Tracking Management Practices Over Time: Longitudinal Evidence from the UK Management and Expectations Survey

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Overview

- Purpose
- Background
- Research questions
- Conclusion
- Next steps

Purpose and research questions

A central challenge in economic measurement is understanding who responds to voluntary business surveys and how this shapes the evidence used for policy research. Selective response and attrition can influence both measurement quality and interpretation of firm behaviour.

We use three waves (2016, 2020, 2023) of the Management and Expectations Survey (MES) as a case study to examine voluntary survey engagement and the evolution of management practices as a component of organisational capital.

1) What factors influence response rates and retention across waves?
2) What can we learn from firms that responded to all three waves about how their management practices evolve?
3) How much variation in management scores reflects changes in who completes the survey compared with firm-level characteristics?

Background

The Management and Expectations Survey (MES) is one of the largest ONS voluntary surveys, developed and operated in collaboration with ESCoE researchers

~53,000 private sector organisations across the UK

Excluding:

Agriculture, Financial and insurance services, Public sector organisations & Firms with fewer than 10 employees

Wave 1 (2016) & Wave 2 (2019-20) covered Great Britain

Wave 3 (2023) included Northern Ireland for the first time

MES improves understanding of economic growth due to its questions on business characteristics, management practices, expectations, learning & training, use of AI and technology, and more!

Four dimensions of management

Building on ONS (2018, 2021) and earlier work by Bloom, Sadun and Van Reenen (2013) we derive a management score based on:

- Continuous Improvement
- Key Performance Indicators
- Targets
- Employment Practices

Management practice scores range from 0 to 1

- Firms score 0 if they do not respond to ongoing problems, base promotion decisions on factors other than merit, and do not track performance or set targets.
- Firms score 1 if they continuously review their processes with the aim to minimise future challenges, carry out regular performance reviews, train employees and base hiring and promotion decisions on merit.

Overall management practices have improved since 2016

Distribution of overall management practice scores, whole sample, Great Britain and UK, 2016 to 2023

Source: ONS Management and Expectations Survey

R1: What factors influence response rates and retention across waves?

MES sampling design

- To understand what drives the response rate, it is important to consider the survey's underlying sampling design, as this shapes who is sampled and how they are contacted.

MES past responders

Allows for tracking of the same firms over time

Annual Business Survey (ABS)

Respondents to latest ABS

Allows for enriched analysis through data linkage

Inter-Departmental Business Register (IDBR)

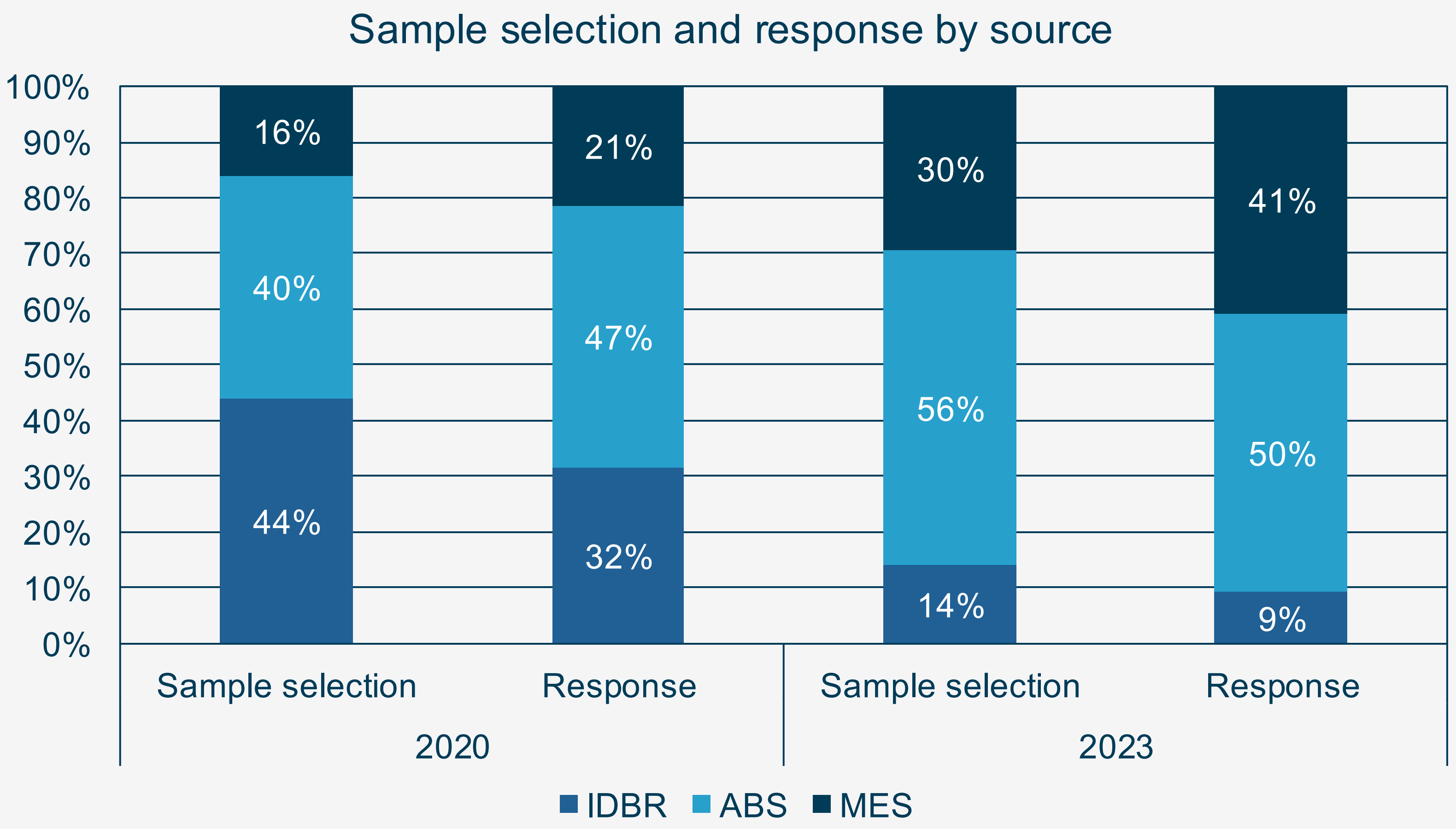
All IDBR firms with 250+ employees AND a random stratified sample of firms with 10+ employees

Ensures sample is representative of business population

Wave 2 and 3 sample and response by source

- ABS tends to be the largest part of the MES sample and response.
- However, the MES past respondents is a growing part of the final MES response.

Note: Wave 1 sample and response was 100% ABS.



Source: ONS Management and Expectations Survey

Does past response improve probability of future response?

Methodology

- Probit regression controlling for firm characteristics, including industry (using 2 digit SIC) and location.
- Probability weighted and heteroskedasticity-robust (Huber-White) standard errors used.

Key findings

- Wave 1 responders had an 8 percentage point higher probability of response in 2023 (statistically significant), compared to non-Wave 1 responders.
- Wave 2 responders had an 18.6 percentage point higher probability of response in 2023 (highly significant), compared to non-Wave 2 responders.

Regression coefficients, conditional on firm characteristics

Dependent Variable:	Wave 2 response	Wave 3 response
Wave 1 Responder	-0.022 (0.028)	0.080** (0.035)
Wave 2 Responder		0.186*** (0.045)

Note: Results reflect marginal effects and starts denote significance as follows:
* p<0.05, ** p<0.01, *** p<0.001
Standard errors are included in parenthesis

Response burden

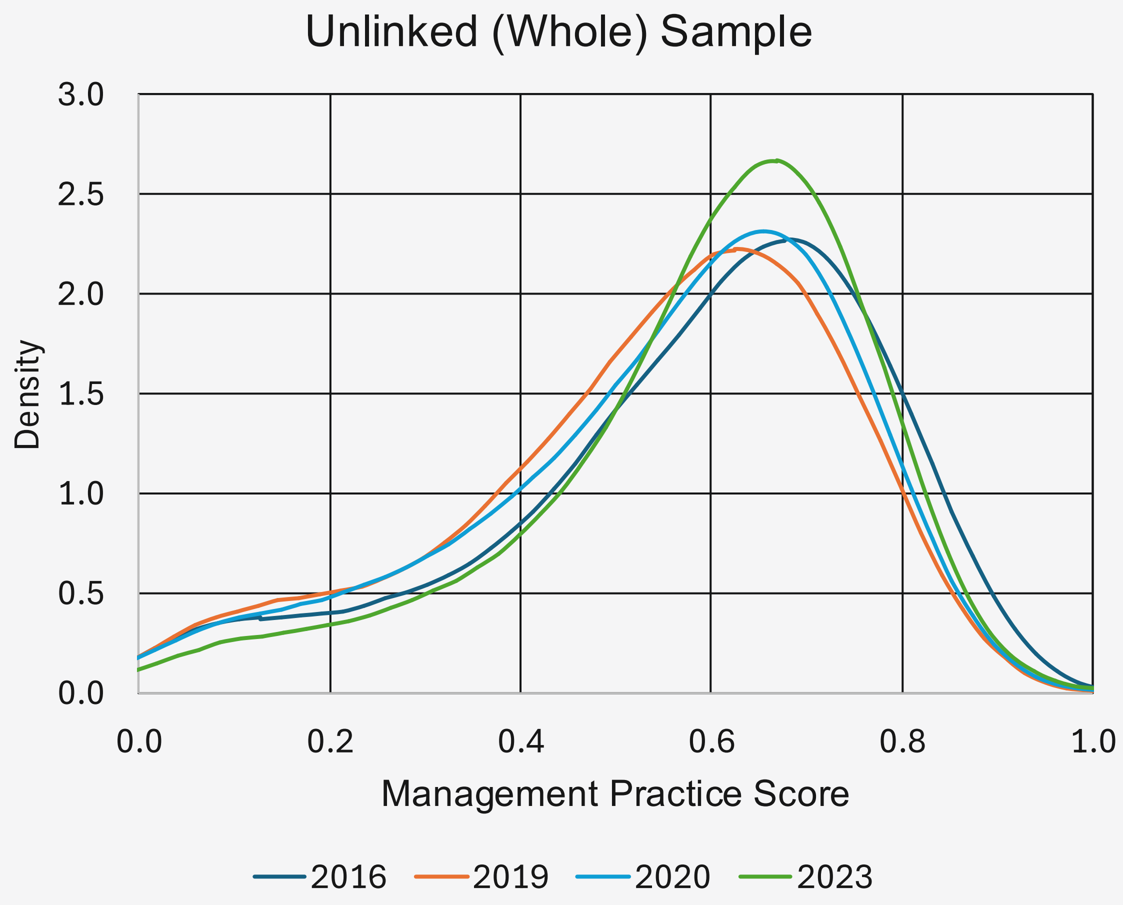
Section of the questionnaire	Median completion time (mins)	Drop-out rate for each section, of firms that have not yet dropped out	Number of questions	Implied response rate had the questionnaire ended here
Business characteristics	4	7.6%	11 (+4 sub-questions)	33%
Management practices	5	3.4%	18 (+5 sub-questions)	32%
Expectations	13	15.3%	15	27%
Learning and Development	1	0.3%	3	27%
AI and technology	<1	0.2%	4	27%

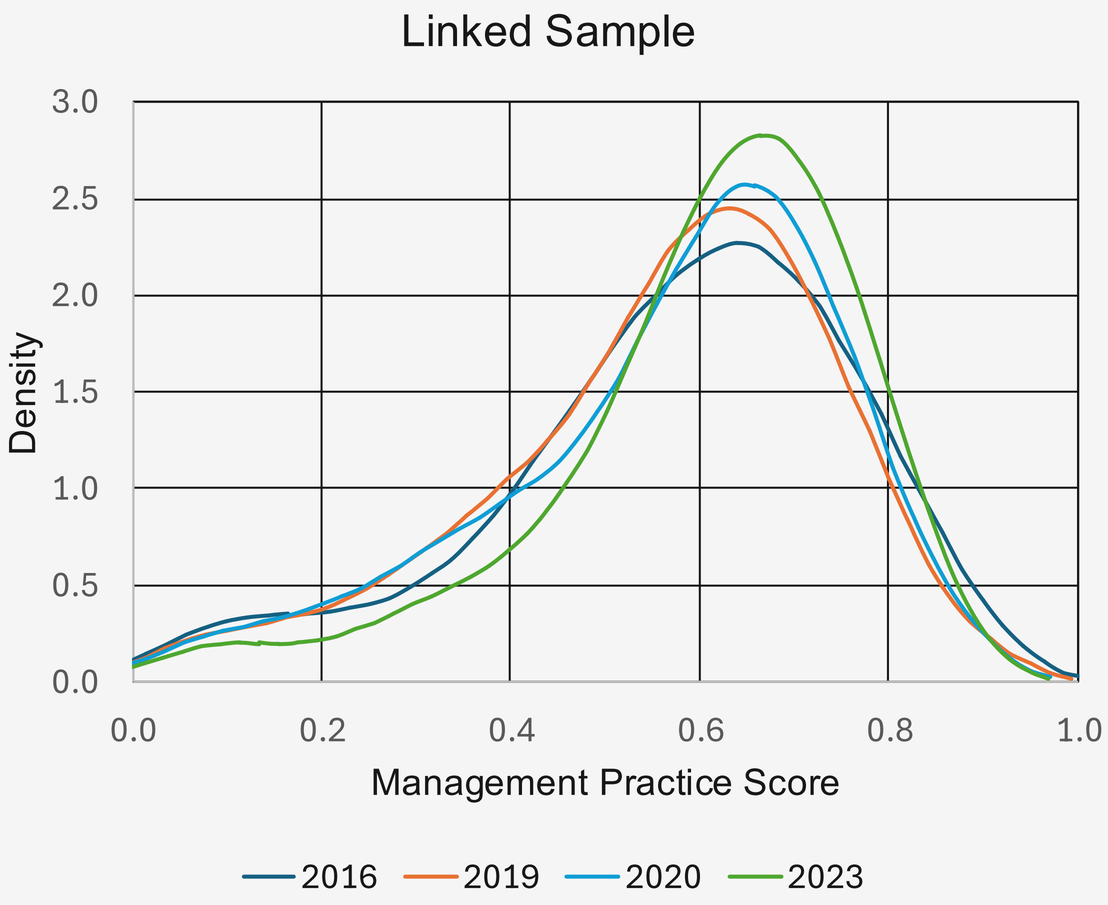
Source: ONS Management and Expectations Survey

R2: What can we learn from firms that responded to all three waves, known as the linked sample, about how management practices evolve?

Linked Sample – Headline results

Overall management practices have improved in both the linked and unlinked sample since 2016



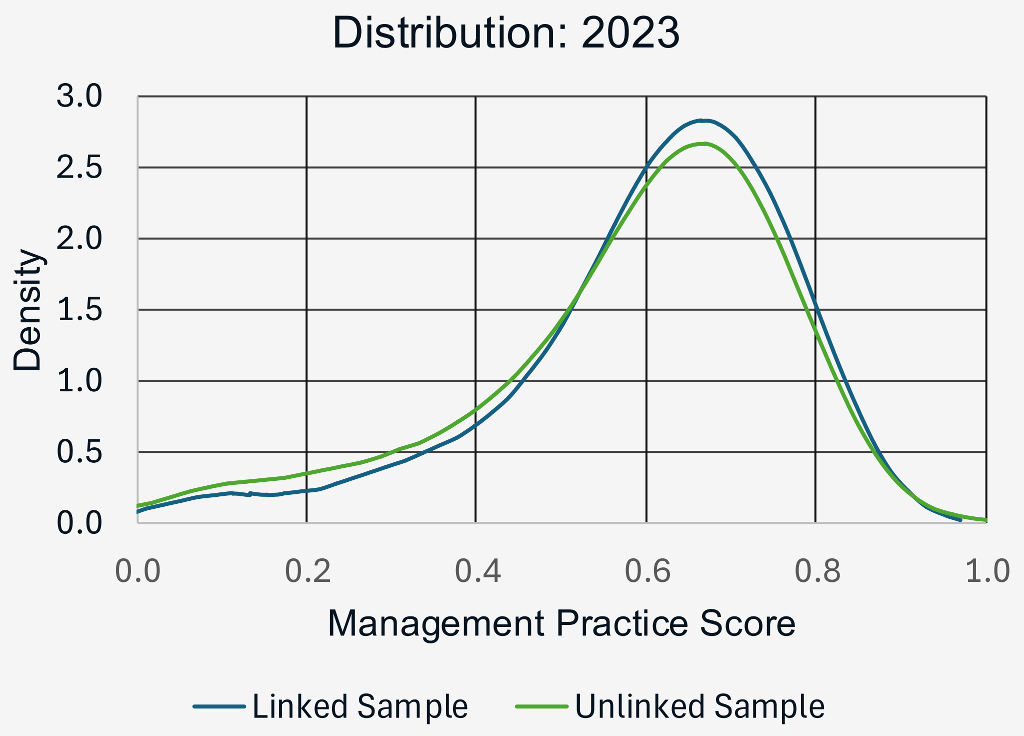


Source: ONS Management and Expectations Survey

Linked vs unlinked sample

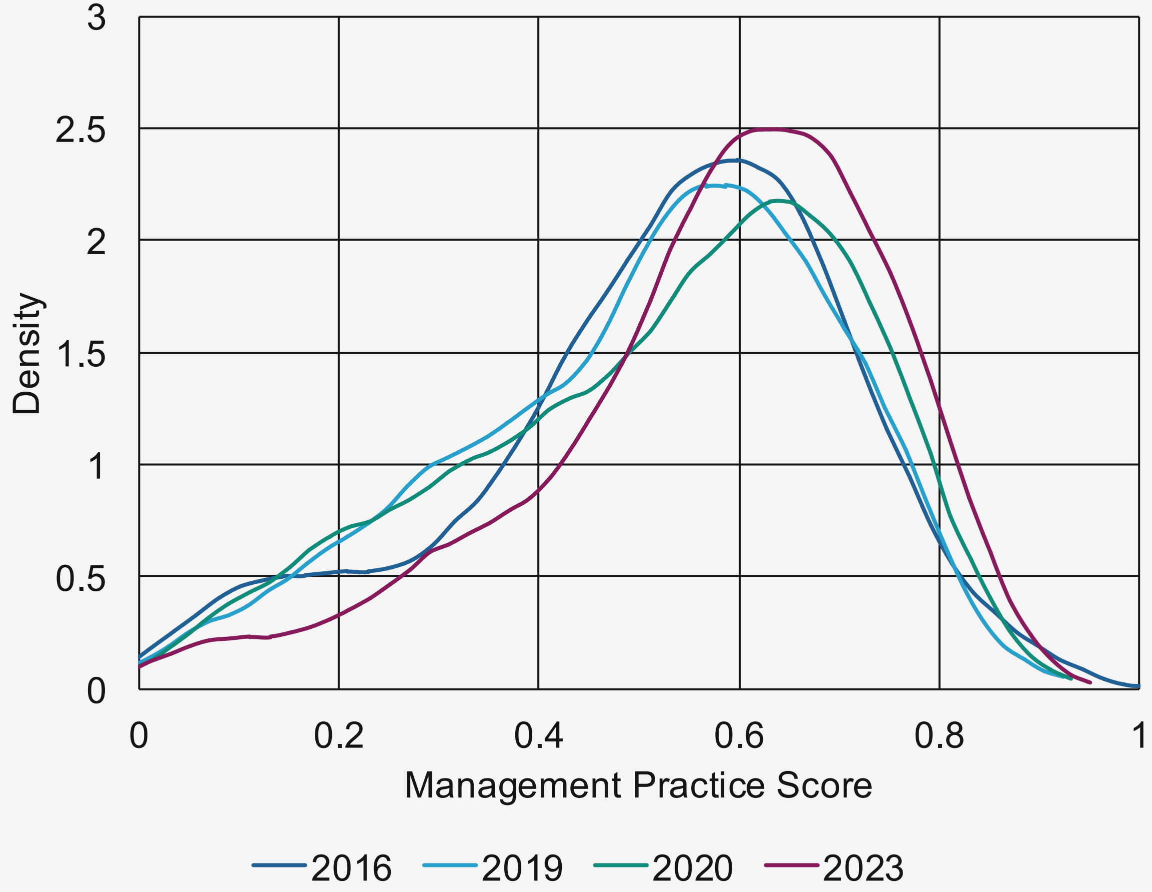
Firms in the linked sample have higher management practices than the unlinked sample, but this reflects differences in firm characteristics rather than any intrinsic effect of repeat survey participation.

Mean Management Practice Scores	2016	2019	2020	2023
Unlinked Sample	0.50	0.48	0.49	0.55
Linked Sample (Waves 1, 2 and 3)	0.53	0.52	0.54	0.60
Difference	*+0.03*	*+0.04*	*+0.05*	*+0.05*

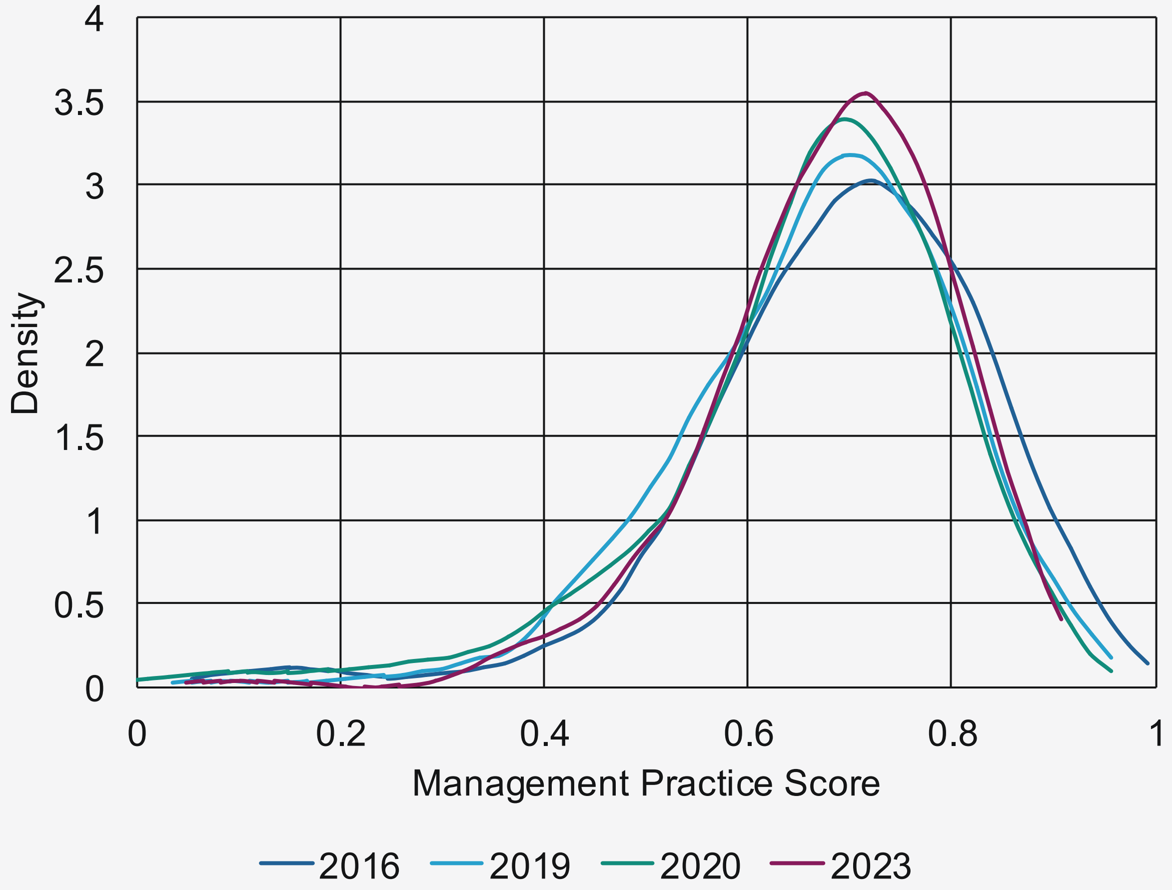


Linked Sample – Firm Size

20-49 employees

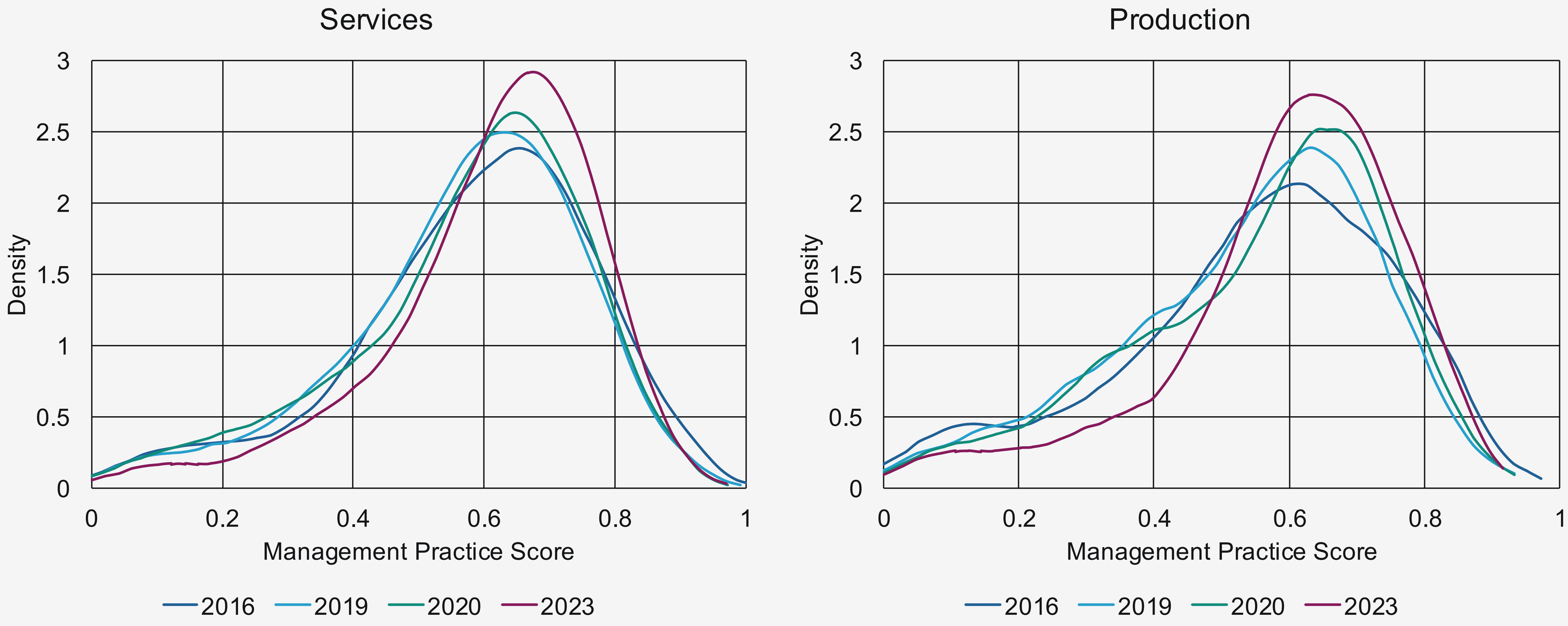


250+ employees



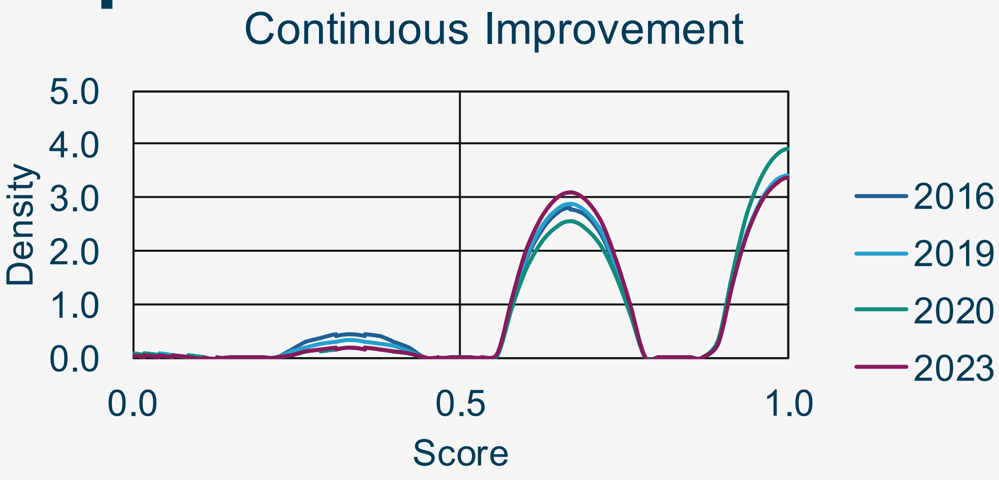
Source: ONS Management and Expectations Survey

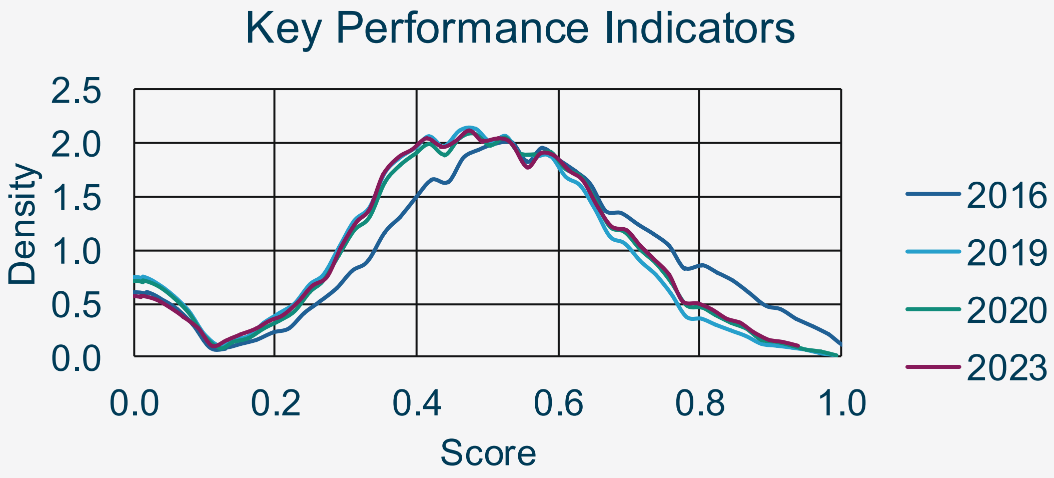
Linked Sample – Industry

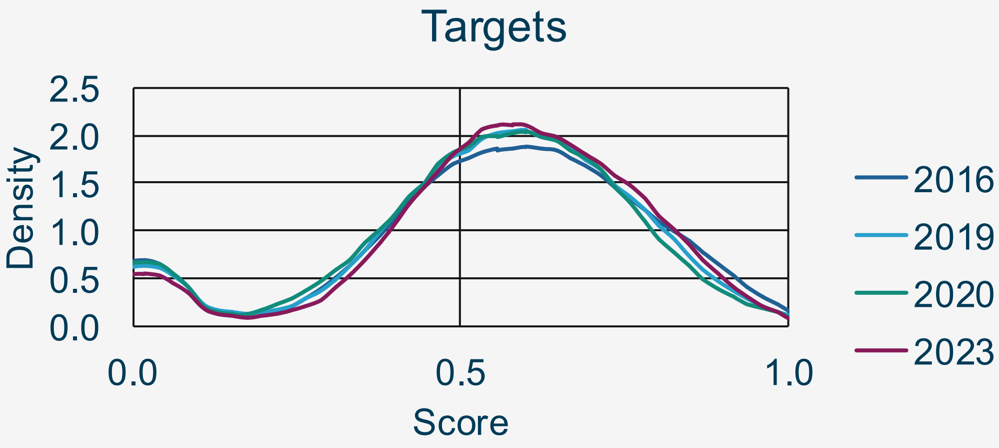


Source: ONS Management and Expectations Survey

Linked sample – Management practice scores by component

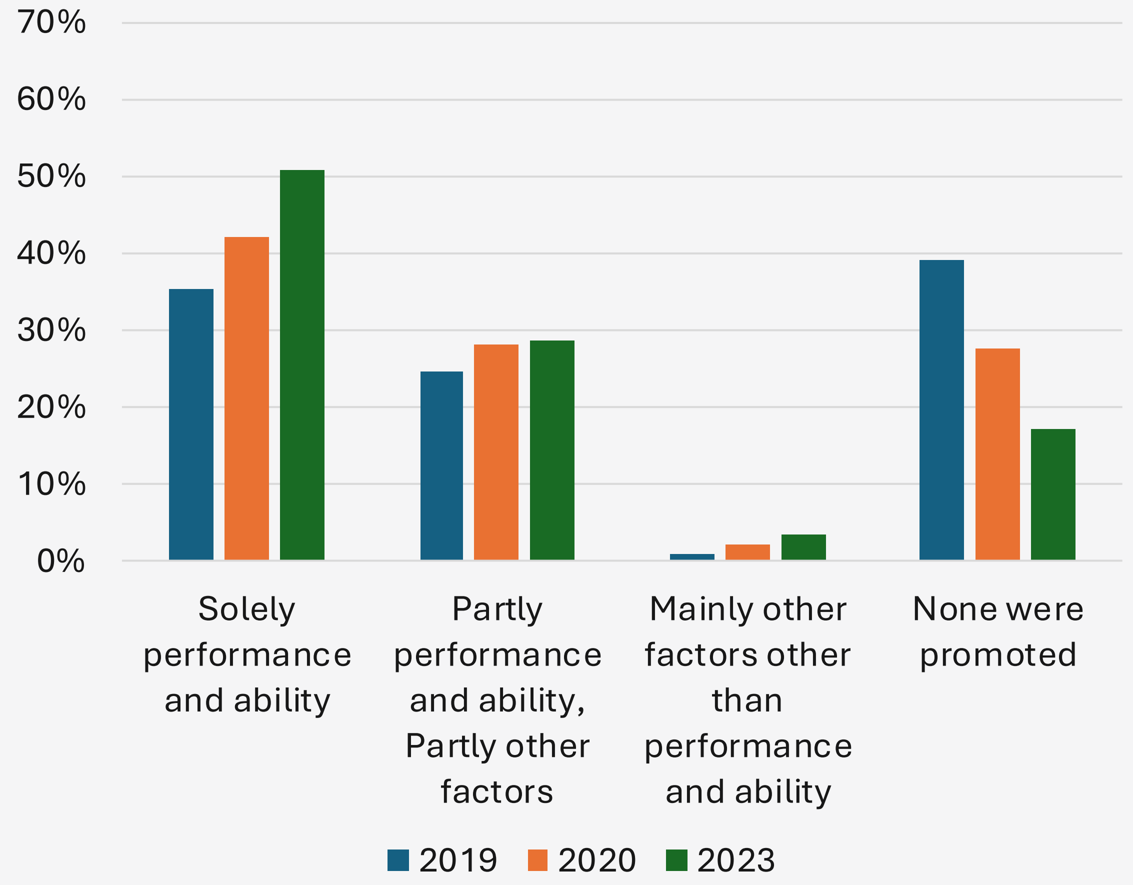




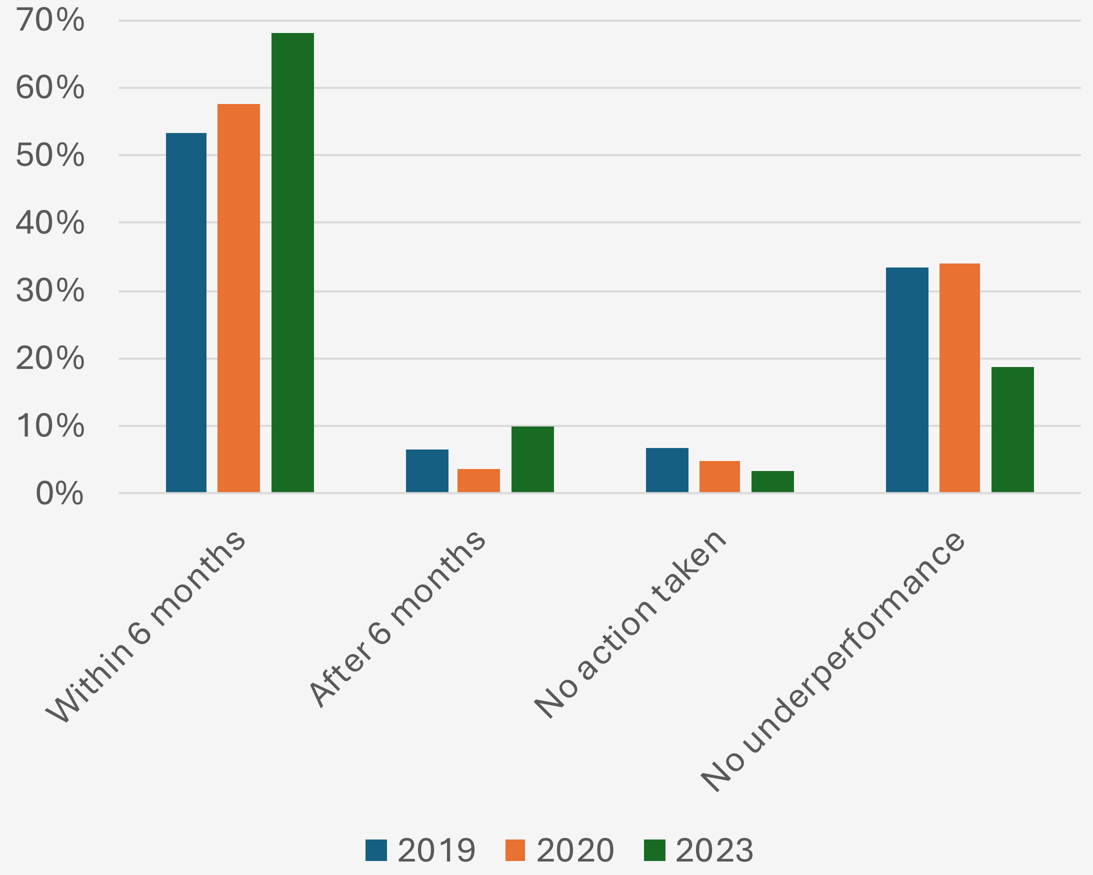


Source: ONS Management and Expectations Survey

Linked sample – Promotion decisions question (employment practices)

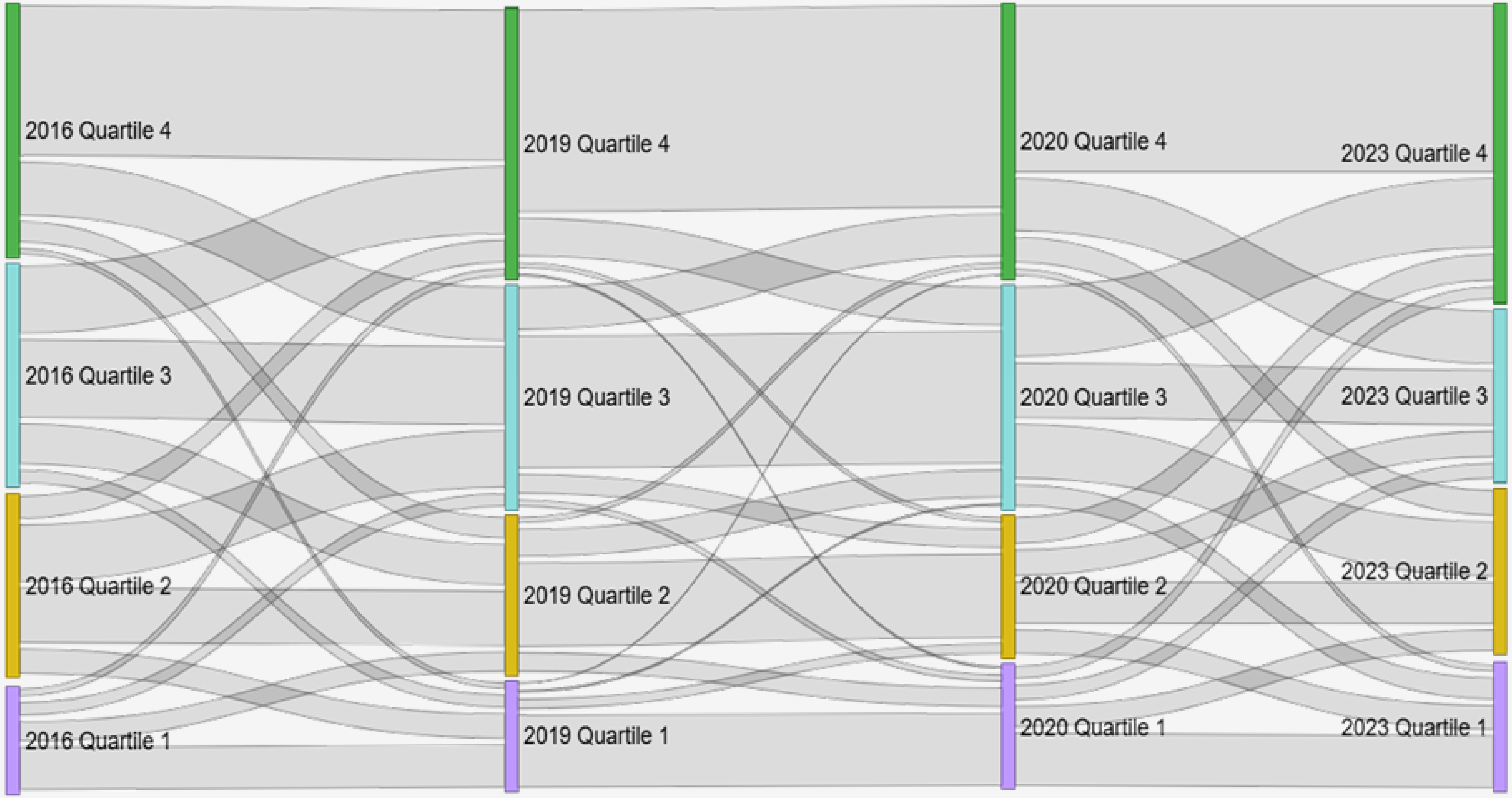


Linked sample – Time it takes to address underperformance question (employment practices)



Source: ONS Management and Expectations Survey

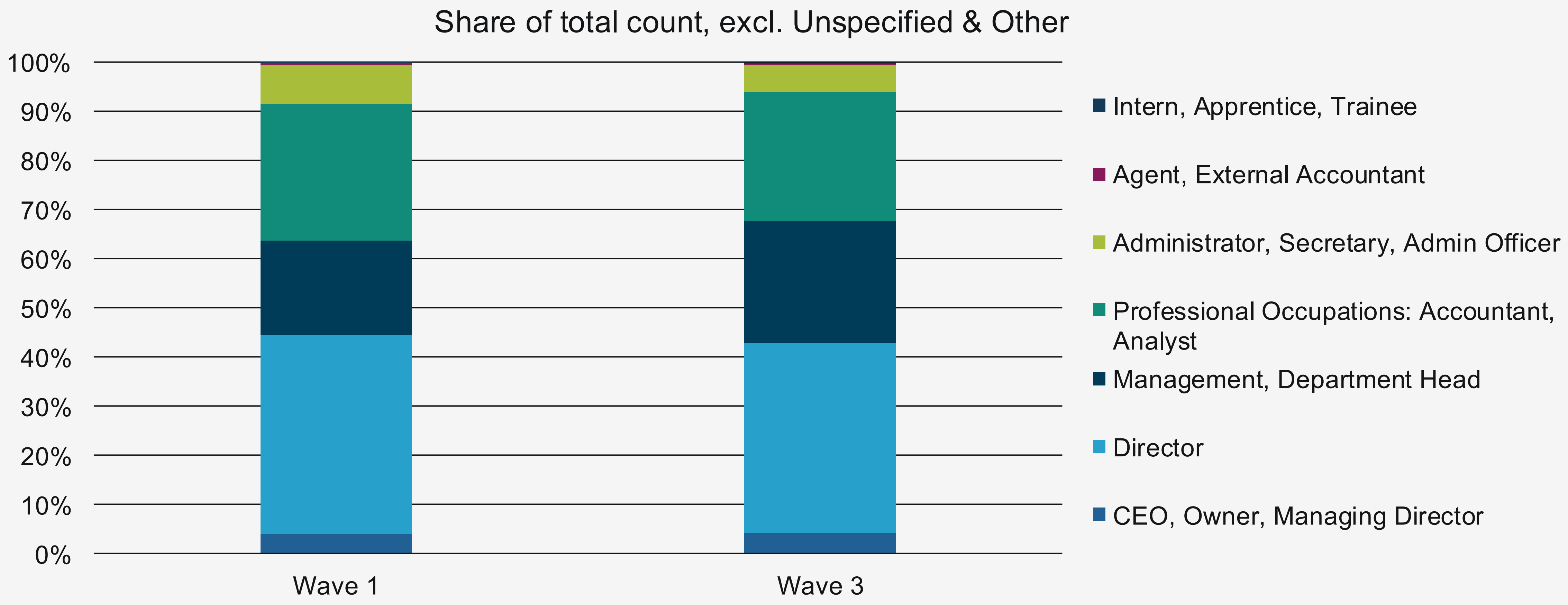
Sankey diagram of management practice score quartiles among firms in the MES linked sample



Source: ONS Management and Expectations Survey

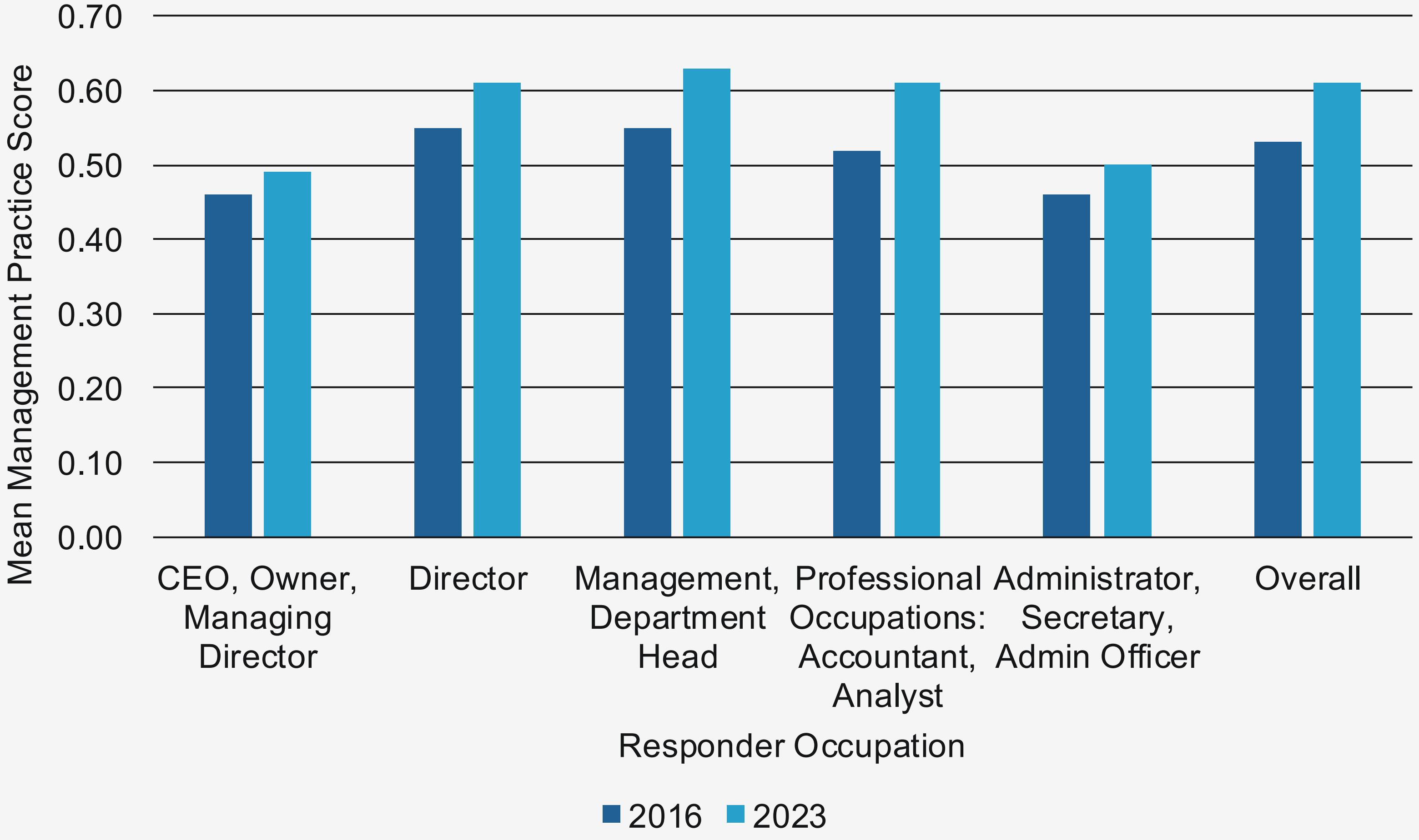
R3: How much variation in management scores reflects changes in who completes the survey compared with firm-level characteristics?

Directors are the most common occupation of the responder to waves 1 and 3



MPS improved between 2016 and 2023 regardless of responder occupation, but CEO and “admin” responders score lower on average

Source: ONS Management and Expectations Survey



Firms that respond to the MES questionnaire using an admin occupation are associated with a statistically significant lower management practice score, controlling for firm characteristics

Regression results, conditional on firm characteristics Dependent variable: Management Practice Score in given year		
	2016	2023
CEO, Owner, Managing Director	-0.02	-0.02
Administrator Secretary, Admin Officer	-0.04***	-0.03*

Conclusion

- Previous participation strongly predicts future response.
- Firms in the linked sample had higher management scores and showed improvement over time.
- Small and medium sized firms showed the largest improvement to their management practices between 2016 and 2023.
- Responses were faster and more consistent when completed by a senior official (e.g. a Director) rather than junior staff (e.g. administrators).

Future plans

- Publish these findings as an ESCoE paper.
- Explore how insights on firm and respondent behaviour from MES can inform engagement strategies across the wider business surveys portfolio.
- Planning for wave 4 including supporting the ESRC funding application, reviewing sampling strategy and questionnaire design to inform future wave(s).

Questions and discussion

- Management practices in the UK: 2016 to 2023
- Management practices in the UK QMI
- The MES dataset is available to accredited researchers in the SRS.
- For feedback or any enquiries, please email: mes@ons.gov.uk

Annex

Annex A: MES 2023 Scoring Schedule

Section B - Continuous improvement

12. In 2023, in general what is the most common response to problems faced within this business?

a. We resolve the problems but do not take further action	1/3
b. We resolve the problems and take action to try to ensure they do not happen again	2/3
c. We resolve the problems and have a continuous improvement process to anticipate similar problems in advance	1
d. No action is taken	0

Section C - Key performance indicators

14a. In 2023, how many key performance indicators (KPIs) does this business monitor?

a. 1-2 key performance indicators	1/3
b. 3-9 key performance indicators	2/3
c. 10 or more key performance indicators	1
d. No key performance indicators	0

14b. In 2023, how frequently is progress against the key performance indicators (KPIs) reviewed by managers?

a. Annually	1/6
b. Quarterly	1/3
c. Monthly	1/2
d. Weekly	2/3
e. Daily	5/6
f. Hourly or more frequently	1
g. Never	0

14c. In 2023, how frequently is progress against the key performance indicators (KPIs) reviewed by non-managers?

a. Annually	1/6
b. Quarterly	1/3
c. Monthly	1/2
d. Weekly	2/3
e. Daily	5/6
f. Hourly or more frequently	1
g. Never	0

Section D - Targets

16a. In 2023, which of the following best describes the main timeframes for achieving targets within this business?

a. Main time frame is less than one year	1/3
b. Main time frame is one year or more	2/3
c. Combination of time frames of less than and more than one year	1
d. There are no targets	0

16b. In 2023, how easy or difficult is it to achieve these targets?

a. Very easy - Possible to achieve without much effort	0
b. Quite easy - Possible to achieve with some effort	1/2
c. Neither easy nor difficult - Possible to achieve with normal effort	3/4
d. Quite difficult - Possible to achieve with more than normal effort	1
e. Very difficult - Possible to achieve with extraordinary effort	1/4

16c. In 2023, approximately what proportion of managers are aware of these targets?

a. All	1
b. Most	2/3
c. Some	1/3
d. None	0

16d. In 2023, approximately what proportion of non-managers are aware of these targets?

a. All	1
b. Most	2/3
c. Some	1/3
d. None	0

17. In 2023, what are performance bonuses for managers usually based on within this business?

a. Their own performance as measured by targets	1
b. Their team's or shift's performance as measured by targets	4/5
c. Their site's performance as measured by targets	3/5
d. The business' performance as measured by targets	2/5
e. Performance bonuses are not related to targets	1/5
f. No performance bonuses	0

19. In 2023, what are performance bonuses for non-managers usually based on within this business?

a. Their own performance as measured by targets	1
b. Their team's or shift's performance as measured by targets	4/5
c. Their site's performance as measured by targets	3/5
d. The business' performance as measured by targets	2/5
e. Performance bonuses are not related to targets	1/5

Section E - Employment practices

21. In 2023, how are managers usually promoted within this business?

a. Based solely on performance or ability	1
b. Based partly on performance or ability, and partly on other factors For example, partly based on length of service or business restructuring	2/3
c. Based mainly on factors other than performance or ability For example, length of service or business restructuring	1/3
d. No managers are promoted	0

22. In 2023, how are non-managers usually promoted?

a. Based solely on performance or ability	1
b. Based partly on performance or ability, and partly on other factors For example, partly based on length of service or business restructuring	2/3
c. Based mainly on factors other than performance or ability For example, length of service or business restructuring	1/3
d. No managers are promoted	0

25. In 2023, on average how many days training and development do managers undertake in a year?

a. Less than a day	0
b. 1 day	1/4
c. 2 - 4 days	1/2
d. 5 - 10 days	3/4
e. More than 10 days	1

26. In 2023, on average how many days training and development do non-managers undertake in a year?

a. Less than a day	0
b. 1 day	1/4
c. 2 - 4 days	1/2
d. 5 - 10 days	3/4
e. More than 10 days	1

27. In 2023, which of the following best describes the timeframe that action is taken to address under-performance among managers within this business?

a. Within 6 months of identifying under-performance	1
b. After 6 months of identifying under-performance	1/2
c. No action is taken to address under-performance	0
d. There are no under-performance	0

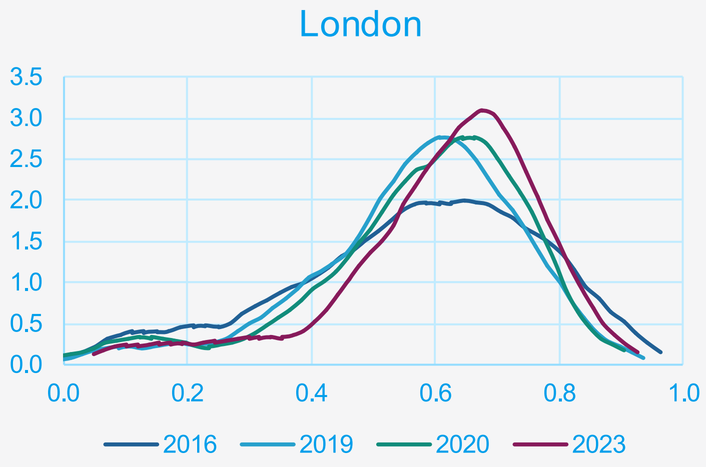
28. In 2023, which of the following best describes the timeframe that action is taken to address under-performance among non-managers within this business?

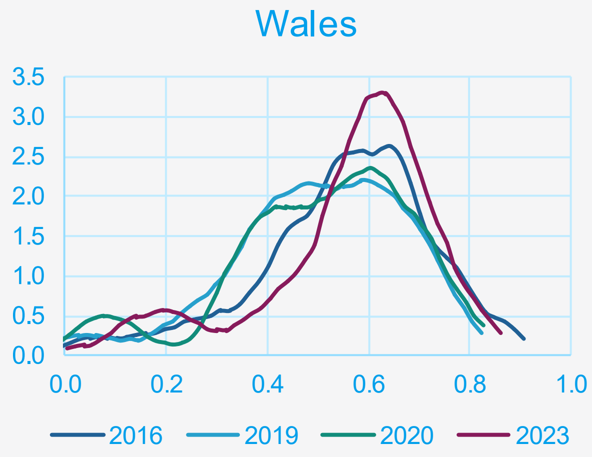
a. Within 6 months of identifying under-performance	1
b. After 6 months of identifying under-performance	1/2
c. No action is taken to address under-performance	0
d. There is no under-performance	0

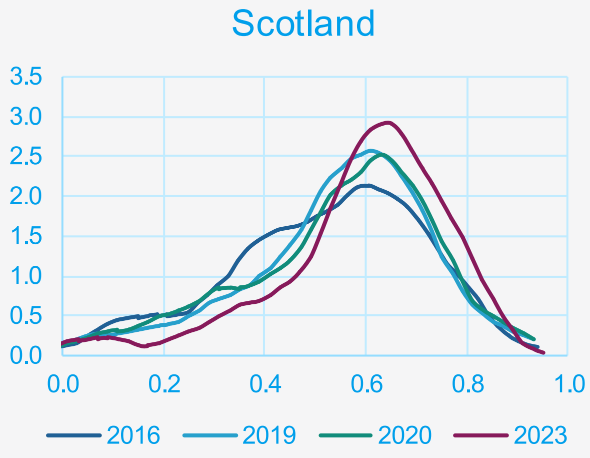
Annex B: Industry aggregations

- **Non-manufacturing production:** B (Mining and quarrying), D (Electricity, gas, steam and air conditioning supply) and E (Water supply; sewerage, waste management and remediation activities)
- **Manufacturing:** C (Manufacturing)
- **Construction:** Section F (Construction)
- **Distribution, hotels and restaurants:** G (Wholesale and retail trade; repair of motor vehicles and motorcycles) and I (Accommodation and food service activities).
- **Transport, storage, and communication**: H (Transportation and storage) and J (Information and communication).
- **Business services:** M (Professional, scientific and technical activities) and Section N (Administrative and support service activities)
- **Real estate:** equals Section L (Real estate)
- **Other services:** P (Education), Q (Human health and social work activities), R (Arts, entertainment and recreation) and S (Other service activities).

Linked Sample - Region



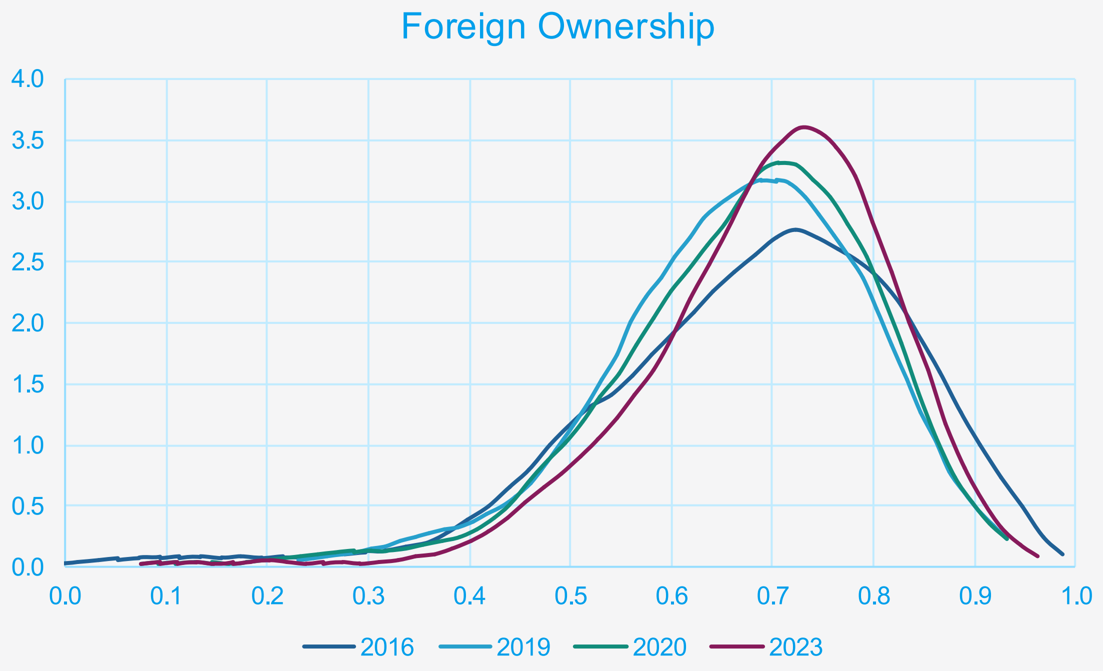


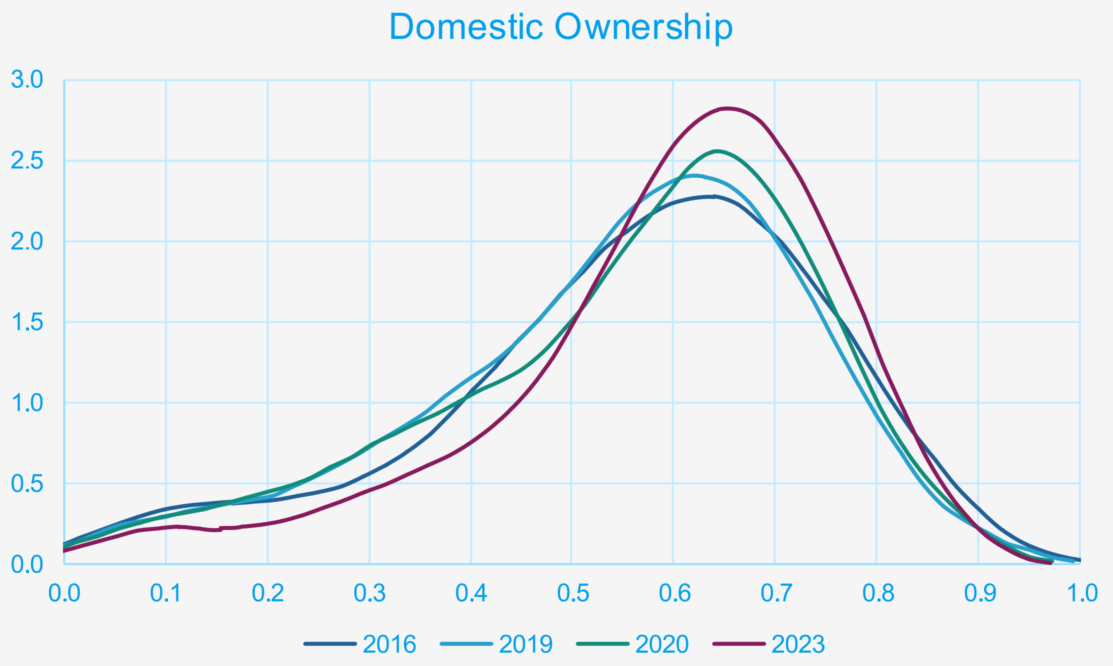


	Mean				Median			
	2016	2019	2020	2023	2016	2019	2020	2023
North East	0.51	0.54	0.59	0.60	0.50	0.57	0.62	0.58
North West	0.54	0.56	0.58	0.66	0.58	0.59	0.64	0.71
Yorkshire and Humberland	0.53	0.55	0.56	0.61	0.57	0.60	0.60	0.66
East Midlands	0.55	0.57	0.57	0.62	0.59	0.60	0.60	0.64
West Midlands	0.59	0.55	0.57	0.59	0.65	0.62	0.63	0.63
East	0.55	0.50	0.51	0.60	0.55	0.50	0.51	0.61
London	0.53	0.50	0.55	0.53	0.54	0.57	0.59	0.63
South East	0.50	0.53	0.55	0.62	0.54	0.56	0.57	0.64
South West	0.45	0.54	0.57	0.57	0.47	0.57	0.63	0.62
Wales	0.51	0.37	0.36	0.57	0.57	0.39	0.29	0.61
Scotland	0.45	0.49	0.49	0.64	0.49	0.54	0.54	0.66

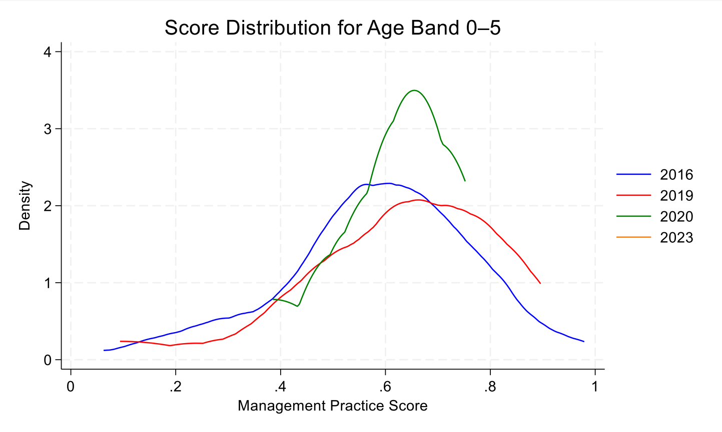
- Perhaps surprisingly, London's mean MPS was the lowest of all regions.
- Wales management score dropped in wave 2 showing their median score to double in wave 3.
- Every region, bar two, showed an increase to their mean management score.

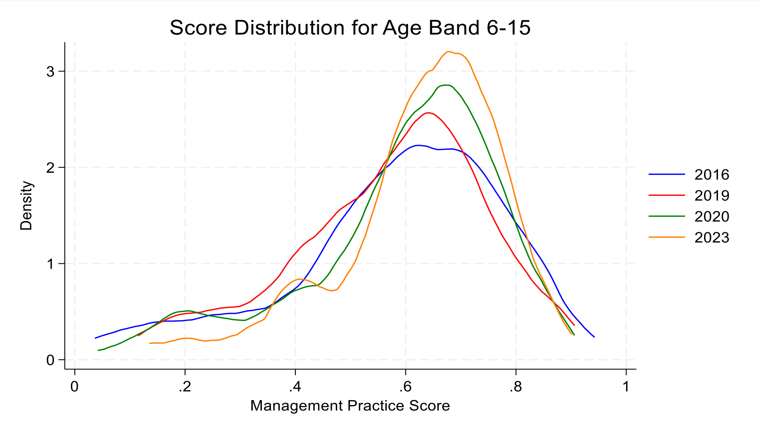
Linked Sample - Ownership

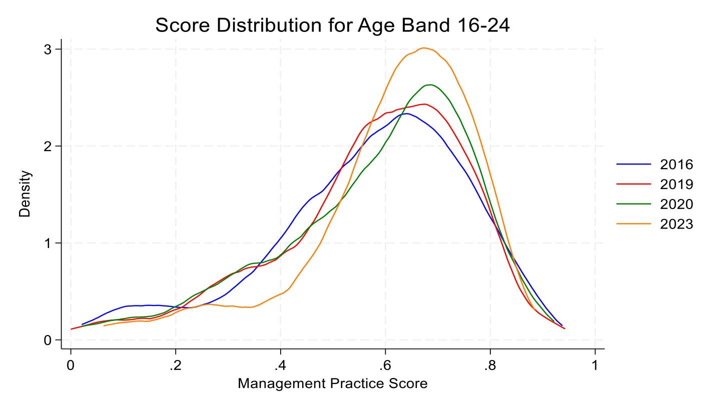


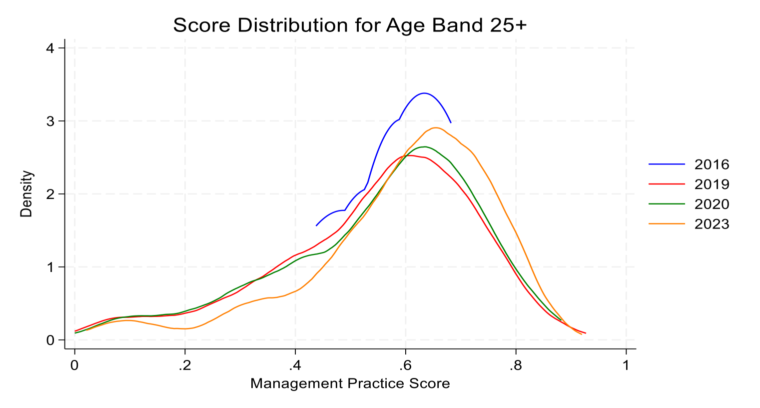


Linked sample – Firm Age









	Mean				
	2016	2019	2020	2023	Counts
0-5	0.51	0.63	0.65	\	\
6-15	0.54	0.48	0.53	0.64	135
16-24	0.52	0.56	0.56	0.64	270
25+	0.58	0.52	0.52	0.58	773

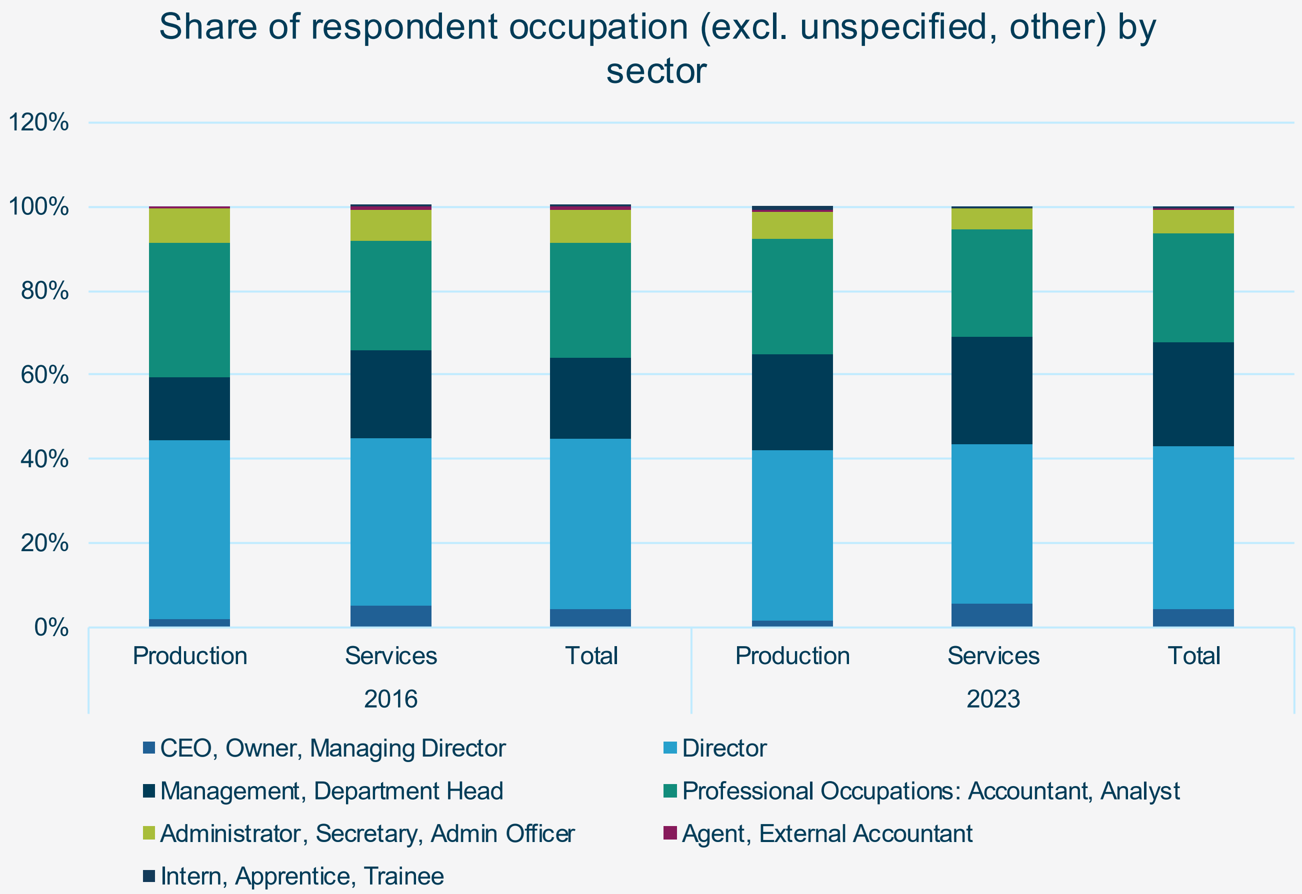
	Median			
	2016	2019	2020	2023
0-5	0.55	0.68	0.70	\
6-15	0.57	0.52	0.55	0.65
16-24	0.56	0.60	0.60	0.68
25+	0.64	0.56	0.57	0.62

- Middle-aged firms (6–25 years) also improved over time, though with some fluctuation particularly in the 6–15 age group, which dipped in 2019 before recovering.
- These groups had more substantial sample sizes, lending more confidence to the observed patterns.

Responder occupation classifications

CHIEF EXECUTIVE, OWNER, MANAGING DIRECTOR	Chief executive, CEO, CFO, COO, Owner, Founder, Managing Owner, Managing Director, Executive Chairman, Proprietor
DIRECTOR	Director of finance, Director of HR, Director of Operations, Group Director, Senior Director, Director of (various other departments), Branch Director,
MANAGEMENT, DEPARTMENT HEADS	General Manager, Area Manager, Corporate Finance Manager, HR Manager, Office Manager, Head of (various departments), Senior Accountancy Manager, Accounts Manager, Finance Manager, Management Accountant, Assistant Director, Executive Assistant
PROFESIONAL OCCUPATIONS, ACCOUNTANTS, ANALYSTS	Accountant, Financial Controller, Bookkeeper, Analyst, Consultant, Financial and HR combination Roles, Treasurer.
ADMINISTRATORS, SECRETARYS, ADMIN OFFICERS	Secretary, PA, Admin Officer, Administrator, Receptionist
AGENTS, EXTERNAL ACCOUNTANTS	Agent, Agent to Client, external officer, External Accountant, Advisors
INTERNS, APPRENTICES, TRAINEES	Interns, Apprentices, Finance students, Finance interns, Trainee

Little variation in sector by respondent occupation

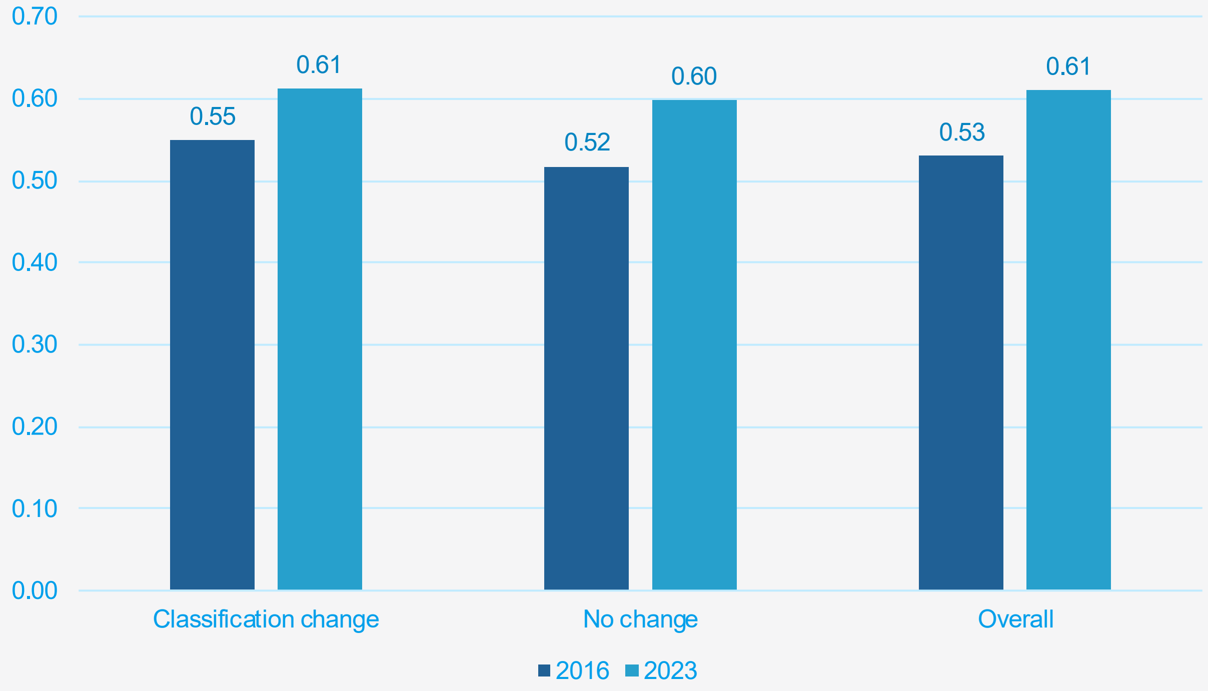


- Production (& construction) respondent slightly more likely to be in a Professional Occupation (e.g. accountant, analyst) or Director than in Services sector
- Services sector respondent more likely to be a Management or Department Head than in the Production sector

Notes:

1. Counts for Non-Manufacturing and Real Estate are low
2. Share excludes Unspecified, Other category

Mean MPS increased slightly from 2016 to 2023, regardless if they did or didn't change the type of responder to the MES



- Compared firms that had their response occupation change compared to firms that did not.
- The change in the MPS in both groups was pretty similar
- But firms that changed the type of responder to the survey tended to have higher MPS in both years.
- Also found firms that changed their occupation had slightly more volatile scores between 2016 and 2023

Firms that responded to wave 3 with someone from a different occupation classification to their wave 1 responder, had more volatile management practice scores, on average