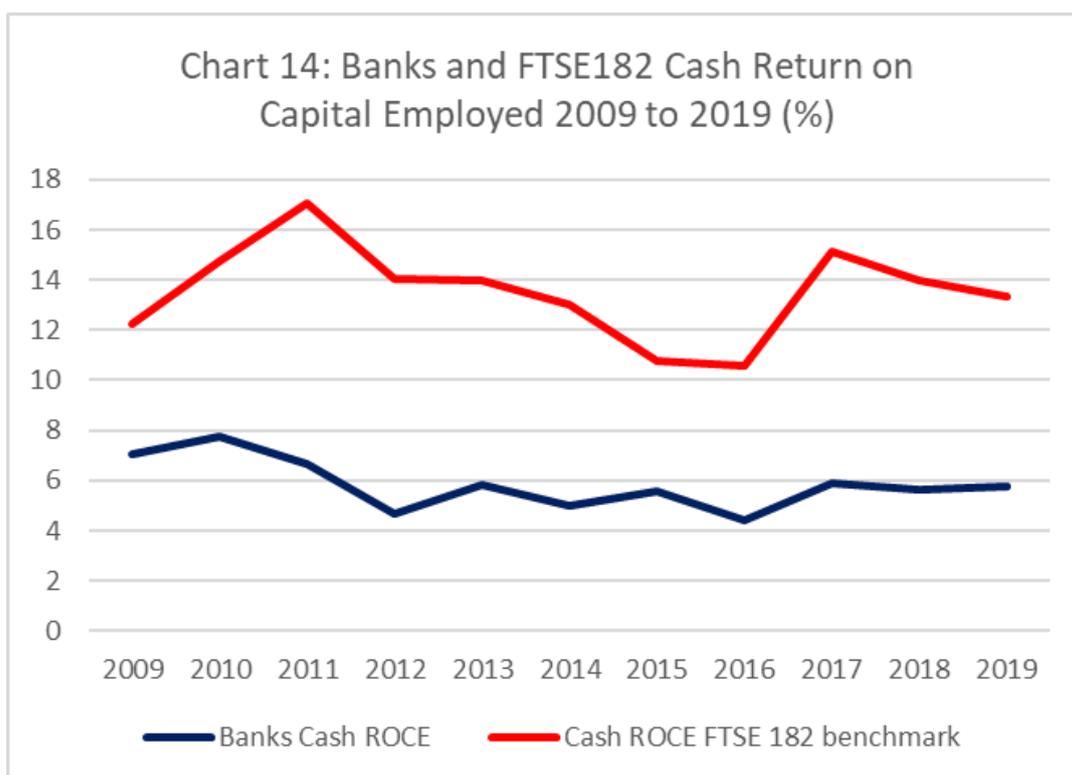
¹⁴ Capital intensity is the capital employed (long-term debt plus total equity) as a percent of sales. The higher this ratio the higher the capital intensity of a business model.



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets

As table 7 shows, the banking business model is generally highly geared in terms of debt-to-equity ratios relative to the FTSE 182 group benchmark average. However, the banks considered have a relatively low goodwill to shareholder equity at 11 percent but a small impairment of 20 percent would have reduced net income by 56 percent in 2019.

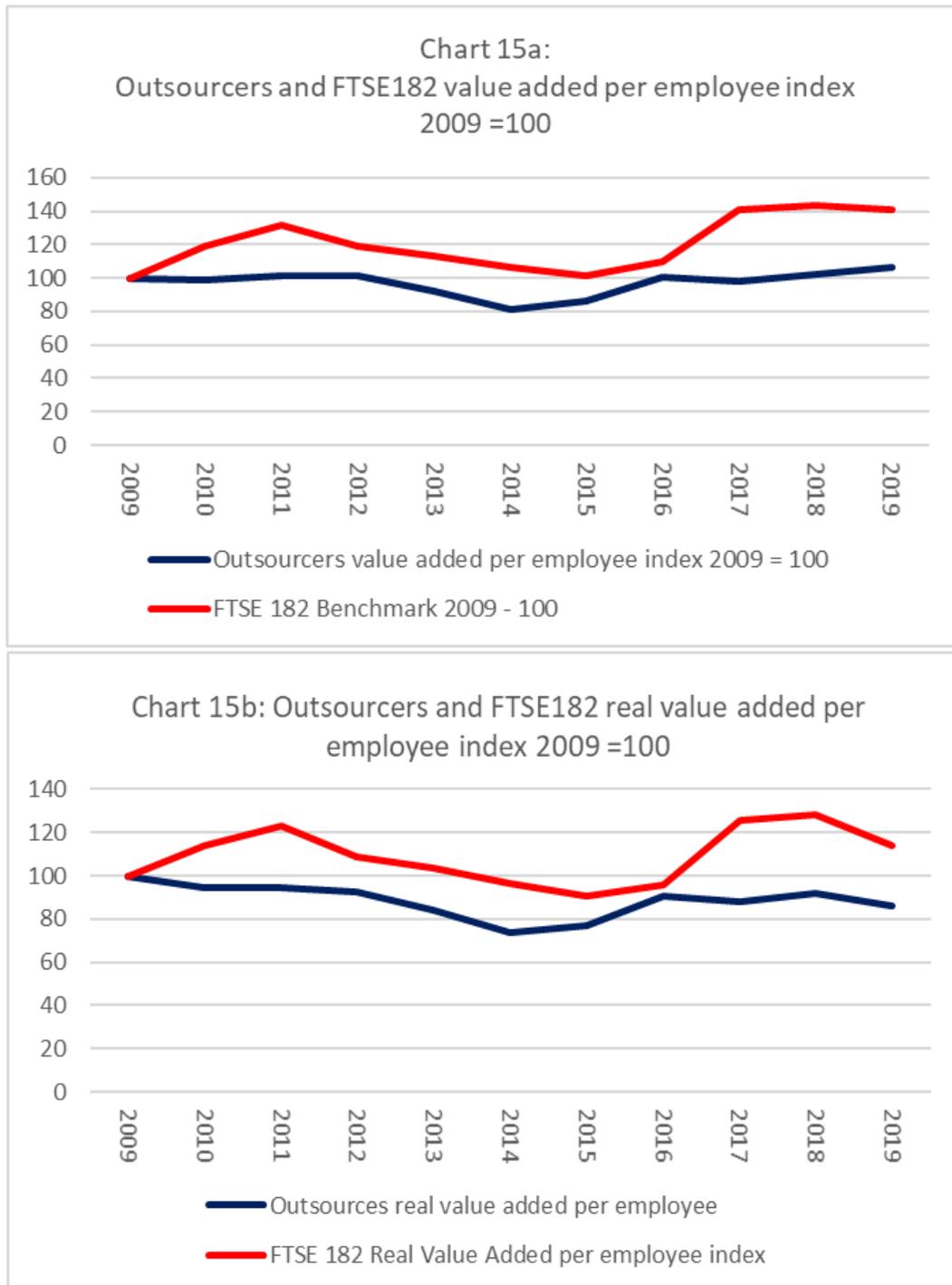
Table: 7 Banks and FTSE 182 Debt and Goodwill Impairment Exposure Risks

Long-term debt to shareholder equity Banks)	Long-term debt to shareholder equity (FTSE 182)	Goodwill to shareholder equity (Banks)	Goodwill to shareholder equity (FTSE182)	20% goodwill impairment average % Net Income Impact
Ratio	Ratio	%	%	
1.3	0.8	11.4	30.3	-56%

Source: Thomson EIKON datasets

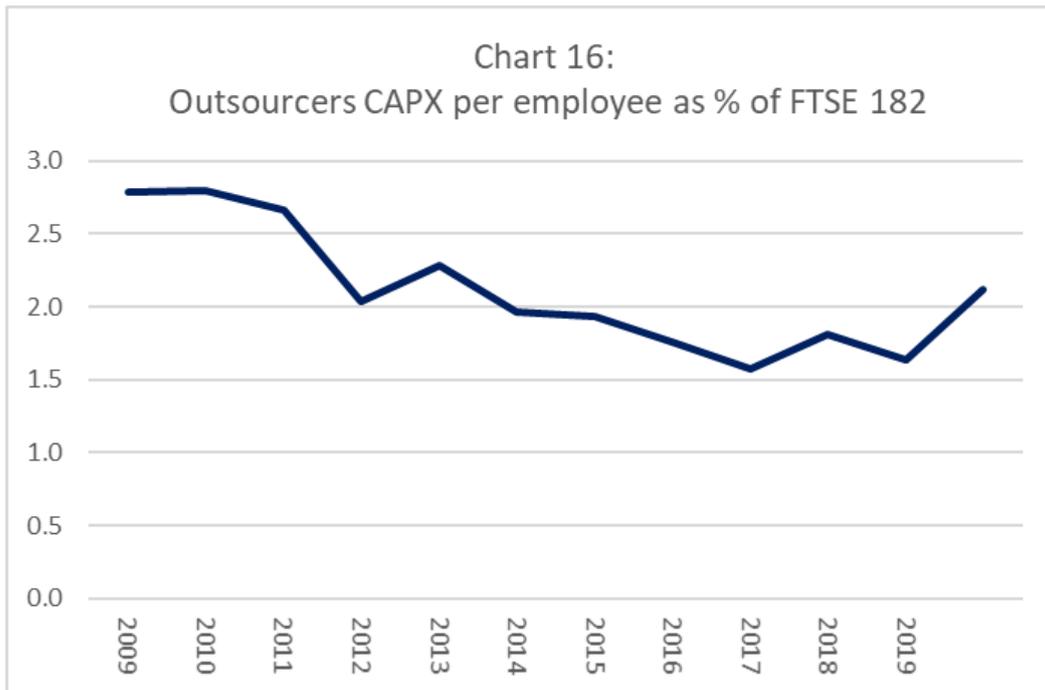
7.2 Outsourcing services companies

The case companies employed in this section were G4S, Capita and Serco. This group of companies carry out infrastructure and facilities management services for both private and public sector organisations. Again, the comparison made is of the key operating and risk metrics with those for the FTSE 182 benchmark group to assess strengths and weaknesses with regard to productivity and financial risk.



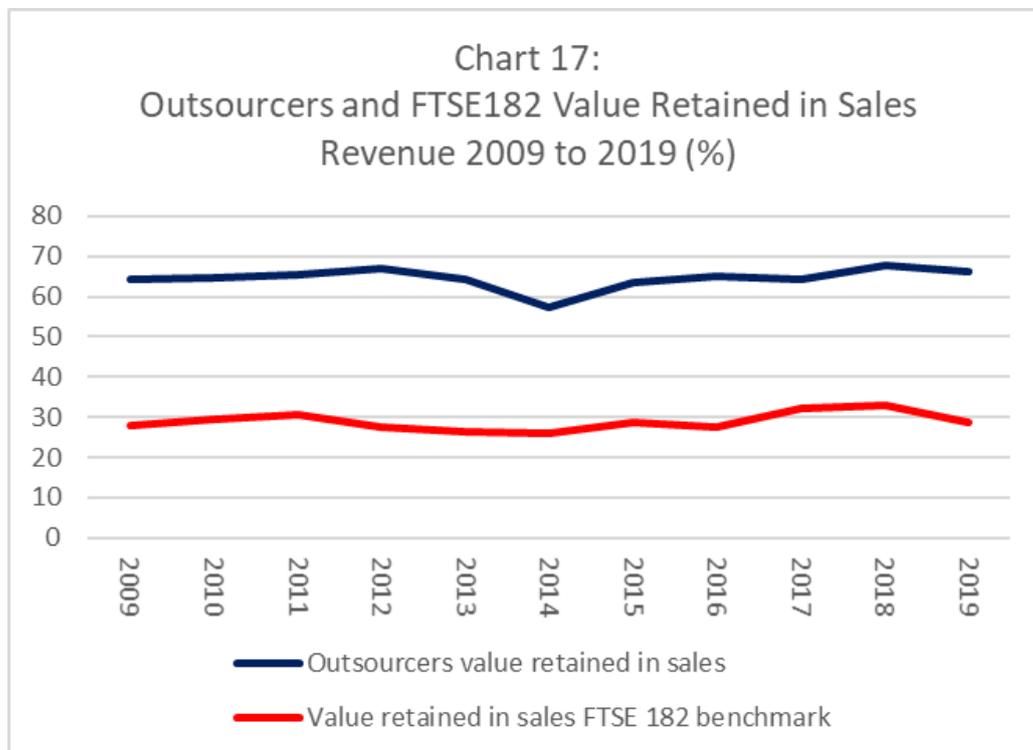
Source: Thomson EIKON datasets

As charts 15a and 15b show, outsourcing companies have consistently underperformed the FTSE182 benchmark average in nominal and real value added per employee growth. In real terms, value added per employee has fallen by nearly twenty percent compared to a ten percent increase for the FTSE182. In addition, this group of companies tend to operate with a very thin capex per employee ratio at just 2-3 percent of the average spend per employee in the FTSE182; this figure has also been declining over time (chart 16). This feature reflects the increasingly intangible nature of outsourcers, who effectively act as coordinators of supply chains with very few tangible fixed assets of their own.



Source: Thomson EIKON datasets

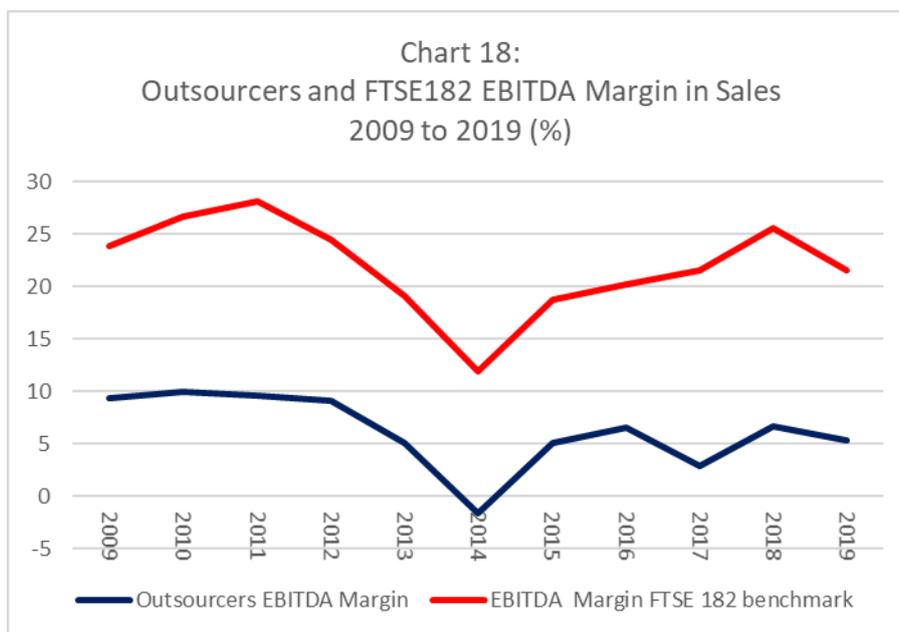
Our cohort of outsourcing companies operate with a very high value retention in sales revenue, averaging sixty percent compared to thirty percent for the FTSE182 benchmark group (Chart 17).



Source: Thomson EIKON datasets

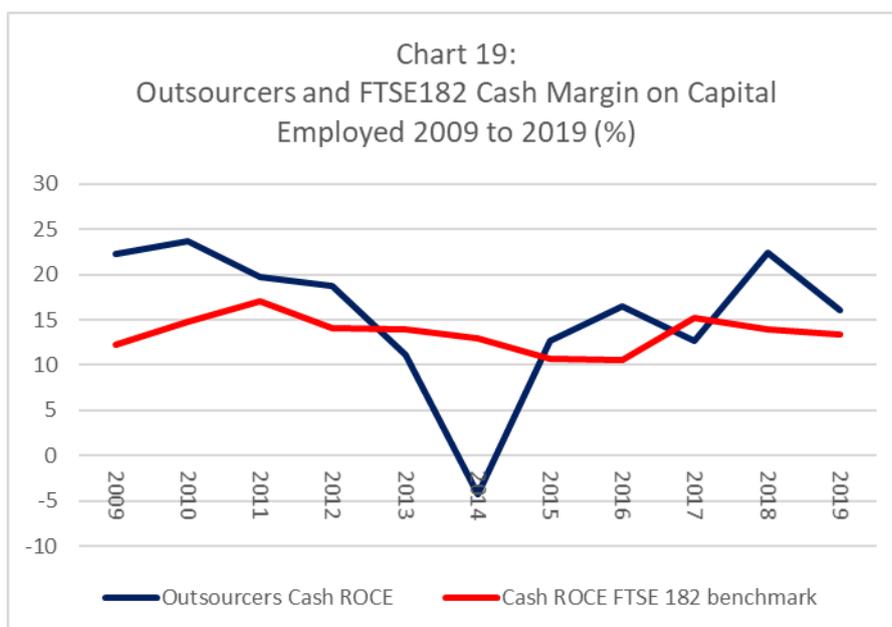
The outsourcing company business model whilst operating with a very favourable value retention in sales revenue also operates with a very high share of employment costs in value

retained. This leaves a relatively thin residual cash to sales margin of roughly 10 percent, which is in a good year roughly half the margin achieved by the FTSE182 benchmark group (Chart 18).



Source: Thomson EIKON datasets

Although the EBITDA operating margin is lower, the outsourcing companies operate with a relatively low capital intensity to sales and this helps lift the return on capital to a levels which, although volatile, tracks around the FTSE182 benchmark return on capital employed (Chart 19)



Source: Thomson EIKON datasets

As Table 8 shows, the outsourcing industry business model is generally highly geared in terms of debt to equity ratios relative to the FTSE 182 group average (2.3 compared with 0.8). In

addition, the outsourcing business model operates with a very high goodwill to shareholder equity at roughly 7 times shareholder equity. As a consequence, a 15 percent reduction in goodwill would be sufficient to completely wipe-out shareholder equity reserves. This unstable balance sheet feature explains some of the vulnerabilities experienced by recent collapses at Carillion and Interserve.

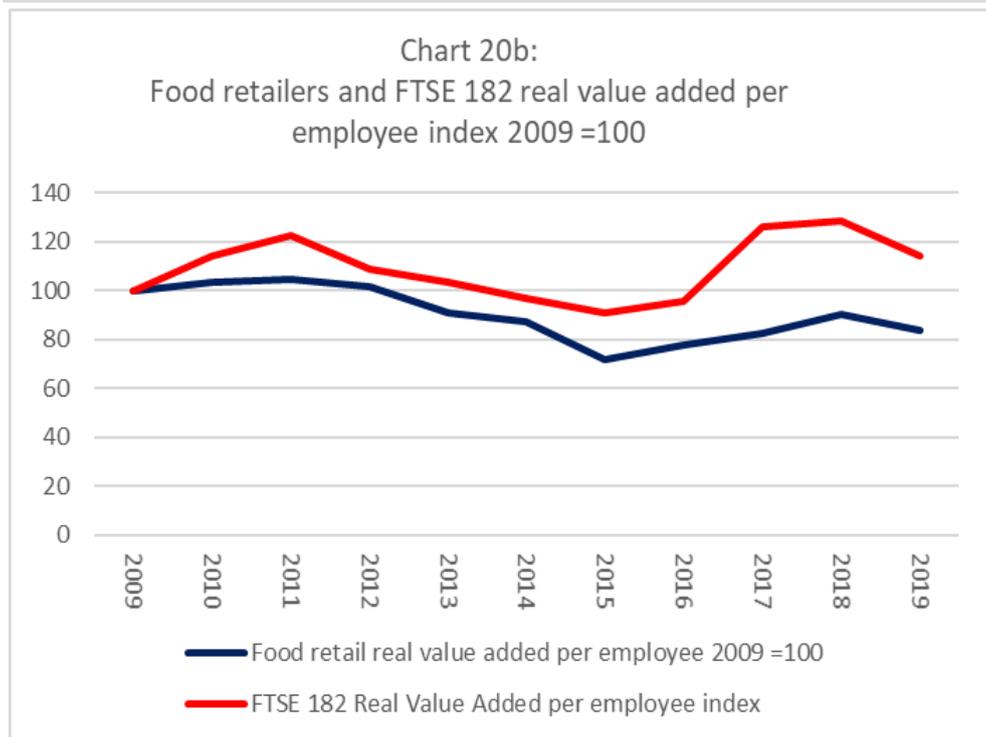
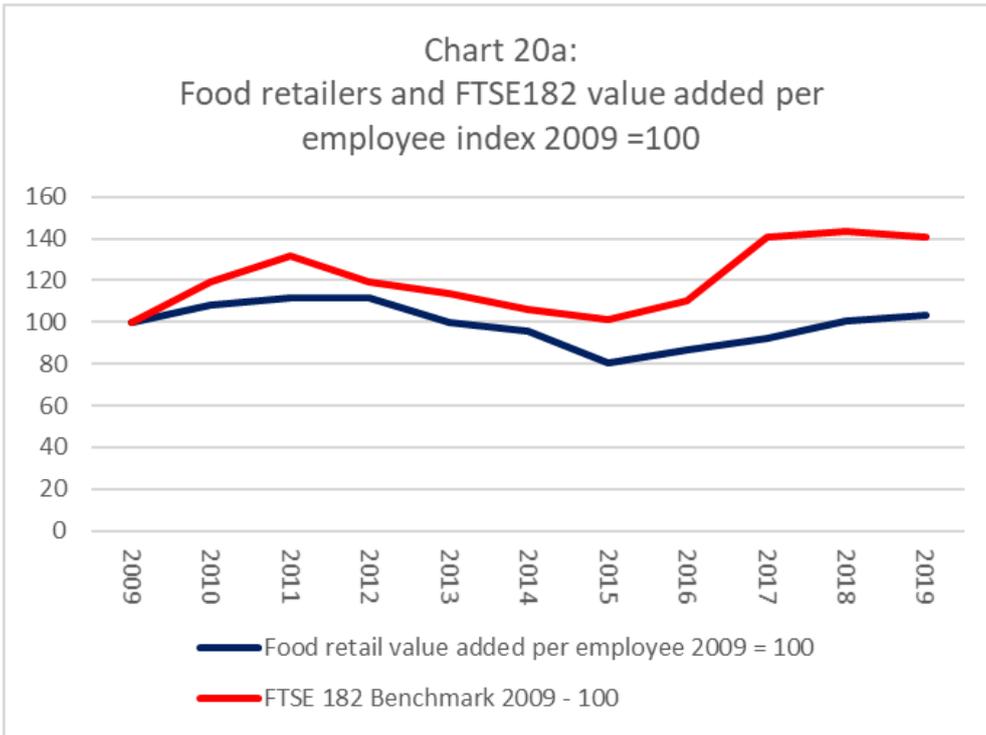
Table: 8 Outsourcers and FTSE182 Debt and Goodwill Impairment Exposure Risks

Long-term debt to shareholder equity (Outsourcers)	Long-term debt to shareholder equity (FTSE 182)	Goodwill to shareholder equity (Outsourcers)	Goodwill to shareholder equity (FTSE182)	20% goodwill impairment average % Net Income Impact
Ratio	Ratio	times	%	
2.3	0.8	6.7	30.7	Completely erode earnings

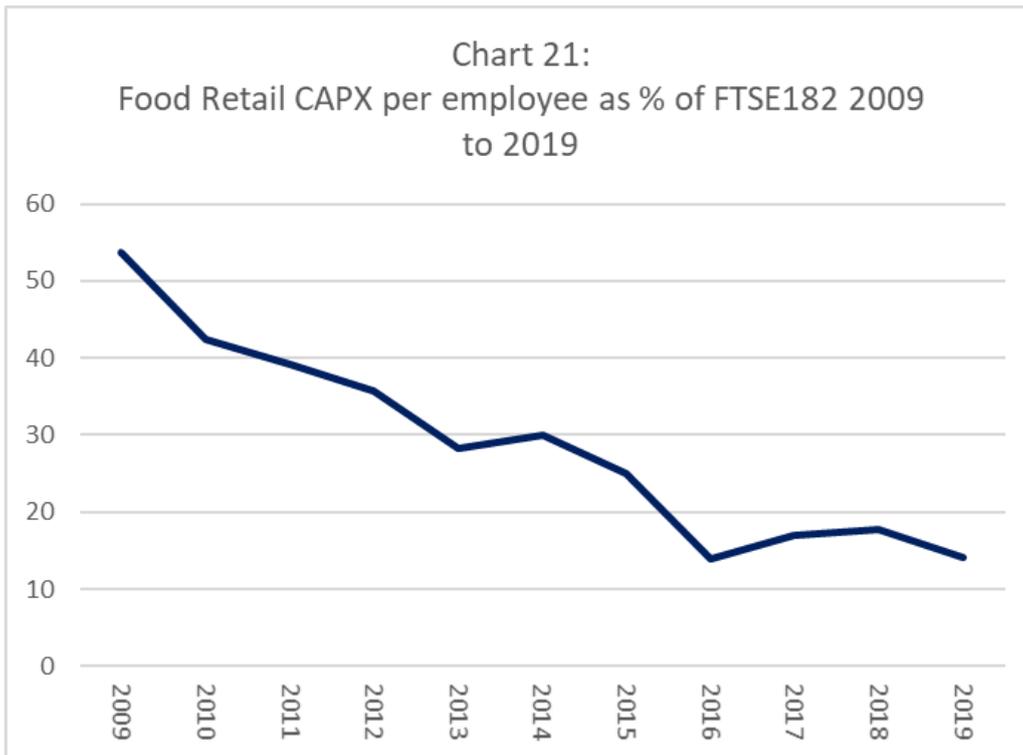
Source: Thomson EIKON datasets

7.3 Food retailers

The case companies in this section were Sainsbury plc, Tesco plc and Wm. Morrison's plc. Over the period from 2009 to 2019 food retailers underperformed the FTSE182 benchmark group in terms of their nominal and real price adjusted growth in value added per employee (see charts 20a and 20b). For food retailers the nominal value added per employee has remained flat over the period and in real terms is down roughly twenty percent on 2009 (chart 20b). In addition, the food retail companies have progressively reduced their commitment to capex per employee relative to the FTSE182 benchmark group of companies (chart 21).

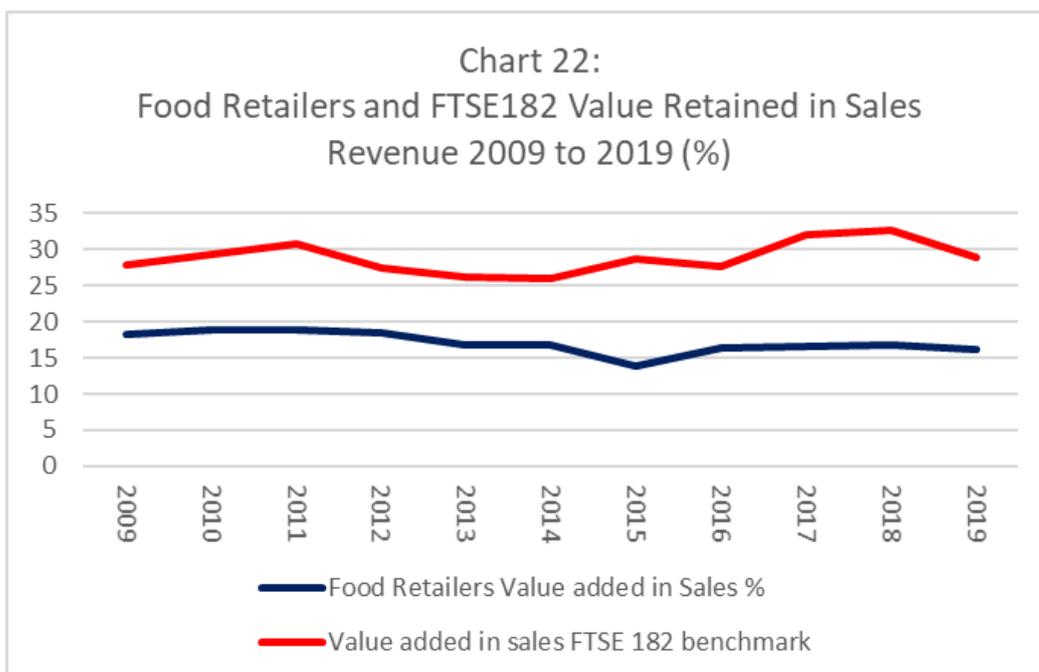


Source: Thomson EIKON datasets

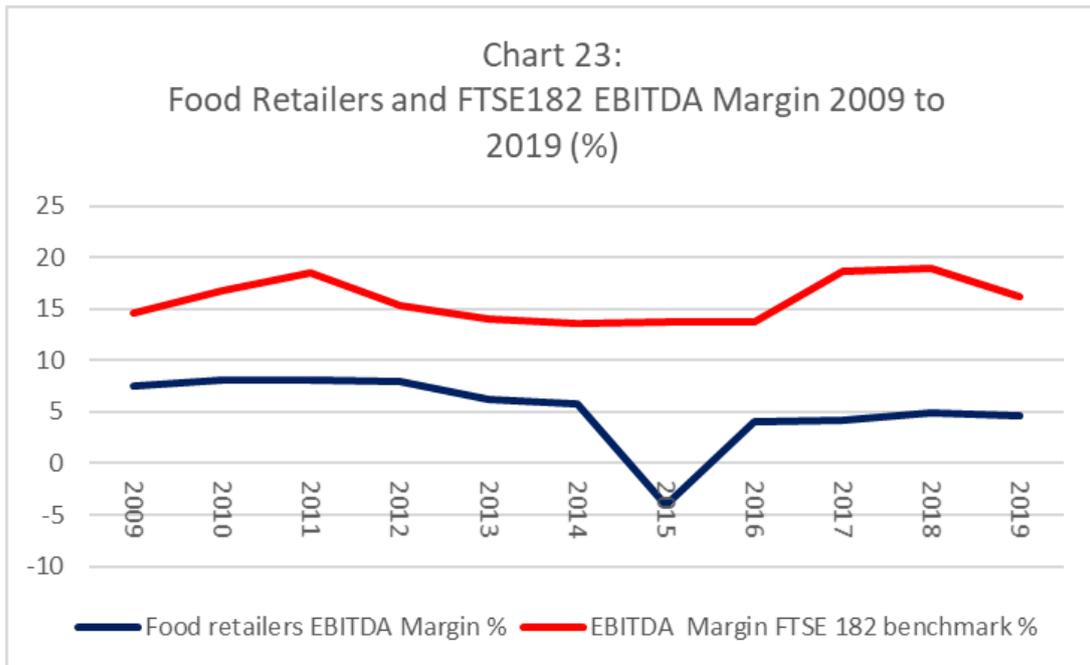


Source: Thomson EIKON datasets

The food retail sector involves buying-in product from food processing manufacturers and other suppliers, and as a result purchases account for roughly eighty percent of total revenue leaving approximately twenty percent of sales revenue as value retained. This is around ten percentage points, or more, lower than the FTSE182 benchmark group average (chart 22) and limits the EBITDA margin that can be generated from operations and after paying employee expenses (see chart 23).

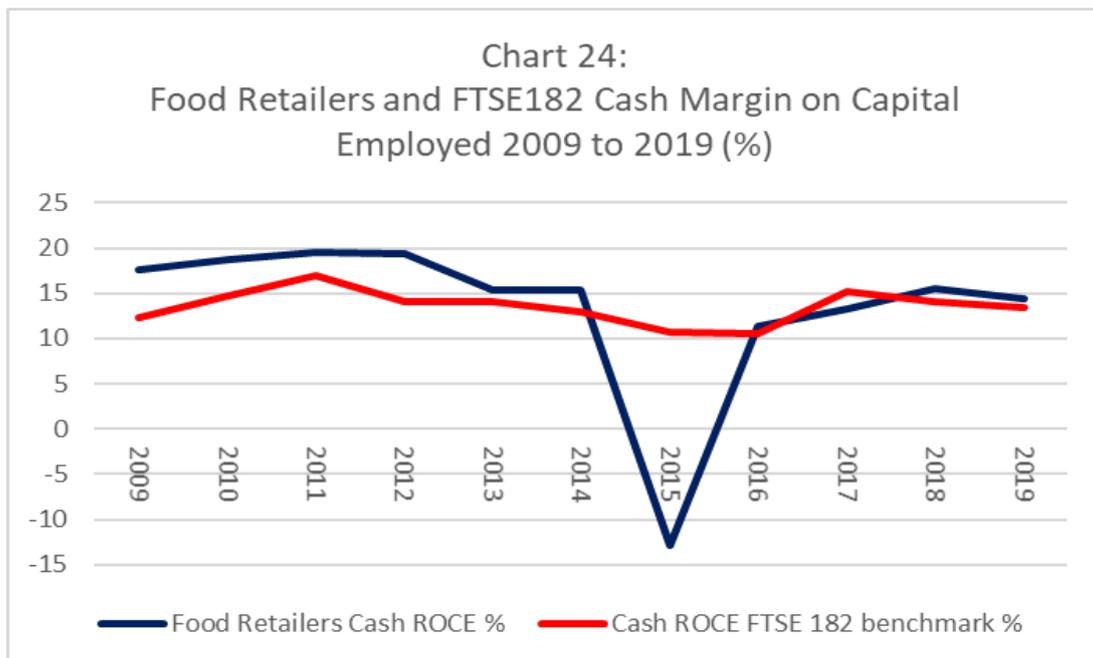


Source: Thomson EIKON datasets



Source: Thomson EIKON datasets

Food retailing does not generate strong EBITDA margins out of sales revenue and so companies are limited in terms of the level of debt financing they can take on to finance expansion. This conservative capital funding reduces capital intensity (capital employed relative to annual sales revenue) and this helps to inflate the cash margin return on capital employed to a level which tracks but does not exceed the FTSE182 benchmark (chart 24).



Source: Thomson EIKON datasets

As table 9 shows, the food retail companies have a low debt-to-equity ratio relative to the FTSE 182 benchmark and a slightly lower goodwill to shareholder equity ratio. However, if the

goodwill of this group of companies were to be impaired by twenty percent this would still reduce net income in 2019 by two-thirds.

Table: 9 Food retail and FTSE182 Debt and Goodwill Impairment Exposure Risks

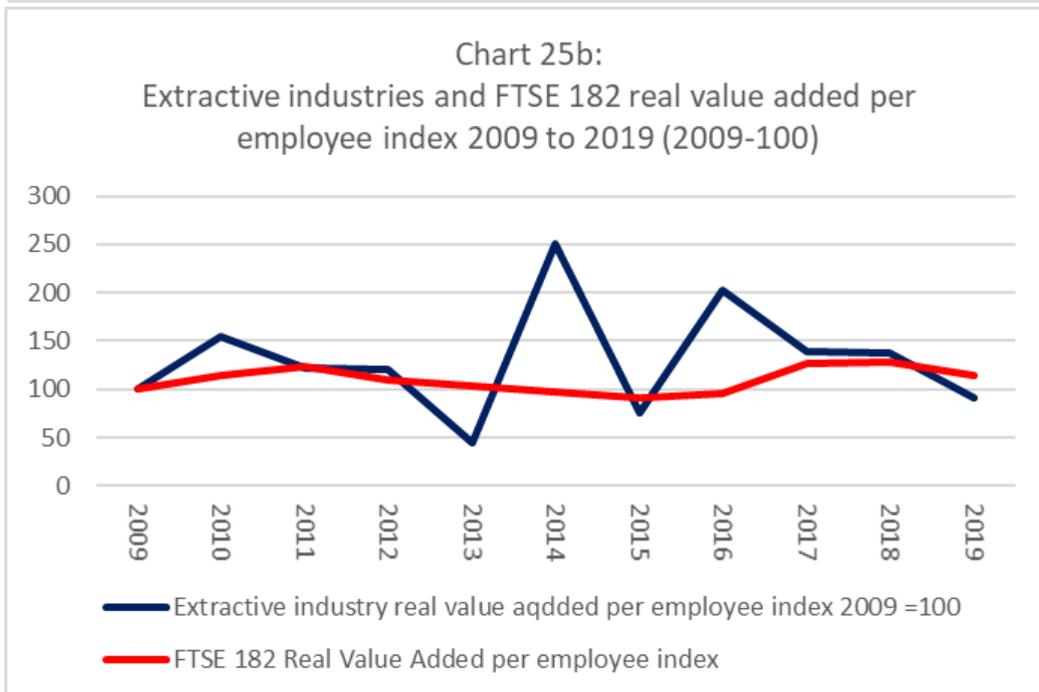
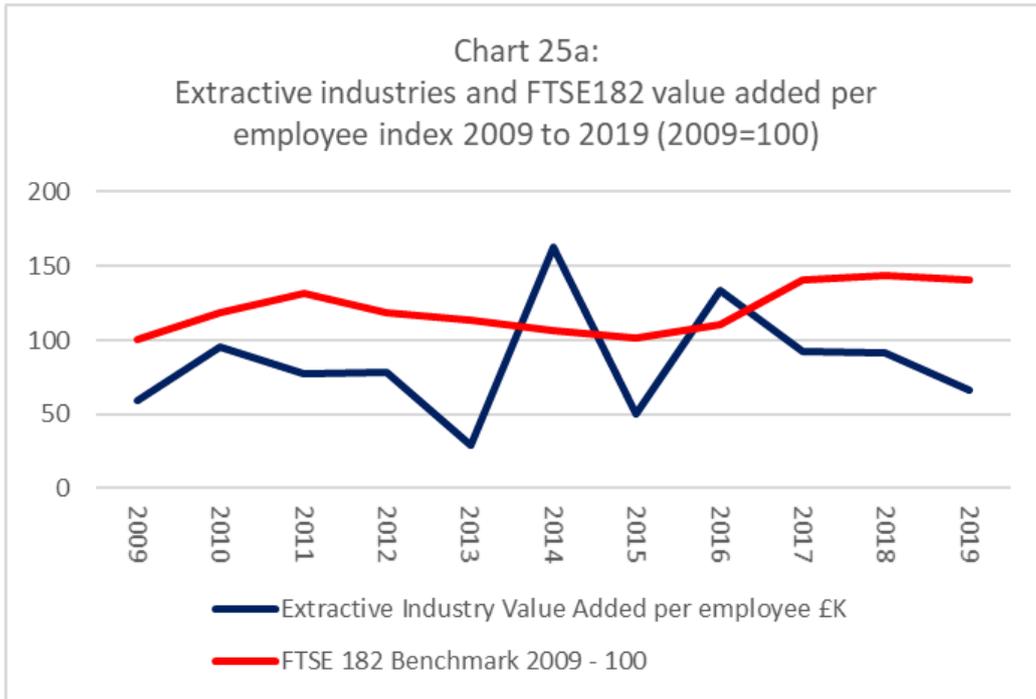
Long-term debt to shareholder equity (Food Retail)	Long-term debt to shareholder equity (FTSE 182)	Goodwill to shareholder equity (Food Retail)	Goodwill to shareholder equity (FTSE182)	20% goodwill impairment average % Net Income Impact
Ratio	Ratio	%	%	
0.3	0.8	22	30	-67%

Source: Thomson EIKON datasets

7.4 Extractive Industry

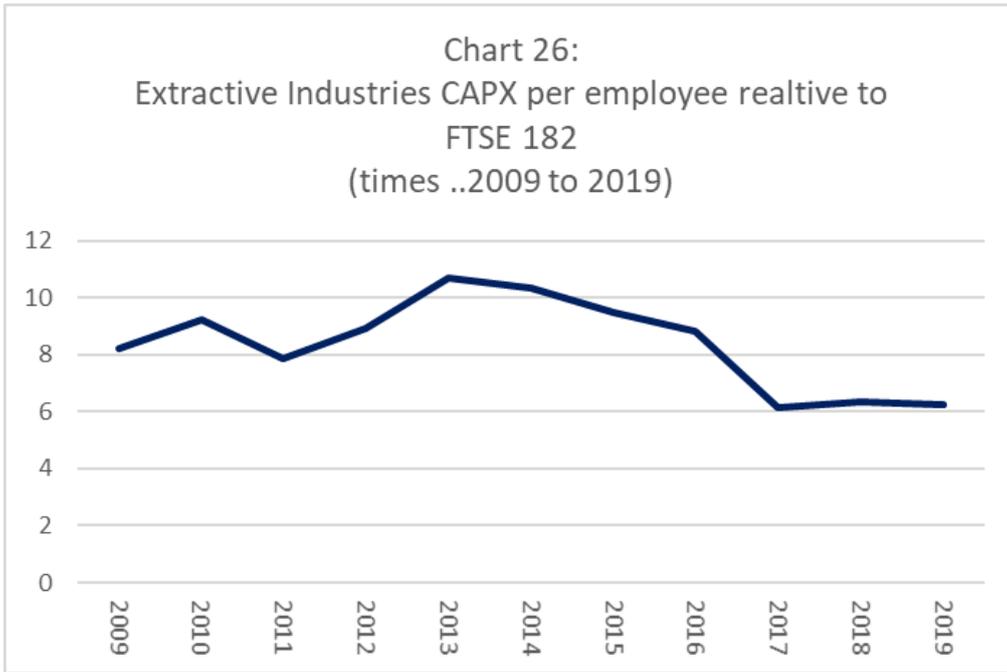
The case companies in this section were Glencore PLC, BP, and Royal Dutch Shell.

Starting with charts 25a and 25b it is clear that the nominal and price adjusted real value added per employee index is volatile in this sector, although in real terms value added per employee roughly follows the FTSE182 benchmark group. It should be noted that employment in this group of companies has increased by 23 percent over the period 2009 to 2019.



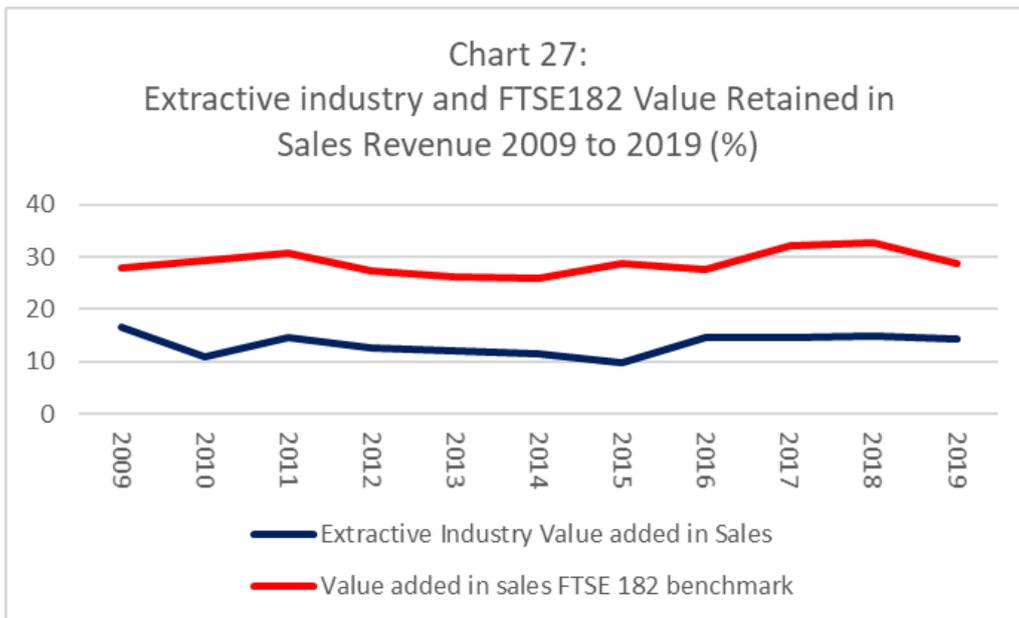
Source: Thomson EIKON datasets

Given the nature of this industry, companies are very capital intensive and capital expenditure is 8-10 times higher than the FTSE182 benchmark group. However, the general trend is for this gap to close from 8-10 times in an earlier time period to 6 times higher in a later period (chart 26).

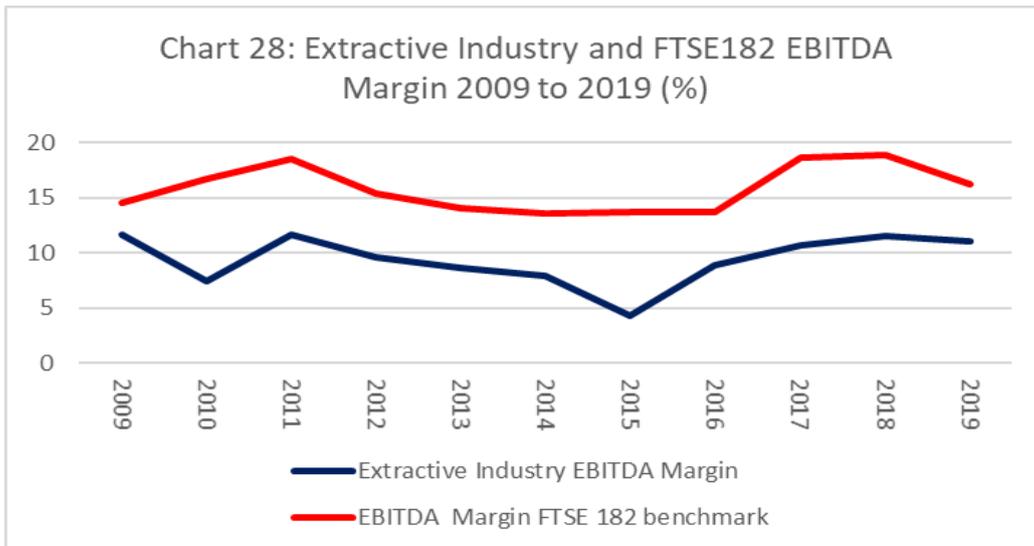


Source: Thomson EIKON datasets

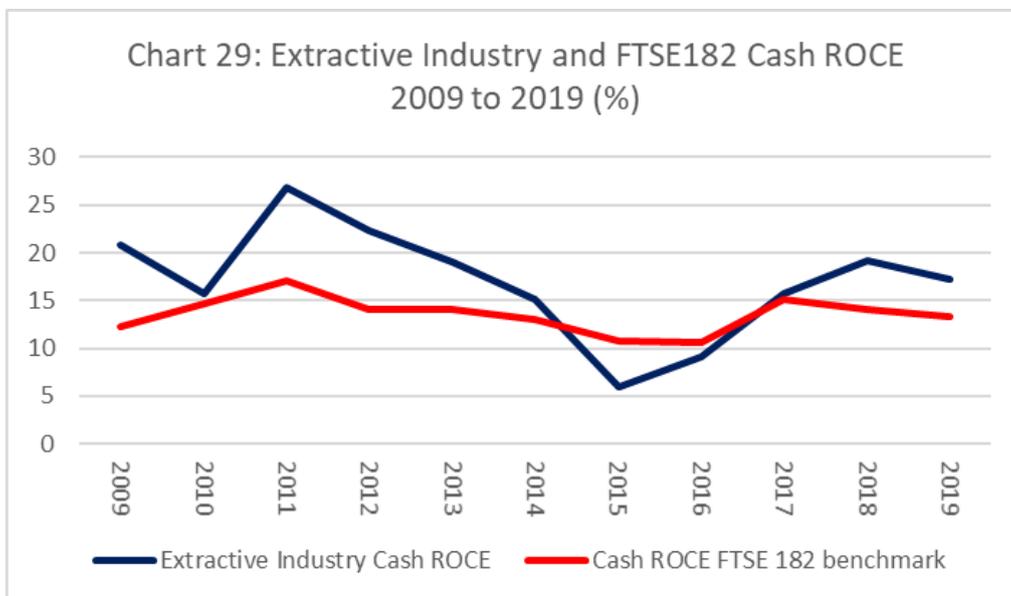
The extractive industry business model is similar to that of the food retail business model in that 85 percent of total revenue is bought-in materials and services including payments for land licenses and access to geologies. This means that relative to the FTSE182 benchmark group this industry business model retains just fifteen percent of total revenue as value retained (chart 27). This limits the cash margin unless employment costs are a small share of total revenues. The impact of very high purchases in proportion to sales and low value retention rate combined with a relatively modest employment costs in sales revenue results in an EBITDA margin which is consistently below the FTSE182 average (see charts 28 and 29).



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets

After adjusting for capital intensity the cash ROCE for the extractive industries is cyclical and not consistently improving and in general terms tracks the FTSE182 benchmark group (chart 29).

Table: 10 Extractive industry and FTSE182 Debt and Goodwill Impairment Exposure Risks

Long-term debt to shareholder equity (Extractive Ind.)	Long-term debt to shareholder equity (FTSE 182)	Goodwill to shareholder equity (Extractive Ind.)	Goodwill to shareholder equity (FTSE182)	20% goodwill impairment average % Net Income Impact
Ratio	Ratio	%	%	
0.5	0.8	12	30	-55%

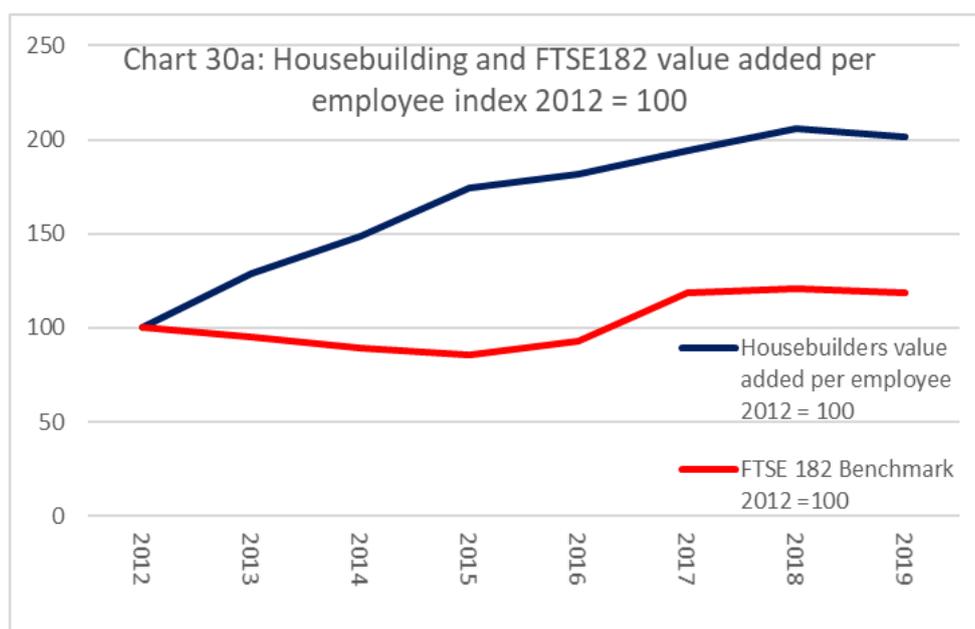
Source: Thomson EIKON datasets

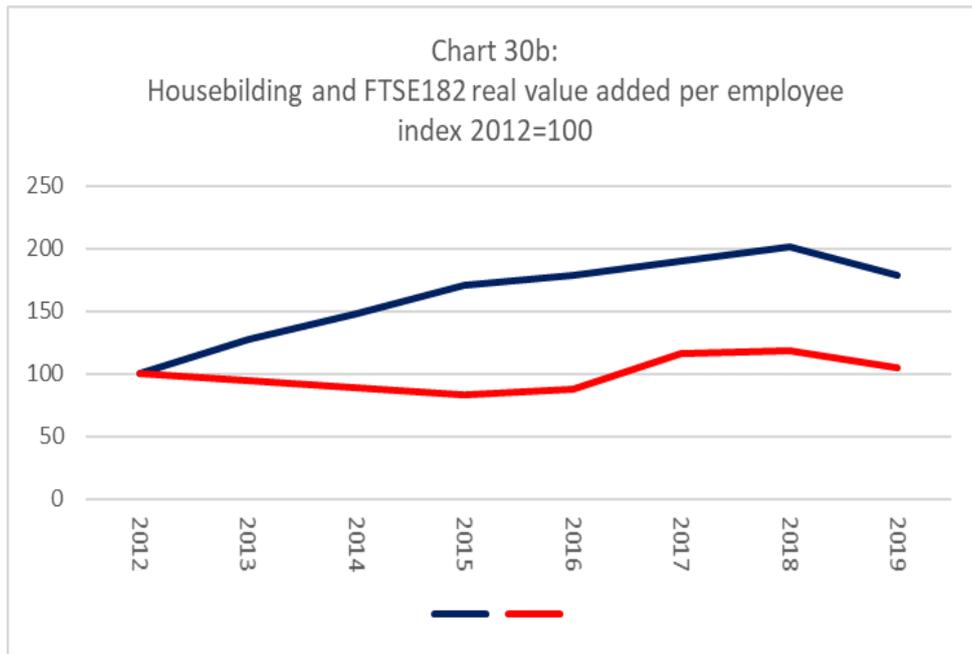
Table 10 suggests that extractive industry companies have a relatively low debt to equity ratio compared to the FTSE182 benchmark and a low goodwill to shareholder equity ratio. However, if the goodwill of this group of companies were to be impaired by twenty percent this would reduce net income in 2019 by over fifty percent.

7.5 Housebuilders

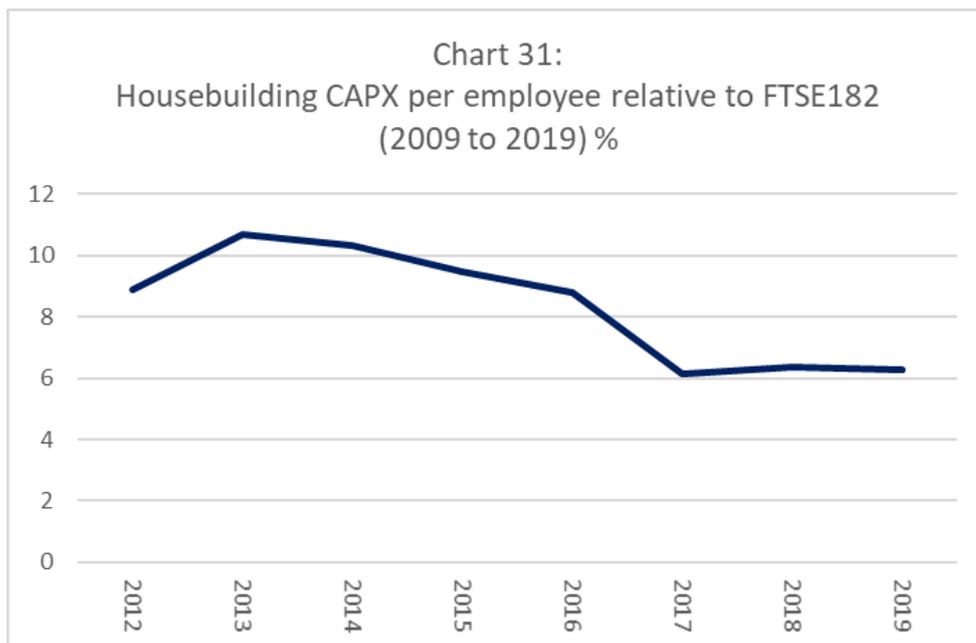
The case companies in this section were Barratt Developments, Persimmon plc, and Taylor Wimpey plc. Unlike the other case studies, analysis in this case starts in 2012 as over the period 2009 to 2011 this group of companies were required to write down asset values and contracts after the financial crisis and this has a major impact on their reported financial performance that made underlying analysis meaningless.

Charts 30a and 30b illustrate the growth in nominal and real price adjusted value per employee in housebuilding companies relative to the FTSE182 benchmark group. There is a strong recovery in real value added per employee after 2012 and the trajectory is above that for the FTSE 182 benchmark group (see chart 30b). Housebuilders CAPEX per employee is about 6-8 percent of the FTSE182 company average and in recent years this gap has been increasing (see chart 31).



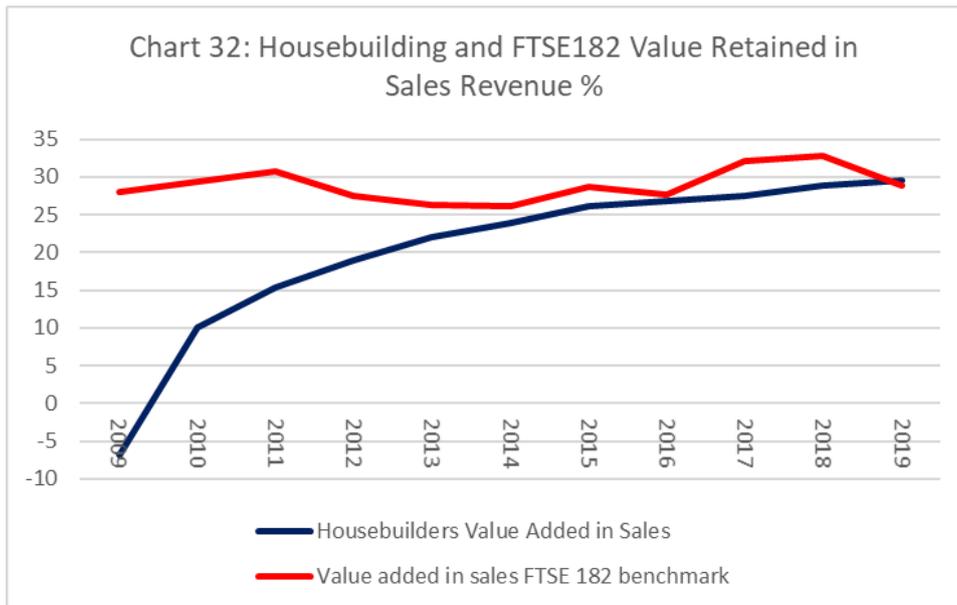


Source: Thomson EIKON datasets

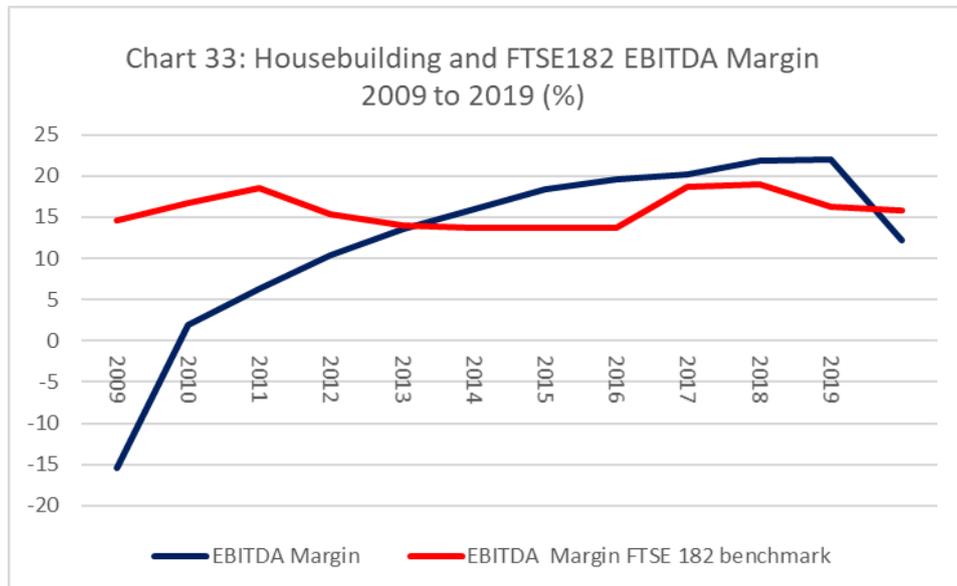


Source: Thomson EIKON datasets

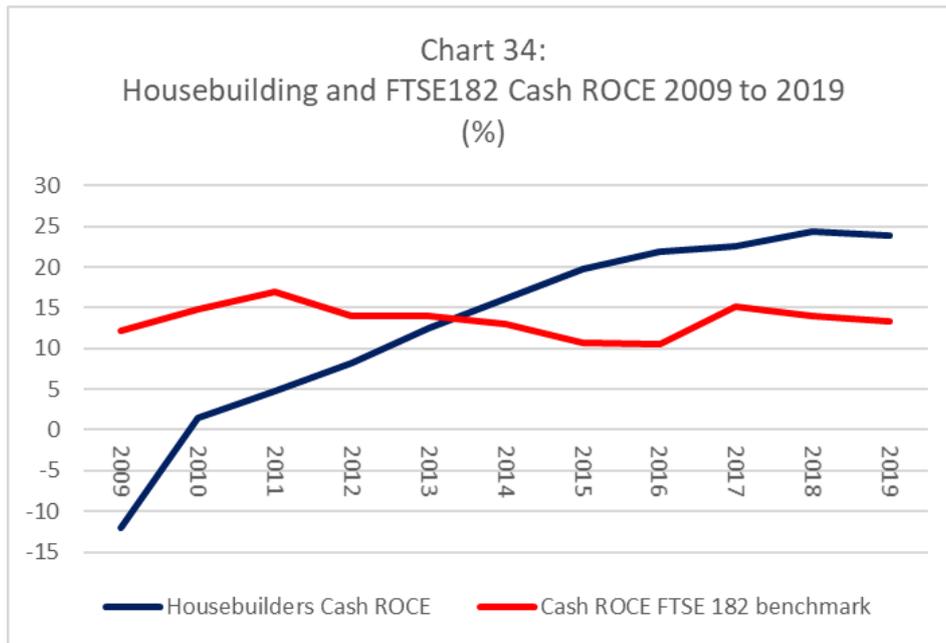
Charts 32 and 33 reveal the value retained in total income and the cash margin on sales revenue. During the period 2009 to 2012 companies in this industry business model suffered from a collapse in asset and contract valuations and thereafter their ratios recover to levels which stabilise and roughly match those of the FTSE 182 benchmark group. There is a similar picture with regards to housebuilders EBITDA return on capital employed which recovers after the financial crisis and then moves above of the FTSE182 benchmark group average for the period 2014-2019 (chart 34).



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets



Source: Thomson EIKON datasets

Table 11 shows that as the housebuilders recovered after the financial crisis they were able to pay down debt and reduce their debt to equity ratios. In addition, this group of companies are less exposed to a goodwill impairment relative to the FTSE182 benchmark group of companies and less susceptible to a loss of net income from a twenty percent reduction in goodwill impacting upon reported net income.

Table: 11 Housebuilders industry and FTSE182 Debt and Goodwill Impairment Exposure Risks

Long-term debt to shareholder equity (Housebuilding Ind.)	Long-term debt to shareholder equity (FTSE 182)	Goodwill to shareholder equity (Housebuilding Ind.)	Goodwill to shareholder equity (FTSE182)	20% goodwill impairment average % Net Income Impact
Ratio	Ratio	%	%	
0	0.8	12	30	-11%

Source: Thomson EIKON datasets

7.6 Consolidating the case studies

The aim of this latter section of the report is to acknowledge a diversity of performance across different metrics that get lost in the quintile averages in the front half of this report. The company/sector case studies above highlight this diversity and establish the extent to which these companies, classified by industry and located in the top quintile group in terms of their high level of earnings distribution, perform well in some areas and less well in others relative to the FTSE182 benchmark.

To provide comparison, Table 12 has been prepared. For each key metric on productivity, financial performance and financial resilience a colour coded score has been awarded. Red

indicates metrics that are below the average for the FTSE 182 benchmark group; amber reflects metrics that lie close to the average for the FTSE 182 benchmarks and green signals cases where the metric lies above that for the FTSE 182 benchmark group

In total some forty metrics are available across the five industry sectors and out of these roughly three-quarters are marked red or amber meaning that the performance metric is equivalent or below the FTSE182 benchmark average.

Notably, there is no industry sector that we analysed that performs persistently above the benchmark average. However, there is some sectoral diversity; some do better than others. At the top end of performance, housebuilding companies show 4 out of eight metrics that are green and at the bottom end of the range outsourcers show just one metric green, in that case for 'value retained in total income', with all the other metrics apart from the cash ROCE score being below the FTSE182 benchmark average.

Table 12: Key metrics by industry relative to the FTSE182 benchmark

	Value added per employee	Real Value Added per employee	CAPX per employee	Value Retained in Sales %	EBITDA as % Sales	Cash ROCE %	Debt to Equity Ratio	Goodwill to Equity Ratio	impairment and net income impact
Banking	Amber	Amber	Amber	Green	Green	Amber	Amber	Green	Amber
Outsourcers	Amber	Amber	Amber	Green	Amber	Amber	Amber	Amber	Amber
Food retail	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Amber
Extractive Industries	Amber	Amber	Green	Amber	Amber	Amber	Amber	Amber	Amber
Housebuilding	Green	Green	Amber	Amber	Amber	Amber	Green	Green	Green

Source: Authors

The implication of this analysis is that sectors over-represented in the top quintile for the distribution of net earnings as dividends and share buy-backs do not generally exhibit strong and consistent productivity growth or high-value commitments to capex investment per employee compared to the FTSE182 benchmark average. Financial performance is also mixed and the bottom-line EBITDA ROCE no better than that achieved by the average FTSE182 benchmark. In terms of financial resilience there is a more positive story with regards to the goodwill to equity ratio, with only outsourcers exposed to significant goodwill impairment risks; although banking groups have historically been vulnerable to the impairment of other assets, notably their trading assets and loan books. However, most companies within these industry sectors would experience significant harm to their reported net income by just a 20 percent goodwill impairment and this would then have a knock-on impact on their reported market values. The implication is that high levels of returns to shareholders from profit are not, from these sectoral examples, driven by longer term productivity growth, but instead come from the taking on of more balance sheet risk, whichever sector is considered.

8. The creation of a company-based index

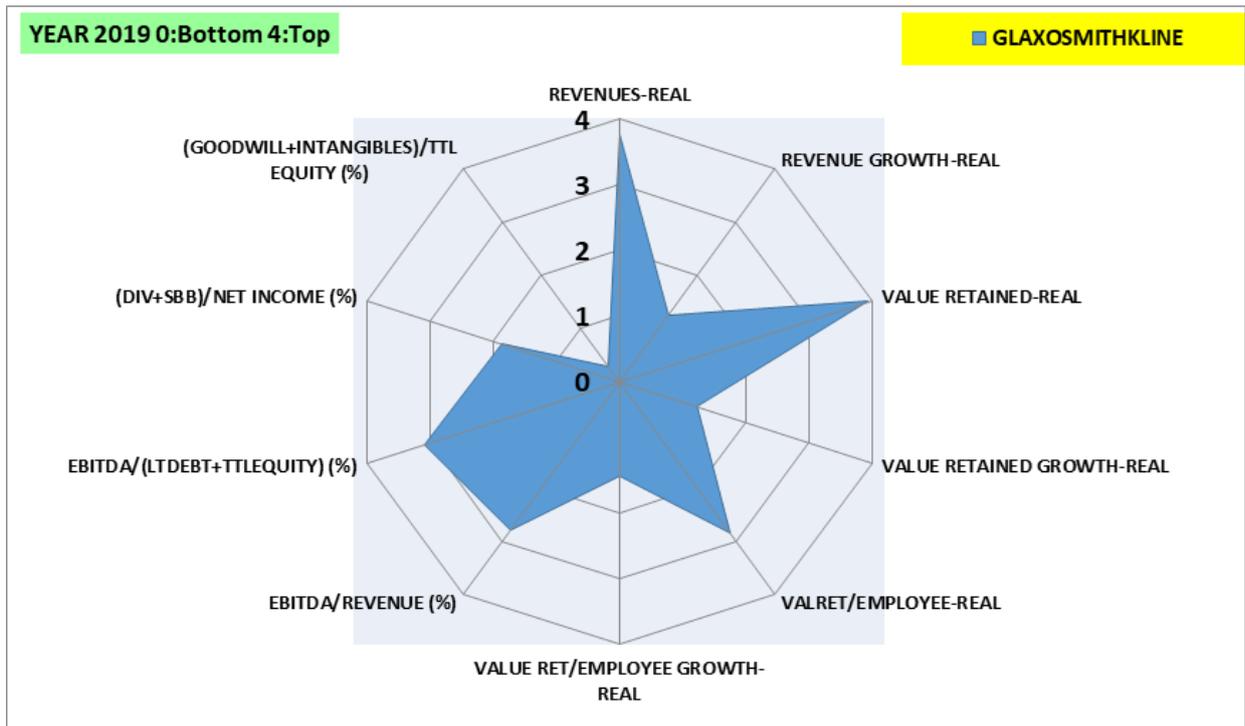
In order to provide yet more granularity, we have produced an accompanying interactive spreadsheet index which allows users to assess the relation between dividend distribution and share buybacks, long term productivity growth, operating performance and goodwill impairment risk on a company by company basis, relative to the FTSE182 benchmark. This index will allow users to identify those corporations that could be considered to have lower levels of risk compared to the sample as a whole or exhibits higher than average long-term productivity improvement.

In our index we have compiled the following indicators already used in this report:

- Revenues;
- Revenue growth;
- Value retained;
- Value retained growth;
- Value retained per employee;
- Value retained per employee growth;
- EBITDA / Revenue %;
- EBITDA / (Long term debt + Long term equity) %
- (Dividends + Share buy backs) / Net income %
- Goodwill / Total equity %
- (Goodwill + intangibles) / Total equity %

Our index allows the user to access this data on a company by company basis, calculated for each year and then averaged to provide an index measure, which is then presented as a spider chart as shown below. In this chart a score of 2 = the benchmark average. A score closer to 4 indicates the company performs above the benchmark average; a score closer to zero indicates a company underperforms the benchmark average¹⁵.

¹⁵ Note that we consider a high '(Goodwill + Intangibles)/TTL Equity' to be undesirable, and so a score of 4 would mean a low G+I/TTL E ratio. Similarly, we treat a high '(Div+SBB)/Net income' score as undesirable; and so a score of 4 would indicate a low '(Div+SBB)/Net income' ratio.



Hence in this example:

- Revenues are well above average compared to the FTSE182 benchmark average as a whole;
- Revenue growth is very low compared to the benchmark average as a whole;
- Value retained is very high compared to the benchmark average;
- Value retained growth is very low compares to the benchmark average;
- Value retained per employee is a little better than the benchmark average as a whole;
- Value retained per employee growth is well below the benchmark average;
- EBITDA / Revenue % is a little above the benchmark average;
- EBITDA / (Long term debt + Long term equity) % is well above benchmark average;
- (Dividends + Share buy backs) / Net income % is below the benchmark average;
- (Goodwill + intangibles) / Total equity % is below the benchmark average.

To summarise, this is a company that generates high levels of value added and ROCE but which is not growing significantly; has a low productivity growth record and carries some balance sheet exposure to the impairment of goodwill/other intangibles. It would be possible in future to extend the data used and develop a range of index indicators of performance for the sample, tailor made if appropriate to individual user need.

9. Conclusions

The results of our aggregate and quintile analysis could be interpreted in a number of ways and requires more granular work to unpack what is going on in particular upper quintile, high-distributing companies in the FTSE182 sample.

It may be that faced with product market constraints which limit the growth of value added per employee and with limited room for product and process innovation or corporate reinvention that firms are simply focusing on consolidation and/or are disgorging their free cashflow. This is what modern finance would presume firms of this nature would do. However, the converse may also be true; the causal arrows may run the other way: that a desire to increase dividends is producing certain corporate pathologies that lead to over-leveraging, inorganic growth and a neglect of investment and productivity. Building on our previous analysis (Baker et al 2020) and emerging case examples (eg BEIS DWP 2018), we expect to see two additional processes if this latter scenario proves to be true:

1. If distributions run ahead of profit, and leverage levels are high, borrowed money may be part-financing the capacity of firms to pay dividends/make share repurchases. In the US, for example, it is estimated around half of all distributions are paid from debt (Light 2019). Firms are not allowed to pay dividends out of capital, and so it is likely that either a) retained earnings are being depleted whilst debt is being loaded to finance other costs, adding balance sheet risk as gearing ratios rise or b) twin track strategies are being employed to recognise profit and access cash through different channels: creative accounting may be used to recognise revenue, push back costs or lever fair value revaluations through the subsidiary network to increase distributable reserves (see Baker et al 2020); or companies may be creating profit overloads in particular subsidiaries which, after distributions are made to the parent, lead to dislocations between group and parent net asset or retained earnings positions (Leaver & Murphy 2021). Debt then provides the cash to make the distributions when distributable reserves come from 'operating cash-less' profits. That too adds risk and increases opacity for investors and other stakeholders.
2. The top quintile of firms are also active acquirers of corporate assets and so their balance sheet often contains large amounts of intangible assets, mainly goodwill. This is worrying in two respects. First, in simple terms it means that a significant amount of debt is financing assets of an increasingly speculative and intangible nature where those values crucially rely on expectations of future cashflows which now may no longer materialise. The risk of 'impairment shocks' – large, one-off writedowns of goodwill and other fair valued assets which blow through equity buffers – is material in such circumstances. Second, it may be that rather than invest and grow firms organically, organisations use capital to merge with or acquire other companies and piggyback on their past investments. However, as our work shows, the investment, productivity and operating profiles of these serial acquirers on a per employee basis is fairly weak. The concern must be that high-distributing, highly indebted, serial acquirers with mediocre investment and operating performance are cannibalising the corporate productivity base of the UK. The non-amortisable features of goodwill

accounting may produce incentives for this kind of serial acquisition/high distribution strategy (see HKICPA 2020¹⁶).

Ultimately more forensic case studies would be needed to pin down the precise levers of shareholder value creation in our upper quintile of firms. Yet if these two features were found, this would be indicative of a more financialized world where creative accounting and financial engineering play an enlarged role. This focus on the accounting channels of financialisation and its link to productivity performance differs subtly from other approaches. The literature on financialisation has argued that since the 1980s corporate governance principles moved from a long-termist 'retain and reinvest' approach to a short-termist 'downsize and distribute' model (Lazonick & O'Sullivan 2000) as attempts to increase short-term shareholder returns produced zero-sum contests between dividends and buybacks on one hand and wages, employment and investment on the other. Later research found that these forms of financialised management priorities led to increased shareholder distributions (Fligstein and Shin, 2004; Lin and Tomaskovic-Devey, 2013) whilst reducing underlying corporate investment (Stockhammer 2006; Tori & Onaran 2018) leading to falling productivity and reserve accumulation over the long term (Orhangazi, 2008; Stockhammer 2004, 2006).

Our view is that these studies can be augmented by adopting a different conception of the firm - one described by Dobbin & Zorn (2005) in the context of Enron's creative accounting as, 'running the corporation to produce numbers that analysts and institutional investors like'. Drawing on Robe (2011) we conceive companies as comprising both a firm identity i.e. a grouping of social and technological activities and relations, and as a corporate identity i.e. as an individual corporate person and reporting entity as it is legally recognised in the UK and US. We view reporting outputs like 'profit' as constructs of accounting rules which are open to some managerial discretion in their reporting rather than some objective representation of an economic reality that presents itself unambiguously (Baker et al 2020). We understand debt as playing a key role in facilitating shareholder-oriented distribution strategies, in many ways alleviating the zero-sum pressures often assumed in the financialisation literature.

If around a fifth of firms in the FTSE182 are – at the aggregate – paying more to shareholders than their underlying operations can generate in net income, then this may indicate a growing dislocation between the Robe-ian identities of firm and corporation in some companies. In those cases, managerial effort may shift from the tangible things of business life towards the more representational things. From an investor point of view, this can create problems about how to disentangle the reported numbers from the real performance of the underlying assets and their attendant risks. The verisimilitude of firm reporting is now a matter of real concern amongst sections of the investor community, and the recent BEIS White Paper on audit reform should, in its recommendations that certain accounting rules around profit realisation be taken from the accounting bodies and handed to a regulator, be read as tacit recognition that the creative accounting to increase distributions had got out of hand (BEIS 2021).

This propensity towards representational rather than operational concerns was thrust into the limelight in the wake of the collapse of Carillion which highlighted the central role played of

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https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FMeeting%20Documents%2F1907221352597252%2F06-11%20ASAF%20Paper%2001A%20RP%20_Goodwill_HKICPA%20ASBJ%20-%20April%202020%20-%20for%20background%20only.pdf&AspxAutoDetectCookieSupport=1

creative accounting in the payment of dividends, and the neglect of a productivity-led operating strategy (eg BEIS DWP 2018; BEIS 2019). Our analysis shows that other companies may also be over-prioritising distributions, to the extent that many pay dividends in excess of net income. Ultimately only forensic case study work will reveal the extent of the creative accounting in this quintile. However, our concern is that the ease by which shareholder returns can be achieved through accounting channels rather than through investment-led productivity growth may encourage managerial *satisficing*. Creative accounting driven shareholder value creation may, in other words ‘crowd-out’ investment-led strategies if the former is easier to execute and provides equivalent returns more reliably, even if that comes at cost to the economy and society. In a context where accounting rules have increased subjectivity and bought-in advisory service providers know how to push those rules to the boundaries of the law, this may no longer be a marginal problem.

The consequent concern is that until the rules concerning the fiduciary duties of many asset managers change it is unlikely that they can simply disinvest from these high distributing firms. There may therefore be a wider capital allocation problem, which is that the market may be rewarding some corporate entities that distribute excess financialised returns instead of those firms that have better prospects of generating real longer-term returns driven by investment-led productivity increases. This suggests a quite different world to Modigliani and Miller (1958) who assume that the market value of a firm is determined by the present value of its future earnings and so should be insensitive to the nature of the shareholder return and scale of the dividend payout and other distributions. Markets appear to be rewarding high-distributing firms irrespective of their capacity to generate long term future earnings through investment-led, productivity enhancing strategies in the upper quintile FTSE companies that we have studied. This issue may be a concern for index tracker investments where a passive fund manager allocates funds to reproduce, as far as is possible, the return from a chosen index as a whole¹⁷. For investors, tracker funds are generally considered low risk. But if, as our analysis suggests, some of the largest companies by market worth underperform by these productivity measures, and carry a lot of debt and goodwill, then risks may be higher than is often appreciated in the long term.

We should, however, sound a note of caution. As our sectoral analysis makes clear, there are significant variations within this upper quintile of high distributing companies. Some industries, like the extractives sector, have more fixed assets and thus much higher rates of capex per employee than the benchmark FTSE182 average. Others like food retailers are not carrying huge amounts of debt relative to their equity and are less intangible than other sectors in the FTSE182. Hence, we should not assume that all high distributing firms carry the same financial profile or are exposed to similar risks, or even fund distributions in the same way. Activity characteristics are important in shaping performance profiles and there is considerable diversity even within these high distributing companies. Again, case study work would reveal this significance.

¹⁷ Investopedia describe this activity as ‘A tracker fund is an index fund that tracks a broad [market index](https://www.investopedia.com/terms/t/trackerfund.asp) or a segment thereof. Tracker funds are also known as index funds, designed to offer investors exposure to an entire index at a low cost. These funds seek to replicate the holdings and performance of a designated index’
<https://www.investopedia.com/terms/t/trackerfund.asp>

That said, our sectoral analysis does highlight one area of concern and that is in the outsourcing sector. This has been an activity characterised by disruption, with the collapse of Carillion and Interserve. Whilst the former has been represented as a failure of leadership, our analysis suggests there may also be structural causes of this fragility. The competitive bidding system for large outsourcing contracts leads to thin margins and encourages consolidation, so that many outsourcing firms are low return, intangible, coordinating hubs who manage long chains of subcontractors. In a context of high shareholder distributions and lumpy and uncertain cashflows, investment may be low and adjustments may be passed through supply chains through longer payment times, with predictable results for productivity levels. Given that public procurement is estimated to be around 12-13% of GDP (NAO 2017), rethinking government outsourcing arrangements may well be one first step to improving national productivity levels.

10. Bibliography

- Aalbers, M.B., 2017. The Variegated Financialization of Housing. *International Journal of Urban and Regional Research* 41, 542–554.
- Arrighi, G., 1994. *The Long Twentieth Century: Money, Power, and the Origins of Our Times*. Verso.
- Baker, A., Haslam, C., Leaver, A., Murphy, R., Seabrooke, L., Stausholm, S., Wigan, D., 2020. Against hollow firms : repurposing the corporation for a more resilient economy [WWW Document]. Against Hollow Firms: Repurposing The Corporation For A More Resilient Economy. URL <https://www.sheffield.ac.uk/media/15425/download> (accessed 8.13.20).
- BEIS, 2021. Restoring trust in audit and corporate governance (White Paper).
- BEIS, DWP, 2018. Carillion - Business, Energy and Industrial Strategy and Work and Pensions Committees - House of Commons.
- Christophers, B., 2015. The limits to financialization. *Dialogues in Human Geography* 5, 183–200.
- Crotty, J., 2005. The Neoliberal Paradox: The Impact Of Destructive Product Market Competition And “Modern” Financial Markets On Non-Financial Performance In The Neoliberal Era, in: Epstein, G.A. (Ed.), *Financialization and the World Economy*. Edward Elgar Publishing, MA, pp. 77–97.
- Demir, F., 2007. The Rise of Rentier Capitalism and the Financialization of Real Sectors in Developing Countries. *Review of Radical Political Economics* 39, 351–359.
- Epstein, G.A., 2005. *Financialization and the World Economy*. Edward Elgar Publishing.
- European Commission, 2020. Study on directors’ duties and sustainable corporate governance: final report. (Website). Publications Office of the European Union.
- Fine, B., 2013. Financialization from a Marxist Perspective. *International Journal of Political Economy* 42, 47–66.
- Fligstein, N., Shin, T.-J., 2004. Shareholder Value and the Transformation of the US Economy, 1984–2000, in: Neckerman, K. (Ed.), *Social Inequality*. Russell Sage Foundation.
- Harrington, B., 2017. Trusts and financialization. *Socio-Economic Review* 15, 31–63.
- HKICPA, 2020. Goodwill: Improvements to Subsequent Accounting and an Update of the Quantitative Study.
- Krippner, G.R., 2005. The financialization of the American economy. *Socioecon Rev* 3, 173–208.
- Langley, P., 2008. Sub-prime mortgage lending: a cultural economy. *Economy and Society* 37, 469–494.
- Lazonick, W., O’Sullivan, M., 2000. Maximizing shareholder value: a new ideology for corporate governance. *Economy and Society* 29, 13–35.
- Lazonick, W., 2010. Innovative Business Models and Varieties of Capitalism: Financialization of the U.S. Corporation. *The Business History Review* 84, 675–702.
- Leaver, A., Murphy, R., 2021. Transfer pricing and artificial profit generation. <https://www.sheffield.ac.uk/sites/default/files/2021-02/Transfer%20pricing%20and%20artificial%20profit%20generation%20AL%2019%202%2021%20FINAL.pdf>
- Light, L., 2019. More than Half of All Stock Buybacks are Now Financed by Debt. Here’s Why That’s a Problem [WWW Document]. *Fortune*. URL <https://fortune.com/2019/08/20/stock-buybacks-debt-financed/> (accessed 5.5.20).
- Lin, K.-H., Tomaskovic-Devey, D., 2013. Financialization and U.S. Income Inequality, 1970–2008. *American Journal of Sociology* 118, 1284–1329.
- Martin, R., 2002. *Financialization Of Daily Life*. Temple University Press, Philadelphia.
- Modigliani, F., & Miller, M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), 261-297.
- National Audit Office, 2017. *A Short Guide to Commercial relationships*.
- Orhangazi, È., 2008. *Financialization and the US Economy*. Edward Elgar Publishing.

- Piketty, T., 2018. *Capital in the Twenty-First Century*, Capital in the Twenty-First Century. Harvard University Press.
- Robé, J.-P., 2011. The Legal Structure of the Firm. Accounting, Economics, and Law: A Convivium 1.
- Stockhammer, E., 2004. Financialisation and the slowdown of accumulation. Cambridge J Econ 28, 719–741.
- Stockhammer, E., 2006. Shareholder value orientation and the investment-profit puzzle. Journal of Post Keynesian Economics 28, 193–215.
- Tori, D., Onaran, Ö., 2018. The effects of financialization on investment: evidence from firm-level data for the UK. Cambridge J Econ 42, 1393–1416.
- van der Zwan, N., 2014. Making sense of financialization. Socioecon Rev 12, 99–129.

Appendix 1: Methodological note

In this report our objective is to construct a benchmark group of companies using the FTSE 350 constituent list. Out of this constituent list we select only those companies that disclose a comprehensive set of financial data for the period 2009 to 2019. Practically this means that the list of 350 companies will be reduced in number because companies will enter and exit the FTSE350 constituents list overtime. The benchmark dataset we construct contains 182 companies for which we can also obtain descriptive industry classifications and 25 financial data items (see table 1 below) for the whole period 2009 to 2019.

The analysis undertaken therefore refers to this group of companies as the FTSE182 and for which we have consistent and comprehensive coverage of financial data disclosures over the period 2009 to 2019.

Our dataset starts by ranking companies into 5 quintile band by the ratio of dividends and share buy-backs distributed out of net income for the total period 2009 to 2019¹⁸.

The dividends figure obtained from Thomson Refinitiv is that paid to common stock holders and excludes noncontrolling minority interests¹⁹. To ensure consistency in our variable selection, we use net income which is available to common stock holders²⁰. Total shareholder equity also excludes non-controlling minority interests²¹. We recognise that, for some individual companies where there are non-controlling interests, shareholder equity may be higher than in our calculations.

It is important to recognise that when using large datasets of this kind, there will sometimes be anomalies between company figures used to construct the aggregates and those disclosed in company annual reports. This can happen when trying to ensure consistent variables across a large panel of companies²². For the purposes of our study, inconsistencies can arise for individual companies when the companies themselves do not separate out dividends to controlling and non-controlling interests. However, we would note that these anomalies are likely to be small and localised to individual companies, and so are unlikely to affect our aggregate findings significantly.

We calculate the distribution ratio for each company by adding dividends, share buy-backs²³ and net income for each company for the whole period 2009 to 2019.

Company weighted average distribution ratio for whole period 2009 to 2019

$$\left[\frac{\sum_{2009}^{2019} (Div + SBB)}{\sum_{2009}^{2019} Net\ Inc} \right] * 100$$

¹⁸ For each company we add up net income available for common stock holders for the period 2009 to 2019 and dividends paid (which exclude non-controlling interests) and share buybacks and express these distributions as a share of net income.

¹⁹ Refinitiv definition: Cash Dividends Paid [FCDP] excludes: Distribution to minority shareholders of subsidiaries, general partners, shareholders of S corporations as subsidiaries (classified as Other Financing Cash Flow [FFCF])

²⁰ Refinitiv definition: Net Income is bottom line available to common stocks (XNIC) .

²¹ Refinitiv definition: Total Equity [QTLE] consists of the equity value of preferred shareholders, general and limited partners, and common shareholders, but does not include minority shareholders' interest.

²² Here we mean the compilers of the Refinitiv database, not our database.

²³ Refinitiv definition: Repurchase/Retirement of Common [FRRC] includes: Repurchase/redemption of common stock

Using this distribution ratio we then rank each company into quintile bands where the highest distribution ratio locates a company in quintile band 1 and the lowest distribution ratio locates a company in quintile band 5 (see company list table 2 below). Companies are now ranked according to their overall weighted average distribution ratio and are then held in their respective quintile banding for the period 2009 to 2019 and for the purpose of undertaking the productivity, financial performance and resilience analysis.

With regards to calculating productivity per employee we aggregate sales revenue and value added²⁴ and divide through by employment for all companies within each quintile banding for each year. For real sales per employee and real value added per employee we deflate nominal figures sales and value added per employee by the Consumer Price Index (CPI²⁵). For the nominal and real sales and value added per employee index the base year used in each case is 2009=100. Note that the resulting figures reported are therefore for the quintile as a whole and not for any individual company within it, where variances may arise. This observation applies to all the quintile calculations.

We also review financial performance in terms of: cash²⁶ margin in sales, cash return on capital employed and nominal and real capital expenditure per employee.

The weighted average annual cash margin is the aggregation of profits before interest, tax and depreciation divided by the aggregation of all sales revenues for all companies in each quintile band for each year.

The weighted average annual cash return on capital employed is the aggregation of profits before interest, tax, depreciation divided by the aggregation capital employed (long term debt plus shareholder equity) for all companies in each quintile band for each year.

The nominal and real capital expenditure per employee index is calculated by aggregating all capital expenditure and employment for all companies in quintile band for each year. These figures are converted to a nominal or real index (with a base year 2009 = 100). The real value capital expenditure per employee index deflates nominal capital expenditure per employee by the CPI (with a base year 2009 = 100).

With regards to financial resilience we construct two weighted average ratios: the long term debt to shareholder equity (or leverage ratio) and the goodwill to total shareholder equity ratio. For the debt to equity ratio we add up all the long-term debt outstanding and divide by the aggregation of shareholder equity for all companies in each quintile banding for each year. The higher the debt to equity ratio the higher is the leverage and risk. For the goodwill to shareholder equity ratio we add up all the goodwill outstanding for all companies in each quintile banding and divide by the total equity for all companies in each quintile group. Goodwill results from acquisitions and carries a potential impairment risk. The ratio of goodwill to equity reveals the extent to which a potential goodwill impairment could be absorbed by shareholder equity reserves.

²⁴ Value added is total employee costs plus earnings before interest and tax plus depreciation.

²⁵ <https://www.ons.gov.uk/economy/inflationandpriceindices>

²⁶ Cash for the purpose of the analysis is earnings before interest, tax and depreciation

Appendix Table 1: Data list for FTSE182

Business sector name
Industry group code
Industry group name
Industry code
Industry name
Activity code
Activity name
Market value
Share price year end
Shares outstanding
Total intangible assets-net
Goodwill - gross
Total assets
Long term debt
Total debt
Total shareholder's equity
Common shareholders' equity
Common stock
Capital surplus
Retained earnings
Revenues
Depreciation and amortisation
Earnings before interest tax and depreciation
Earnings before interest and tax
Earnings before tax
Net income available to common shareholders
Net income
Capital expenditures
Dividends - total
Share buy backs
Employees number
Salaries & benefits expenses

Appendix Table 2 FTSE 182 Companies ranked by their distribution out of net income

QUINTILES 1: TOP 5: BOTTOM	FIRMNAME	(DIV+SBB)/ NETINC % (2009-2019)
1	ROYAL BANK OF SCTL.GP.	-85.36
1	SERCO GROUP	-55.68
1	SIG	-54.38
1	KAZ MINERALS	-44.23
1	TULLOW OIL	-22.96
1	EI GROUP	512.50
1	COBHAM	425.10
1	MAN GROUP	333.93
1	ALLIANCE TRUST	243.05
1	BARCLAYS	242.66
1	WILLIAM HILL	229.51
1	SIGNATURE AVIATION	225.41
1	MICRO FOCUS INTL.	187.63
1	MARSTON'S	187.51
1	CENTRICA	174.77
1	G4S	163.39
1	VODAFONE GROUP	157.12
1	FERGUSON	149.17
1	ICTL.HTLS.GP.	135.79
1	PEARSON	134.88
1	STANDARD LIFE ABERDEEN	128.97
1	MONEYSUPERMARKET COM GP.	121.89
1	LANCASHIRE HOLDINGS	119.07
1	RESTAURANT GROUP	117.78
1	MORRISON(WM)SPMKTS.	117.56
1	INFORMA	116.72
1	IMPERIAL BRANDS	114.81
1	DOMINO'S PIZZA GROUP	113.31
1	TESCO	112.33
1	ROLLS-ROYCE HOLDINGS	111.66
1	LLOYDS BANKING GROUP	110.70
1	BALFOUR BEATTY	110.55
1	BREWIN DOLPHIN	110.23
1	GLAXOSMITHKLINE	106.94
1	PAGEGROUP	106.18
1	ASTRAZENECA	105.57

2	CAPITA	105.39
2	RIGHTMOVE	104.18
2	RELX	102.13
2	LAND SECURITIES GROUP	101.13
2	INTERMEDIATE CAPITAL GP.	101.13
2	EXPERIAN	100.95
2	NEXT	100.63
2	SAGE GROUP	98.84
2	PETROFAC	96.17
2	AVEVA GROUP	96.09
2	AVIVA	94.73
2	ADMIRAL GROUP	93.30
2	BAE SYSTEMS	93.23
2	WH SMITH	92.55
2	INVESTEC	92.46
2	BP	90.14
2	RIO TINTO	89.47
2	ST.JAMES'S PLACE ORD	89.19
2	FIRST GROUP	89.04
2	ESSENTRA	89.02
2	TP ICAP	88.42
2	HUNTING	88.26
2	RECKITT BENCKISER GROUP	87.84
2	PROVIDENT FINANCIAL	86.63
2	SEVERN TRENT	86.27
2	BHP GROUP	86.12
2	BRITISH LAND	85.64
2	UNILEVER (UK)	85.63
2	RSA INSURANCE GROUP	85.23
2	SSE	84.39
2	WEIR GROUP	83.75
2	DUNELM GROUP	83.59
2	WETHERSPOON (JD)	83.48
2	HSBC HOLDINGS	83.25
2	MARKS & SPENCER GROUP	82.86
2	HARGREAVES LANSDOWN	82.15

3	ROYAL DUTCH SHELL A(LON)	81.56
3	ASHMORE GROUP	80.43
3	BURBERRY GROUP	79.99
3	COMPASS GROUP	79.91
3	ITV	78.67
3	HAMMERSON	77.88
3	HOMESERVE	77.66
3	SCOTTISH INV.TST.	77.48
3	BRITVIC	76.29
3	WPP	76.15
3	DIAGEO	75.00
3	BODYCOTE	74.88
3	RATHBONE BROTHERS	74.68
3	ULTRA ELECTRONICS HDG.	74.27
3	ANTOFAGASTA	73.84
3	SAVILLS	73.78
3	CARNIVAL	73.64
3	IG GROUP HOLDINGS	73.10
3	IWG	72.18
3	GREGGS	72.07
3	UK COMMERCIAL PR.REIT	71.85
3	BEAZLEY	71.42
3	HISCOX DI	71.29
3	VICTREX	70.17
3	QINETIQ GROUP	69.73
3	ELECTROCOMP.	69.65
3	INCHCAPE	69.55
3	UNITED UTILITIES GROUP	68.35
3	SCHRODERS	67.93
3	DRAX GROUP	67.65
3	GO-AHEAD GROUP	67.65
3	MELROSE INDUSTRIES	67.45
3	TAYLOR WIMPEY	66.83
3	ANGLO AMERICAN	66.20
3	TATE & LYLE	66.17
3	SAINSBURY J	65.98

4	NATIONAL EXPRESS GP.	65.59
4	KINGFISHER	65.57
4	INTERNATIONAL PBPART.	65.56
4	HAYS	64.81
4	BT GROUP	64.76
4	CRODA INTERNATIONAL	64.01
4	SMITH (DS)	63.61
4	PERSIMMON	63.49
4	PENNON GROUP	62.42
4	PZ CUSSONS	61.27
4	NATIONAL GRID	60.76
4	EUROMONEY INSTL.INVESTOR	59.91
4	BUNZL	59.52
4	FRESNILLO	58.96
4	INTERTEK GROUP	58.85
4	BARRATT DEVELOPMENTS	58.36
4	HIKMA PHARMACEUTICALS	58.24
4	CLOSE BROTHERS GROUP	58.17
4	BARR (AG)	58.02
4	SMITHS GROUP	57.39
4	JOHNSON MATTHEY	56.00
4	VESUVIUS	55.95
4	ROTORK	55.91
4	IMI	55.62
4	MONDI	55.59
4	BRITISH AMERICAN TOBACCO	55.31
4	MEGGITT	54.73
4	MORGAN ADVANCED MRA.	53.54
4	PARAGON BANKING GROUP	53.03
4	LONDON STOCK EX.GROUP	52.94
4	SMITH & NEPHEW	52.16
4	LEGAL & GENERAL	51.59
4	VISTRY GROUP	50.27
4	TRAVIS PERKINS	50.08
4	BABCOCK INTERNATIONAL	49.23
4	STANDARD CHARTERED	48.48
4	STAGECOACH GROUP	48.04

5	ASHTREAD GROUP	47.81
5	PRUDENTIAL	47.69
5	HOWDEN JOINERY GP.	47.01
5	COMPUTACENTER	46.84
5	BIG YELLOW GROUP	46.66
5	HALMA	44.48
5	AGGREKO	44.19
5	SPECTRIS	43.43
5	BERKELEY GROUP HDG.	43.41
5	CALEDONIA INVESTMENTS	42.36
5	WHITBREAD	41.95
5	WOOD GROUP (JOHN)	39.78
5	3I GROUP	39.65
5	WITAN INV.TRUST	38.40
5	GENUS	38.06
5	ASSOCIATED BRIT.FOODS	37.68
5	RENISHAW	36.73
5	TEMPLE BAR	34.47
5	REDROW	34.06
5	GRAINGER	31.08
5	BELLWAY	30.93
5	GREAT PORTLAND ESTATES	30.65
5	RENTOKIL INITIAL	30.61
5	CRANSWICK	30.23
5	RANK GROUP	27.16
5	SEGRO	25.19
5	RIT CAPITAL PARTNERS	24.14
5	FRASERS GROUP	23.63
5	UNITE GROUP	22.75
5	SHAFTESBURY	18.62
5	DERWENT LONDON	16.71
5	EASYJET	15.59
5	ST MODWEN PROPS.	15.43
5	DAEJAN HOLDINGS	14.20
5	SPIRAX-SARCO ENGR.	11.15
5	MITCHELLS & BUTLERS	8.05
5	CAIRN ENERGY	0.00