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SSRO's baseline profit rate, capital servicing rates, and SSRO funding adjustment recommendation: 2019/20 Supporting analysis

January 2019

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Section 1: Rates recommendation

This section sets out details of the SSRO's rates recommendation to the Secretary of State:
- Baseline Profit Rate
- Capital Servicing Rates
- SSRO Funding Adjustment

Section 2: Sensitivity Analysis

This section sets out further sensitivity and other analysis, including:
- Analysis of the changes to the baseline profit rate since last year
- Defence Sector representation in the benchmark
- Geography
- The turnover threshold, exclusion of loss-makers and choice of averages
- Changes in the comparator groups since last year
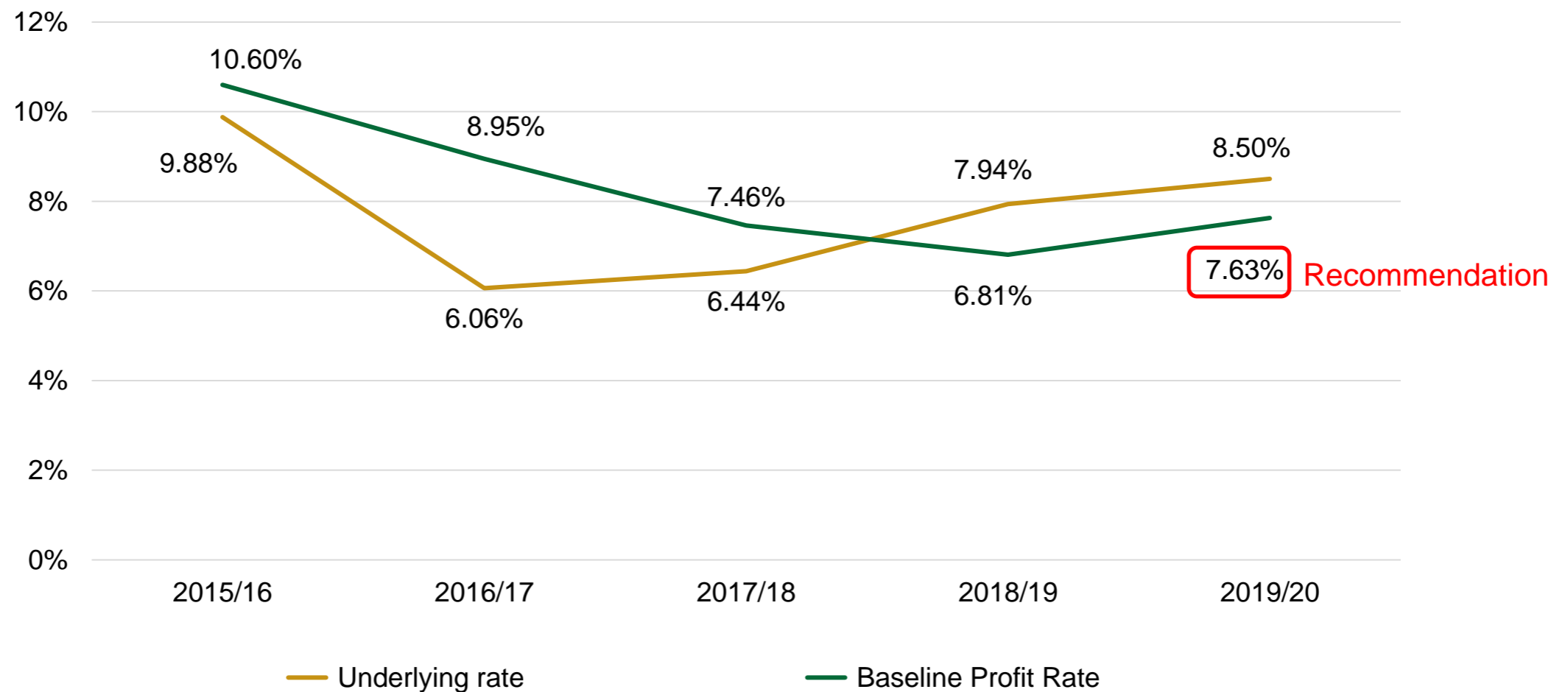
Baseline Profit Rate

The baseline profit rate is Step 1 of the 6-step process to calculate the contract profit rate of a contract that falls under the Single Source Regulations.

The baseline profit rate is the average of the underlying rates for the last three years. The underlying rate for a single year is based on the financial performance of a group of companies whose activities are comparable to those that contractors might be expected to perform for single source contracts.

Full details on the approach are set out in the SSRO publication *Single source baseline profit rate, capital servicing rates and funding adjustment methodology.*

Baseline Profit Rate

The baseline profit rate has risen as a result of the upward trend in the underlying rate

Source: Orbis, Bloomberg and SSRO calculations

Summary comparison table

The baseline profit rate is the average of the three-year rolling averages of the Develop & Make and Provide & Maintain comparator groups. Rates for two other groups, Ancillary Services and Construction, are presented for information, but these are not included in the Composite.

	Underlying profit rate			Baseline profit rate			Number of entities		
	Yearly medians			3-year average			Entities used in the exercise		
	2017/18	2018/19	2019/20	2018/19	2019/20	Change	2018/19	2019/20	Change
Ancillary services	3.95%	4.35%	5.54%	4.27%	4.61%	0.34%	39	25	-36%
Construction	3.61%	3.49%	3.50%	3.75%	3.53%	-0.22%	92	75	-18%
Develop and make	6.77%	7.67%	7.86%	6.65%	7.43%	0.78%	323	293	-9%
Provide and maintain	6.11%	8.20%	9.14%	6.97%	7.82%	0.85%	65	60	-8%
				Recommendation					
Composite	**6.44%**	**7.94%**	**8.50%**	**6.81%**	**7.63%**	**0.82%**	**388**	**353**	**-9%**

☐ Previously published figures

https://www.gov.uk/government/publications/2018-contract-profit-rate

Historical profitability of the 2019/20 comparator groups
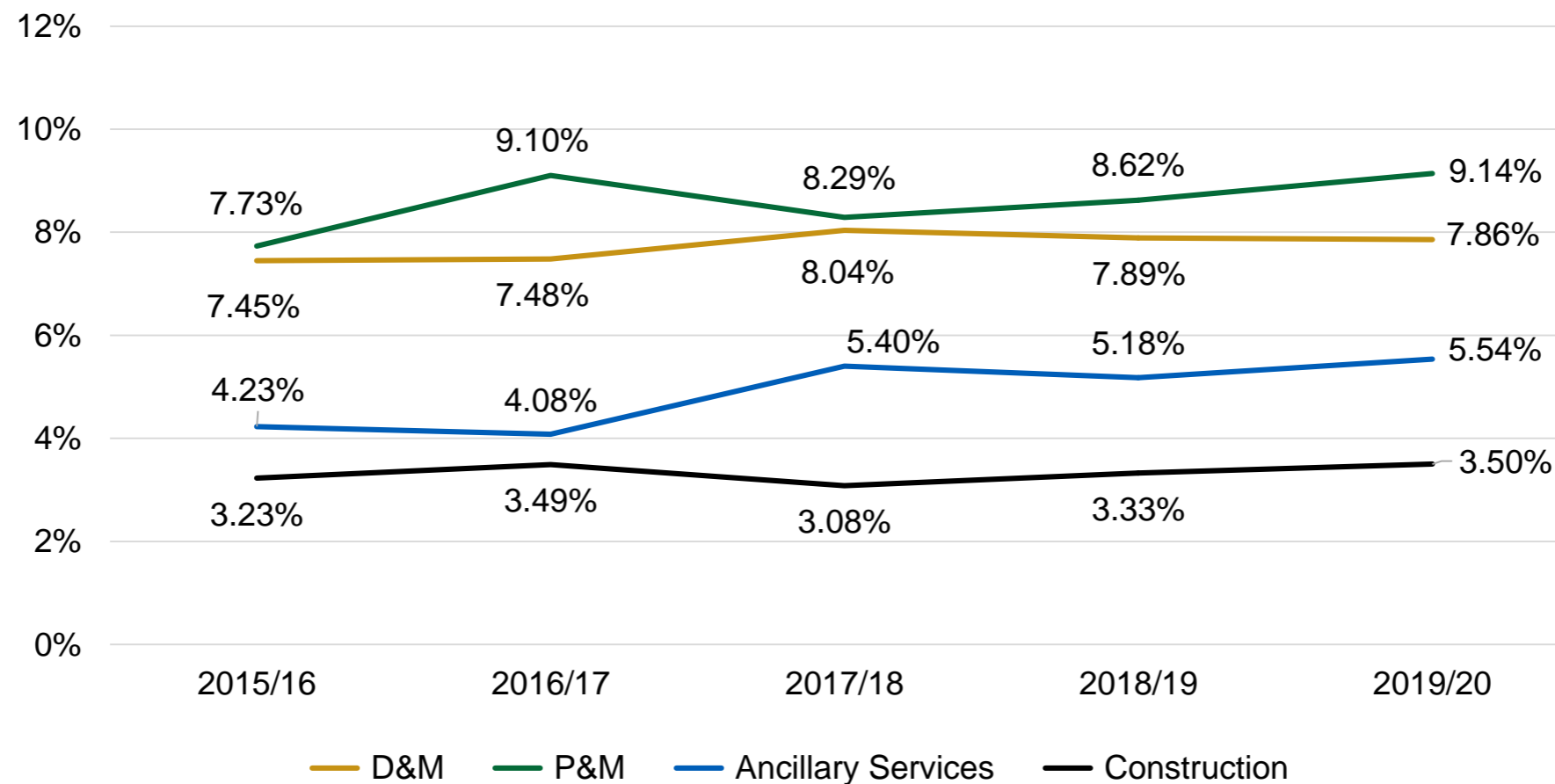
Notes: The data in the chart relates to the companies included in the 2019/20 comparator groups.

Source: Orbis, Bloomberg and SSRO calculations

Illustrative high and low Contract Profit Rate

The baseline profit rate is combined with the other steps to arrive at the Contract Profit Rate

Contract profit rate step		Value/Adjustment
Step 1	Baseline profit rate	7.63%
Step 2	Cost risk adjustment*	+/- 1.91 pp
Step 3	POCO adjustment	0.00 pp
Step 4	SSRO funding adjustment	-0.042pp
Step 5	Incentive adjustment**	(up to) 2 pp
	Maximum CPR at step 5	**11.50%**
	Minimum CPR at step 5	**5.68%**
Step 6	Capital servicing adjustment***	0.85pp on average in 2017/18
	Illustrative high CPR	**12.35%**
	Illustrative low CPR	**6.53%**

Notes: The six-step process is set out in the SSRO's publication *Guidance on the baseline profit rate and its adjustment*
* An adjustment of +/- 25 per cent of Step 1 – the maxima permitted.
** A positive adjustment of up to two percentage points may apply to incentivise the achievement of enhanced performance.
*** Mean average value for contracts priced in 2017/18. The actual adjustment may be higher, lower or negative; for example, it ranged from 0 per cent to 2.6 per cent during that period. Source: *Annual qualifying defence contract statistics: 2017/18*

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Capital Servicing Rates

Each year the SSRO calculates the following three capital servicing rates based on averages of bond yields and interest rate data published by Bloomberg and the Bank of England:

- Fixed capital
- Positive working capital
- Negative working capital

Full details on the approach are set out in the SSRO publication *Single source baseline profit rate, capital servicing rates and funding adjustment methodology.*
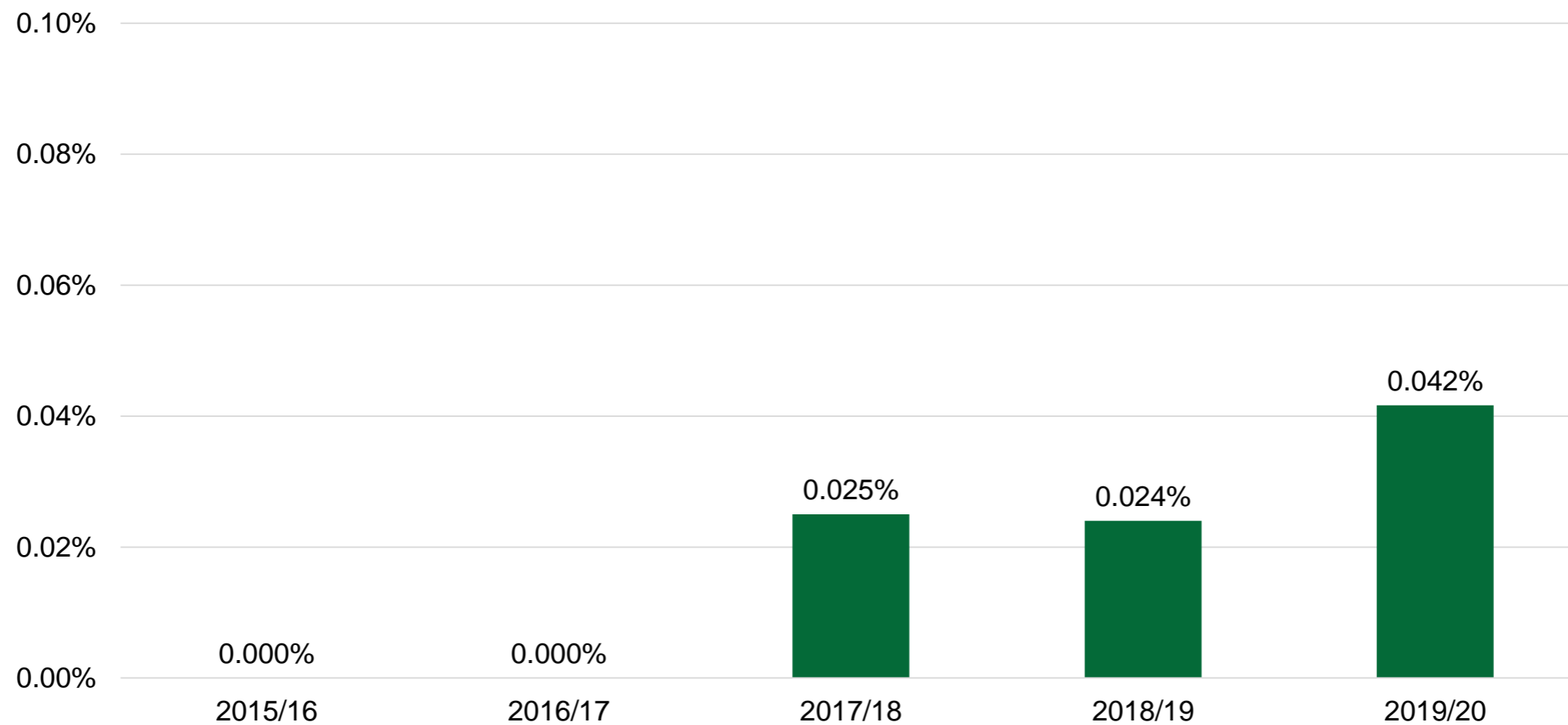
Capital Servicing Rates

Rate	Description	Recommendation
Fixed capital servicing	15 year BBB GBP bond index – 7 year average	3.98%
Working capital (positive)	1 year BBB GBP bond index – 3 year average	1.18%
Working capital (negative)	Monthly interest on short term deposits – 3 year average	0.53%
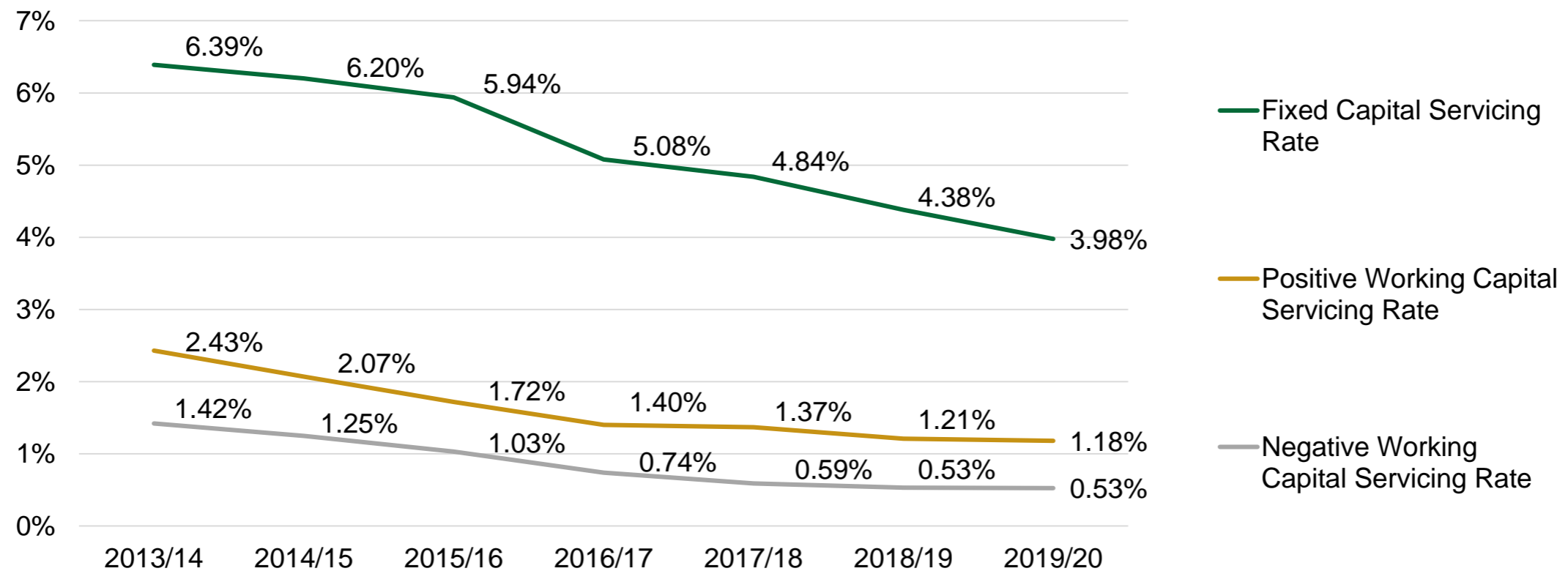
Source: Bloomberg, Bank of England and SSRO calculations

SSRO Funding Adjustment

The SSRO is an executive non-departmental public body sponsored by the Ministry of Defence, who provide a grant-in-aid for the SSRO's running costs. The SSRO's annual report and accounts provide an account of the SSRO and its use of resources.

The SSRO funding adjustment is intended to allow the MOD to recover half of the SSRO's costs through a reduction in the amounts paid on single source contracts, shared across contractors based upon the value of their contracts.

Full details on the approach are set out in the SSRO publication *Single source baseline profit rate, capital servicing rates and funding adjustment methodology.*

SSRO Funding Adjustment Calculation

The SSRO funding adjustment is calculated with reference to the average annual total Allowable Costs of contracts entered into, therefore the per cent rate each year may be different whilst still delivering a similar reduction in costs to the MOD.

Recommendation		2017/18	2018/19	2019/20
SSRO running costs (£ million) 3 year average	a	4.920	5.162	5.413
SofS task related SSRO expenditure (£ million) 3 year average	b	-	-	-
Total Allowable Costs of QDCs and QSCs (£ million) 3 year average	c	9,955.272	10,555.829	6,499.333
SSRO funding adjustment = ((a-b)/c)/2		0.025%	0.024%	0.042%

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History of the SSRO Funding Adjustment

Understanding the changes in the baseline profit rate

The following slides set out a breakdown of the changes in the baseline profit rate since the prior year and compare the trend in the baseline profit rate to the trend in macro-economic indicators:

- Changes to the baseline profit rate

- Profitability of major UK, US, and European share indices

- ONS data on UK manufacturing rate of return

2019/20 Baseline Profit Rate: Explaining the change from 2018/19

The change in the baseline profit rate each year is a product of:

1. **Underlying performance:** The upward trend of the underlying performance of the comparator groups, reflected in the three-year rolling average;

2. **Application of the search criteria:** Companies removed due to the application of the search criteria, such as no longer being independent or having available data;

3. **Detailed annual verification:** Adjustments to membership of the comparator groups as part of the annual process of validation to ensure they remain appropriate; and

4. **Defence cross-check:** Companies joining the comparator groups through a cross-check against MOD suppliers.

Underlying performance 7.45%	Application of the search criteria 7.56%	Detailed annual verification 7.64%	Defence cross-check **7.63%**

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Joiners and leavers to the comparator groups

Maintaining the number of comparator companies ensures the underlying rate is robust. The SSRO's methodology is to fully refresh the comparator groups every three years, or earlier if required. The last full refresh was for 2017/18 and we expect to perform a full new search to increase the pool of comparator companies next year.

In the current year:

- The level of attrition due to the application of search criteria has remained stable.
- The number of companies rejected through the detailed annual review or added by the defence cross-check was low, reflecting the maturity of the process that has seen companies reviewed for the third time.
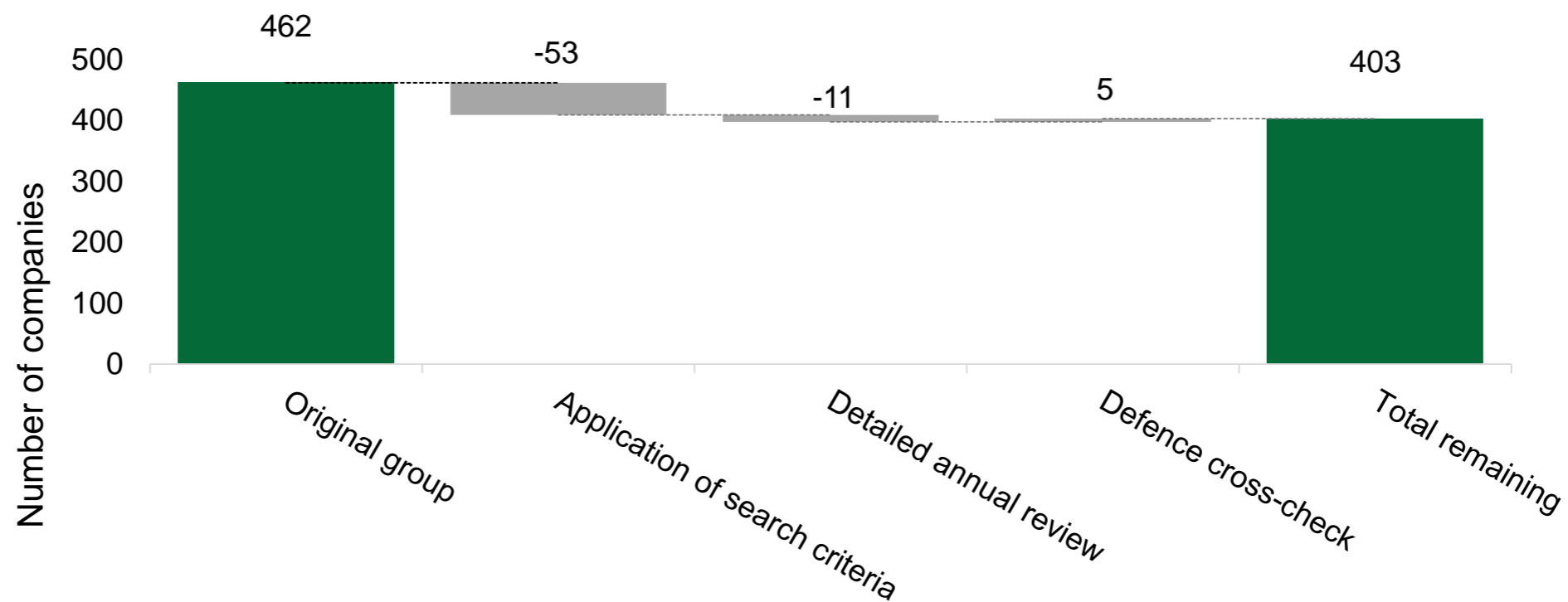
Trends in the performance: profits of companies in share indices

This chart compares the trend in the underlying profit rate to the trend in profitability of companies included in major UK, US, and European share indices.


Underlying profit rate ----- FTSE 100 —— S&P 500 —— CAC 40
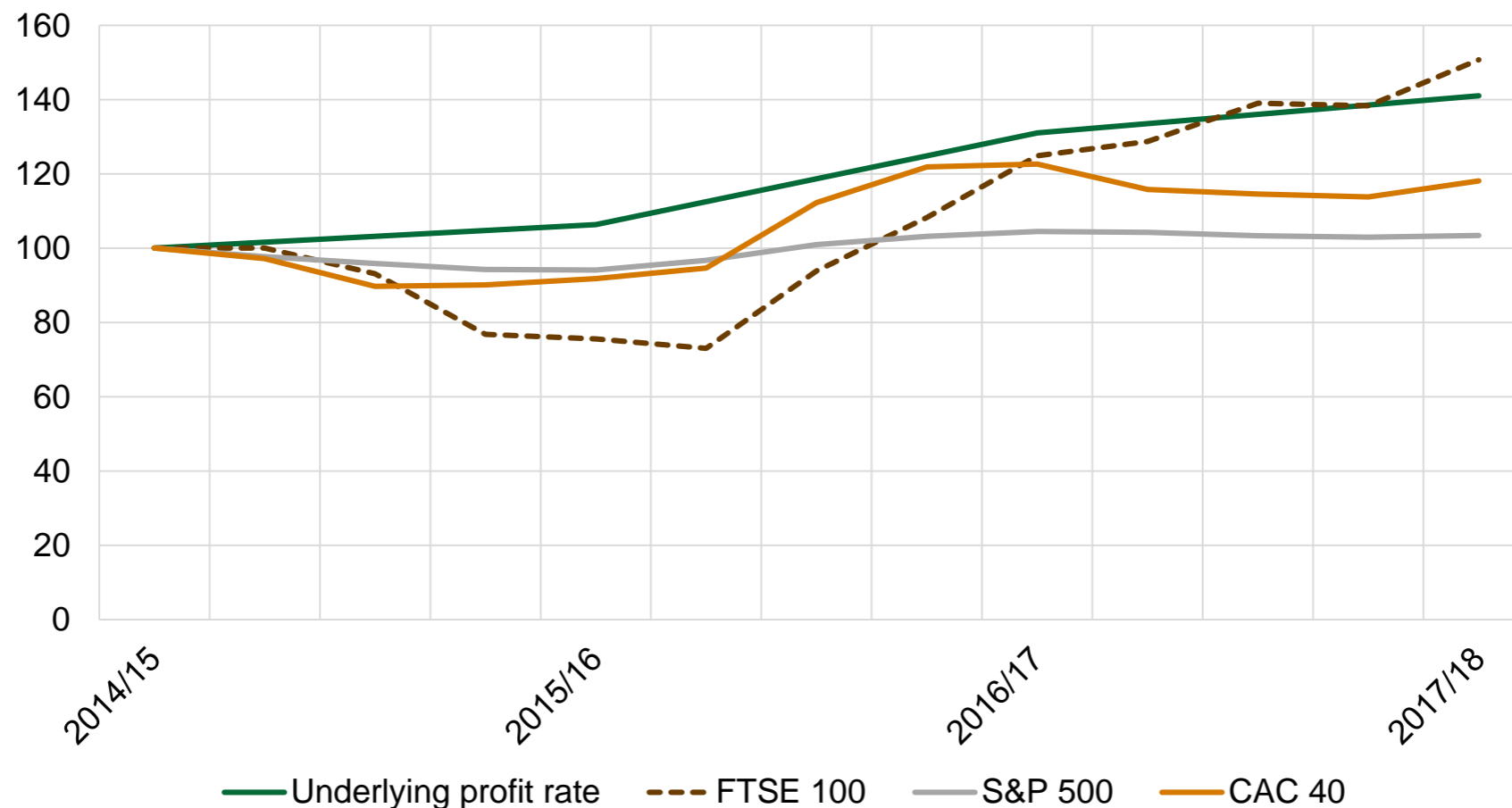
Notes: The baseline profit rate and the operating margin of the companies in the indices are all based to 100 on 30 June 2015. Increases and decreases in those rates are shown over time relative to that starting point. **For the avoidance of doubt,** this data does not indicate share price performance, it indicates the profit rate reported by the index constituents.

Source: Bloomberg, SSRO calculations

Trends in the performance: UK manufacturing rate of return

ONS reports data on rate of return, which is a measure of return on capital. Profit on cost and return on capital are not directly comparable. However, we can use this data to compare trends in the underlying profit rate to trends in the wider UK economy.

- - UK manufacturing net rate of return — Underlying profit rate
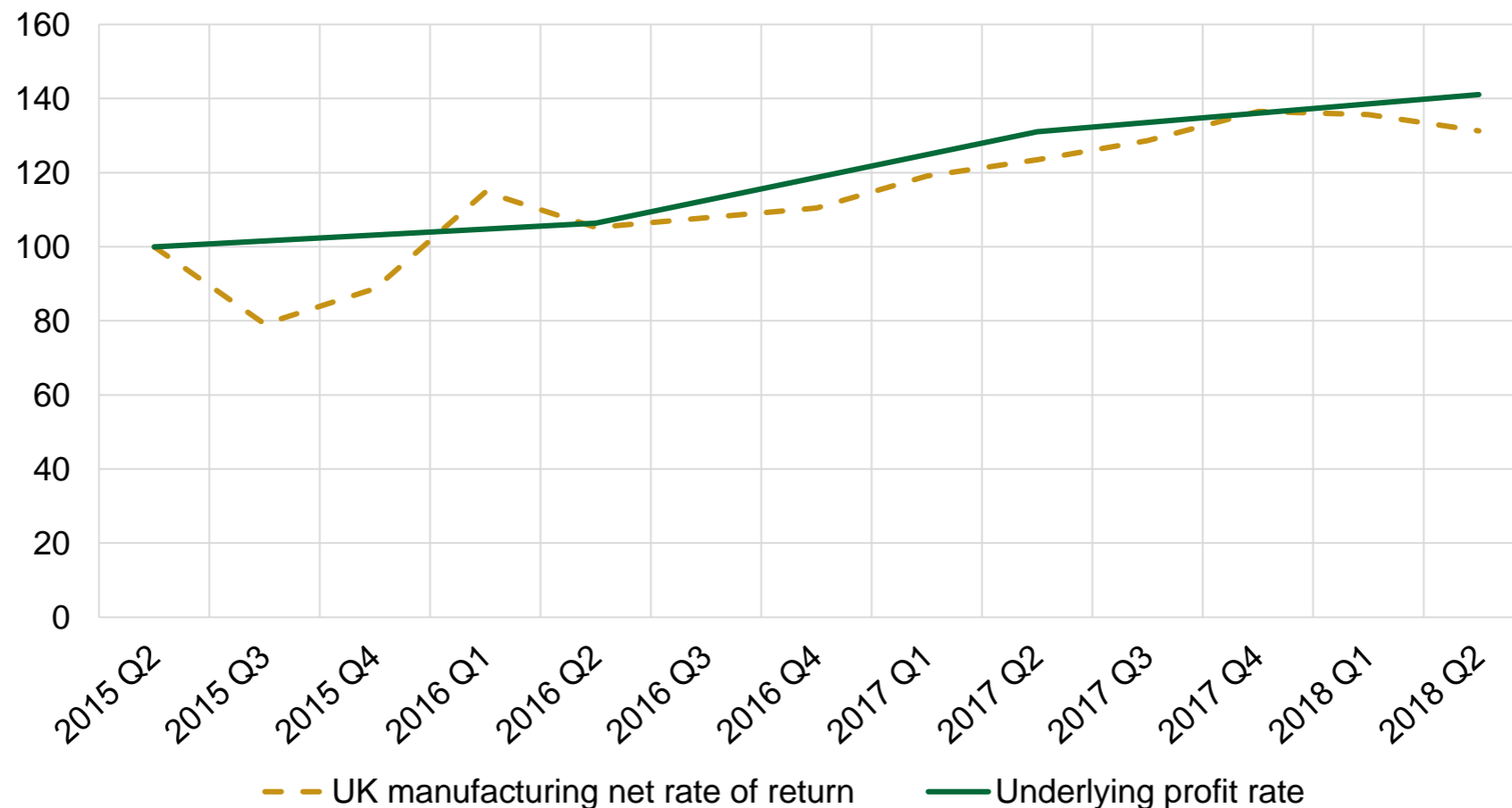
Notes: The baseline profit rate and the ONS measure of profitability (net operating surplus divided by net capital employed) are based to 100 on 30 June 2015. Increases and decreases in those rates are shown over time relative to that starting point.

Source: ONS *Quarterly net rate of return of manufacturing private non-financial non-UK continental shelf corporations* (series LRYC) SSRO calculations.

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Defence Representation

It is not the SSRO's intention that the comparator groups contain only companies from the defence industry, although we expect them to be represented.

The following slides set out defence sector representation within the comparator groups and their influence on the result:

- Explanation for the presence, or otherwise, of the MOD's largest private sector suppliers

- A specific aspect of our methodology is a cross-check against MOD supplier lists to ensure that MOD's actual suppliers are represented in the comparator groups.

- Proportion of defence keyword companies in the analysis and their results compared to non-defence keyword companies

Presence of MOD suppliers in the comparator groups

Company name	Activity Type
BAE Systems PLC	Develop & Make
Babcock International Group PLC	Provide & Maintain
Airbus Group SE	Develop & Make
Rolls Royce Holdings PLC	Develop & Make
Lockheed Martin Corporation	Develop & Make
Leonardo SpA	Develop & Make
QinetiQ Group	Develop & Make
DXC Technology	Not included
General Dynamics Corporation	Develop & Make
Thales Group	Develop & Make

Company name	Activity Type
Leidos Holdings, Inc.	Provide & Maintain
Boeing Company (The)	Develop & Make
Serco Group PLC	Ancillary Services
Innisfree Group Ltd	Not included
Raytheon Company	Develop & Make
British Telecommunications PLC	Not included
Jacobs Engineering Group Inc	Provide & Maintain
KBR, Inc	Provide & Maintain
Interserve PLC	Ancillary Services

Explanation for companies not included:
- **DXC:** Founded in 2017 so does not meet the requirement to have 5 years of data
- **British Telecommunications**: Provision of fixed-line, mobile, broadband and subscription TV services are not a consistent with the activity characterisations
- **Innisfree**: Fund management services are not one of our comparable activities
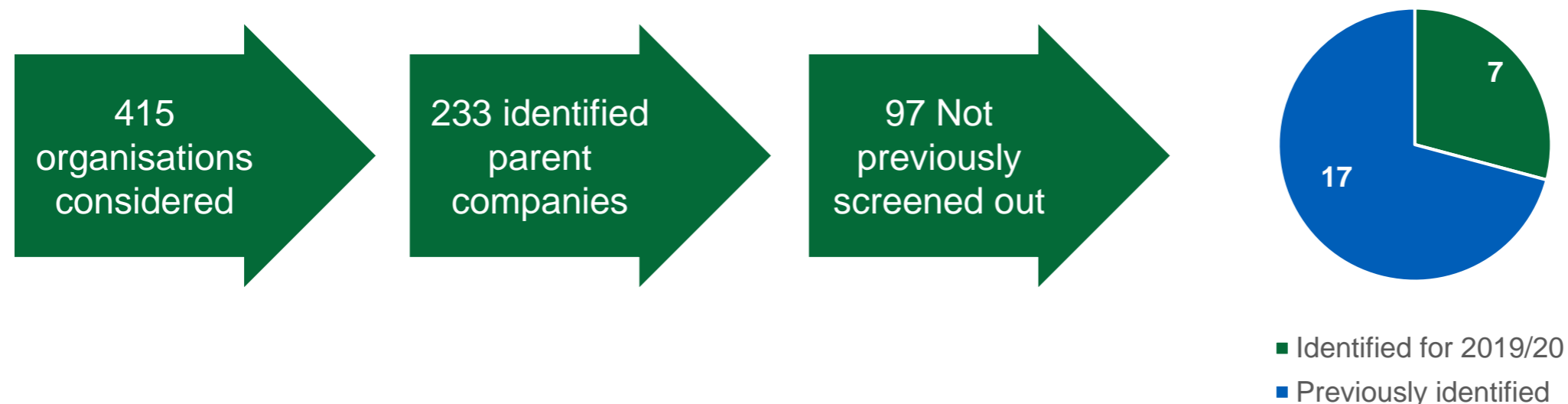
Notes: Source of companies are MOD statistics of private sector holding companies paid £250 million or more in 2017/18, *Table 4a MOD trade, industry and contracts: 2018* (MOD)
The table is ordered by value of spend.

Defence Cross-check

The SSRO inspects statistics of organisations paid more than £5 million by the MOD and uses DefCARS data to identify any additional comparators that were not found through the search process.

Some organisations do not meet our data requirements, or have previously been considered and screened out as they fail our search criteria, or do not perform comparable activities, such as financial services, other government bodies or utilities.

24 companies are included in the comparator groups as a result of the defence cross check. 17 of those were identified previously and 7 of these were identified through the current year cross-check and are new additions.

415 organisations considered → 233 identified parent companies → 97 Not previously screened out →

Pie chart:
- 7
- 17

■ Identified for 2019/20
■ Previously identified

Source: DefCARS, *Table 3a MOD trade, industry and contracts: 2018* (MOD), DefCARS, Orbis, SSRO calculations

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Proportion of 'defence keyword' companies in the calculation

Companies that either have the word 'defence' or 'defense' included in their Orbis text description account for approximately 18% of the comparator group
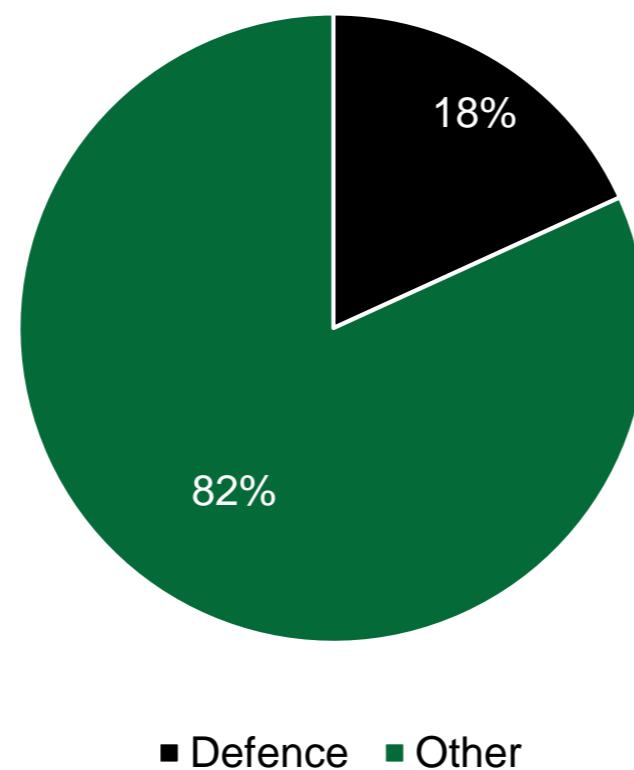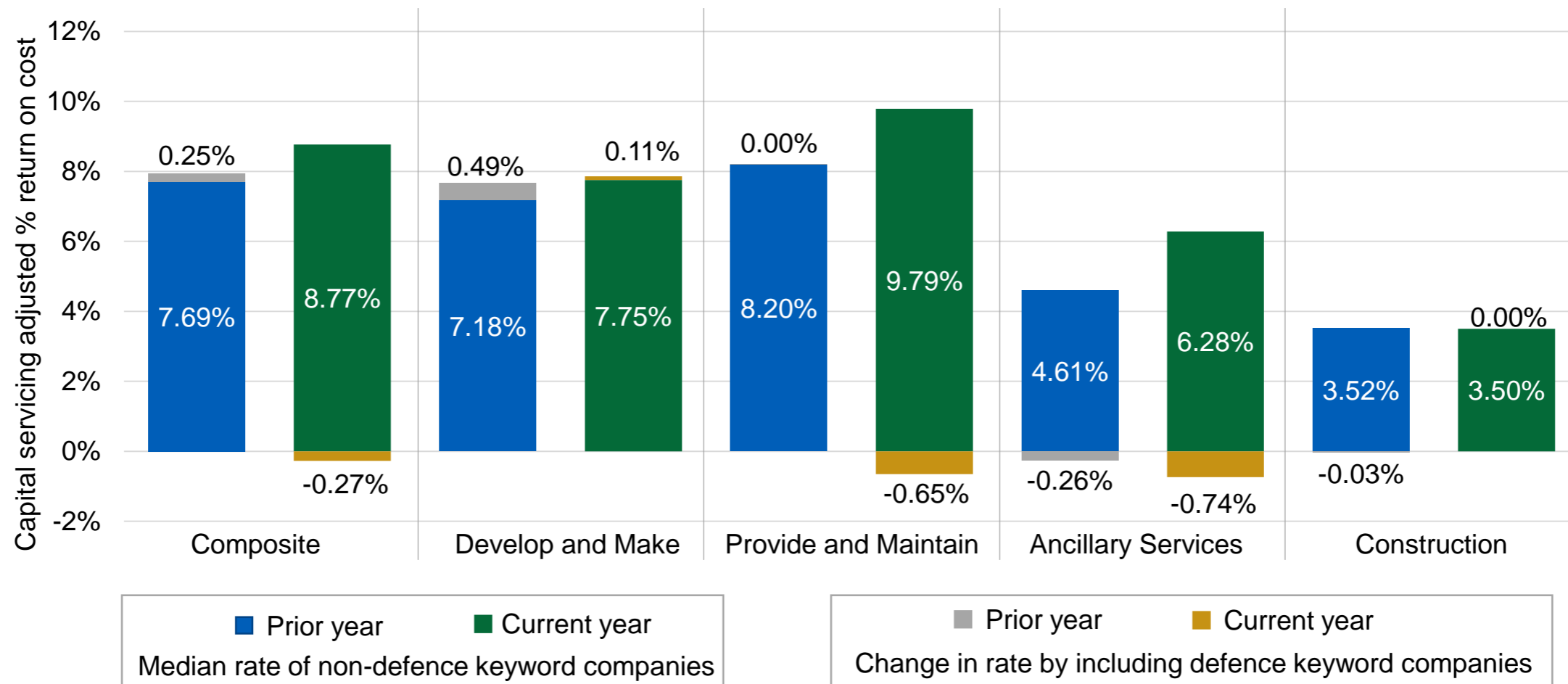

Pie chart showing 18% Defence (black) and 82% Other (green)

■ Defence   ■ Other

Notes: A company is considered to be a 'defence keyword' company if either the word 'defence' or 'defense' is included in their Orbis text descriptions

Source: Orbis and SSRO calculations

Impact of 'defence keyword' companies on the result

The chart shows, for the current and prior year, the profit rate of each comparator group excluding defence keyword companies, and the corresponding impact of adding those defence keyword companies back to get to the final result.

Notes: A company is considered to be a 'defence keyword' company if either the word 'defence' or 'defense' is included in their Orbis text description

Source: Orbis and SSRO calculations

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Geography

Only companies located in Western European and North America are included in the comparator groups.

The following slides set out the geographical characteristics of the comparator groups and the impact on the result:

- Proportion of companies in the comparator groups from each country

- Profitability of companies from each a selection of countries

- The impact of those countries on the baseline profit rate analysis

Geographical distribution of the comparator group

There is wide representation across Western Europe and North America
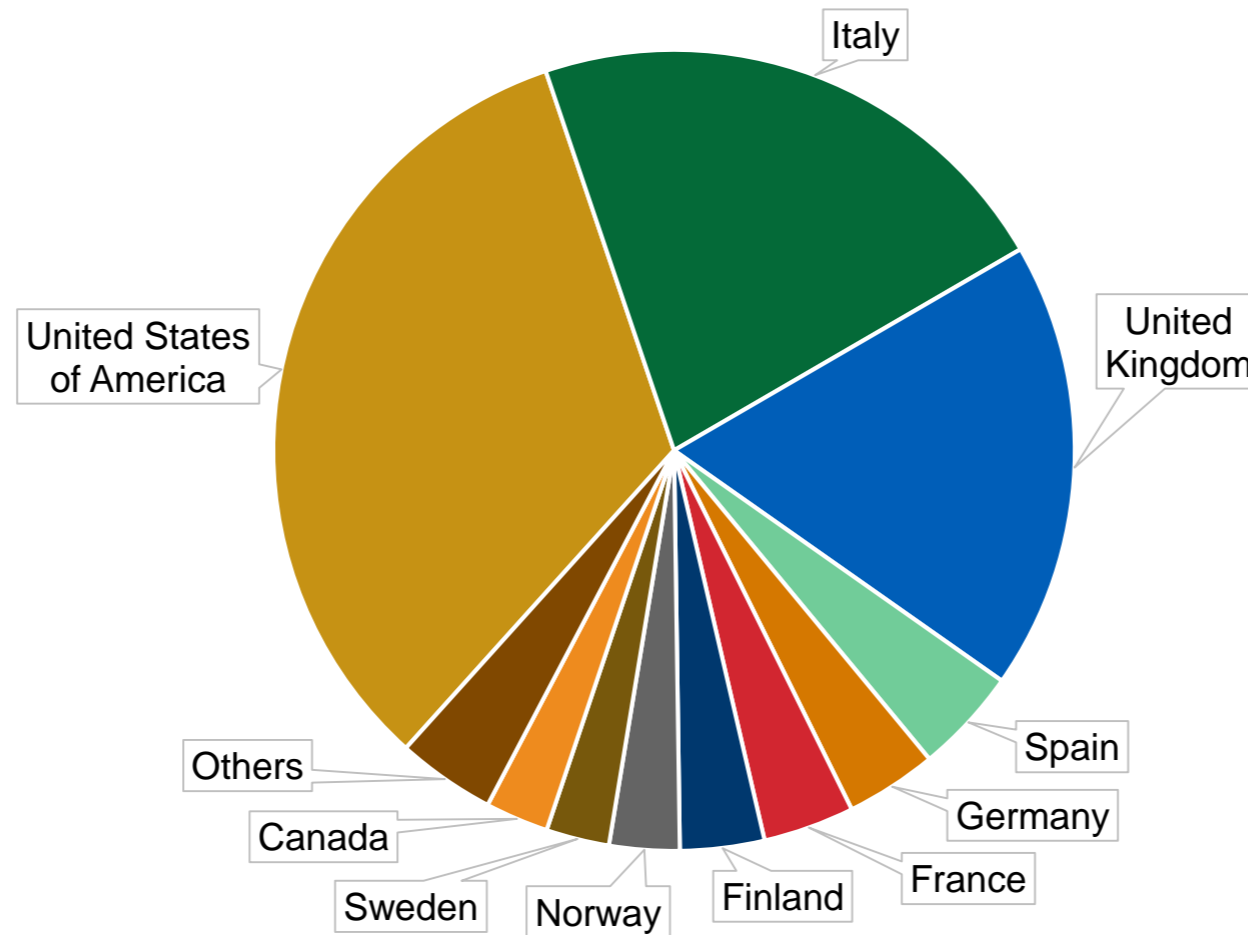
Notes: Countries with < 5 number of companies are merged in to 'Others'.

Source: Orbis

Geographical distribution of the comparator groups
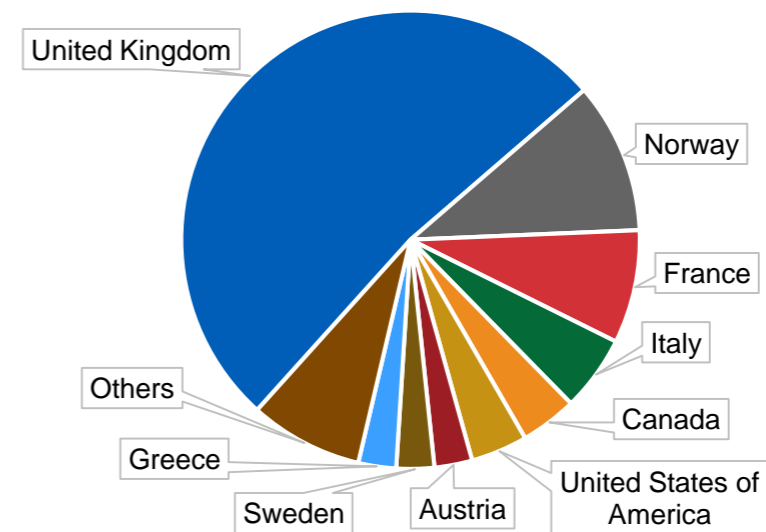
Provide and Maintain
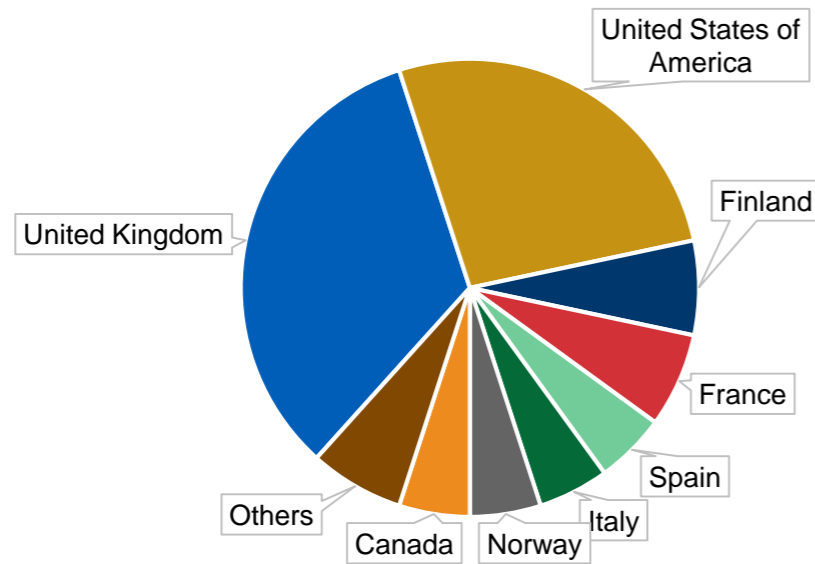
Ancillary Services
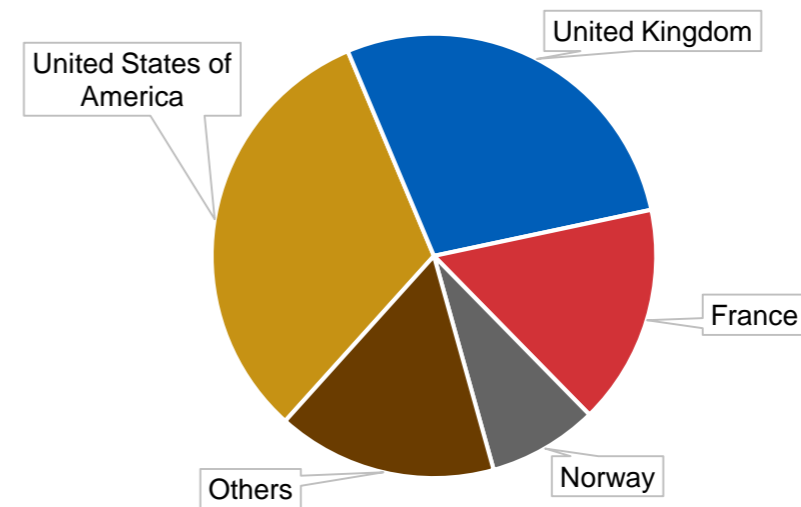
Develop and Make
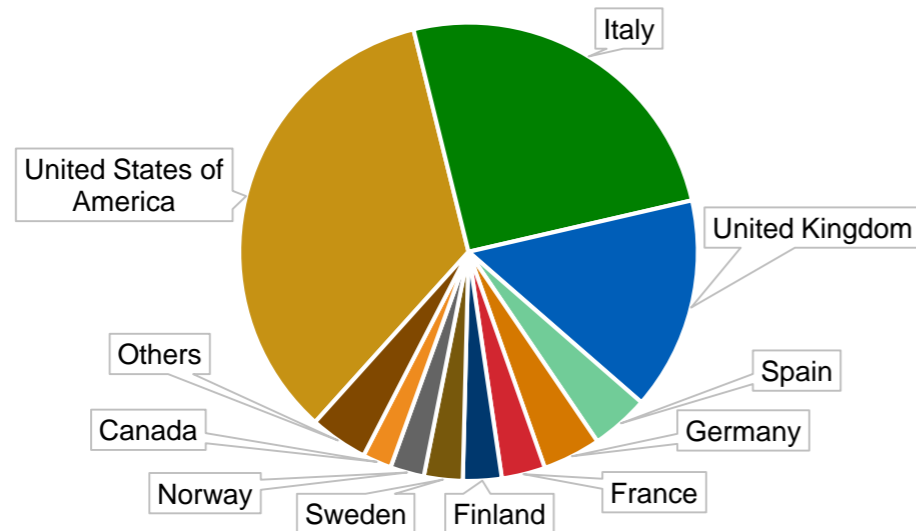
Construction

Profitability by country

This chart shows the composite rate for each country individually compared to the baseline profit rate.
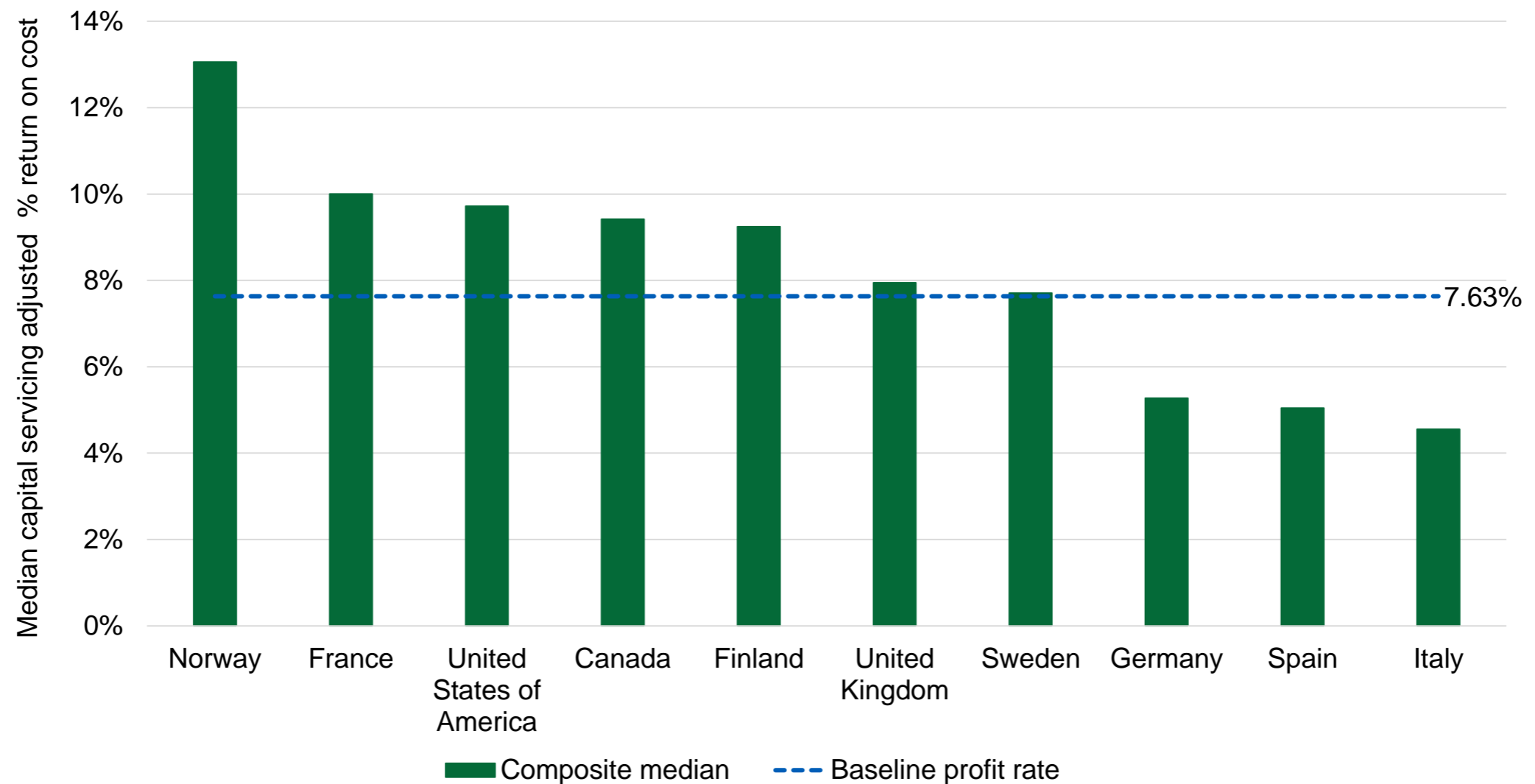
Notes: The rates are the composite of the Develop & Make and Provide & Maintain activity groups
Only countries with > 5 number of companies are shown.

Source: Orbis, SSRO calculations

Baseline Profit Rate sensitivity to exclusion of different countries

This chart shows what the baseline profit rate calculation would have been had a particular country been excluded from the analysis. The figures shown are the differences to the actual baseline profit rate recommendation.

Legend: Country excluded from 2019/20 dataset — Baseline profit rate
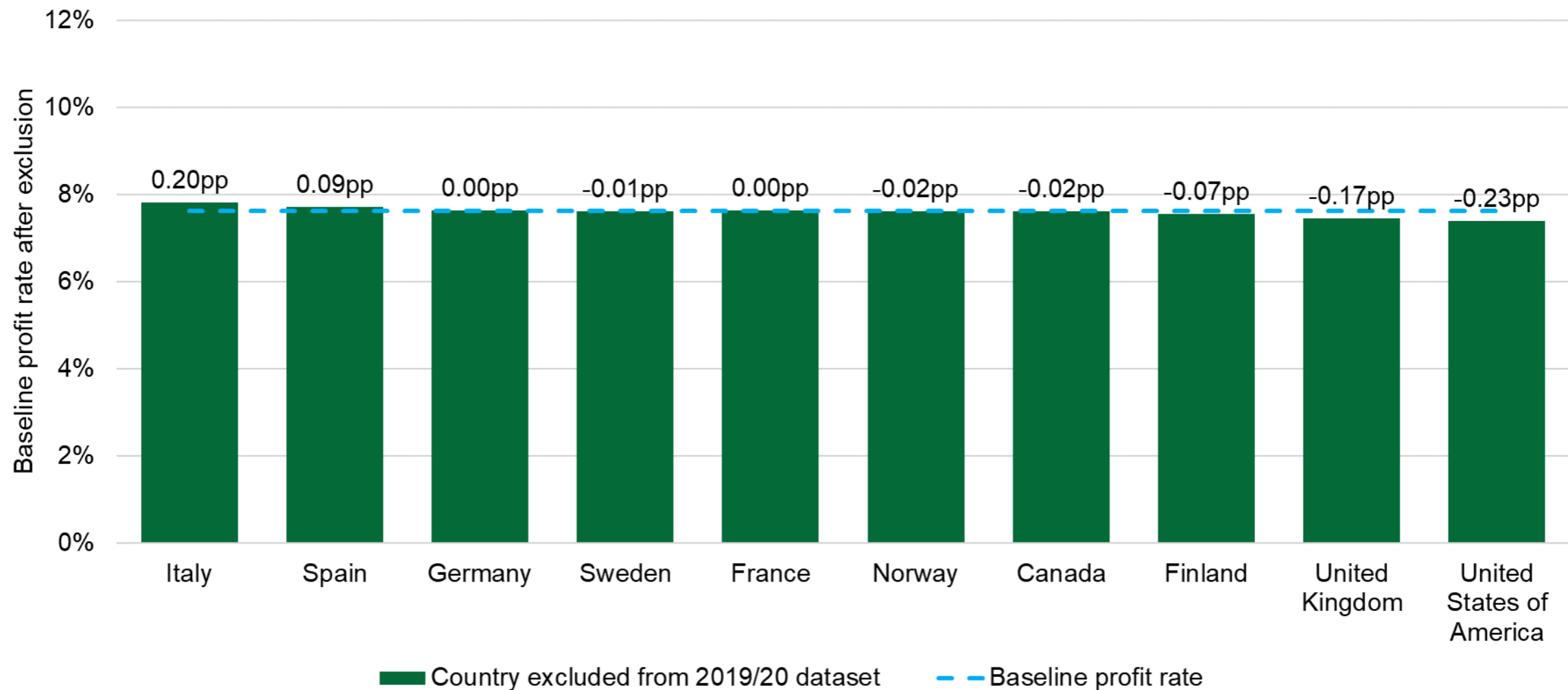
Notes: Only countries with > 5 number of companies are shown.

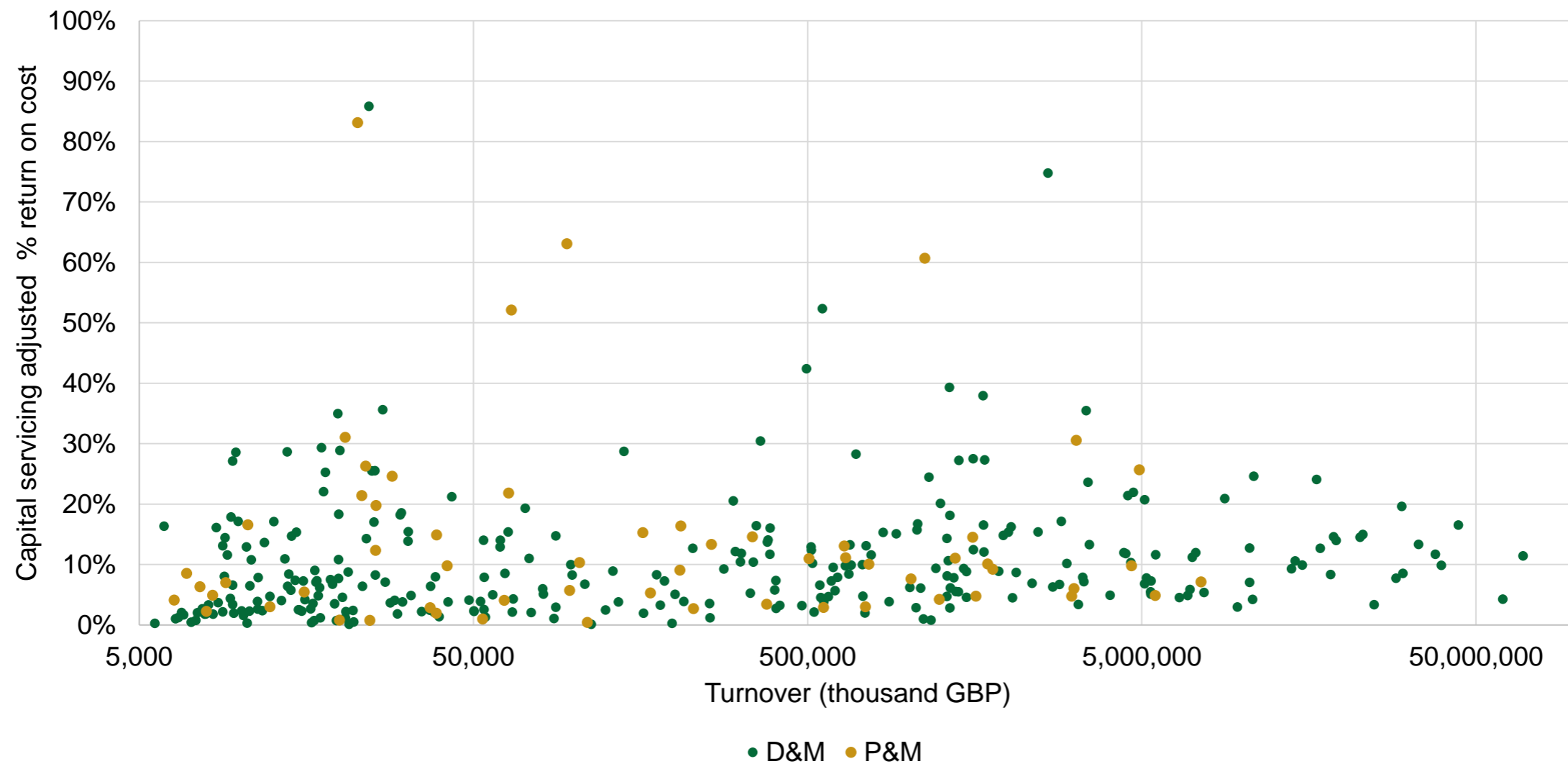**Source:** Orbis, SSRO calculations

Turnover

The comparator groups include companies that may be considered both large and small relative to the MOD's largest single source suppliers, reflecting the diversity of QDCs and QSCs, both in terms of the type and scale of work.

The following slides set out the size characteristics of the comparator groups, using turnover as a proxy for company size, and the impact on the result:
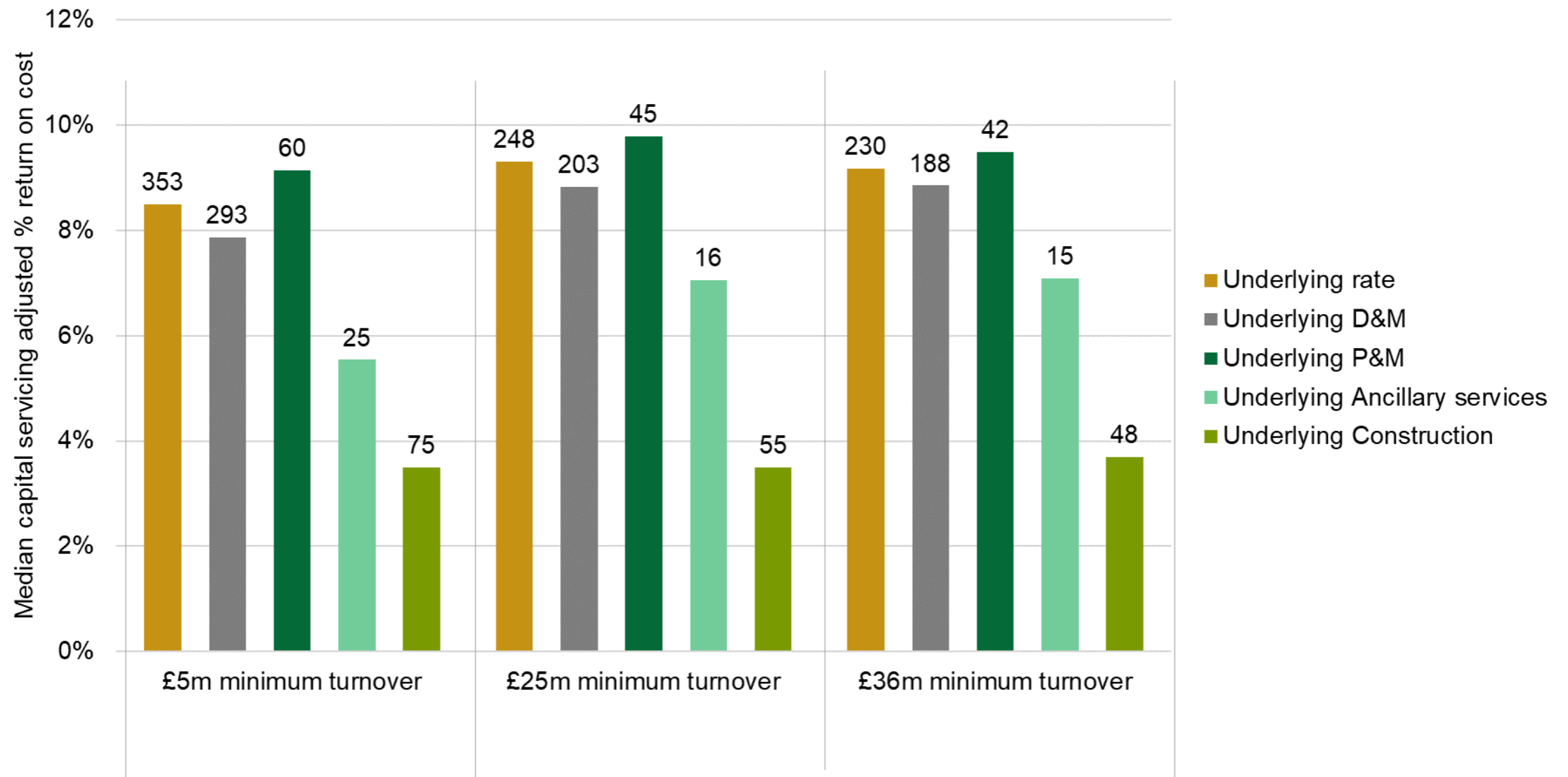
- The relationship between turnover and profit

- The impact on the baseline profit rate from adjusting the turnover threshold

Relationship between profit and turnover

Source: Orbis, SSRO calculations

Potential impact of increasing the turnover threshold

Notes: For each example turnover threshold the bars are the profit rate of each group and the values above the bars are the number of companies in each group.

Source: Orbis, SSRO calculations

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# Inclusion of loss-makers and averaging approach

Loss-making companies are removed to reflect the expectation of positive profit on estimated Allowable Costs in QDCs. This maintains consistency with the construct of the profit formula as a mark-up on estimated Allowable Costs and removes the possibility of a negative rate being produced.

The choice of average reflects the specific characteristics of the data set and the median is a superior measure of central tendency compared to the mean or weighted mean given the skewed nature of our data set. This is due to the fact that:

- The SSRO excludes loss-makers but does not place an upper limit on the profit measure therefore there are a small number of very profitable companies; and

- There may be potential for the particular circumstances of a small number of very large companies to unduly influence the result.

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Impact of loss-making companies

The analysis excludes loss-making companies. This chart shows the potential impact of including loss-makers in the analysis.
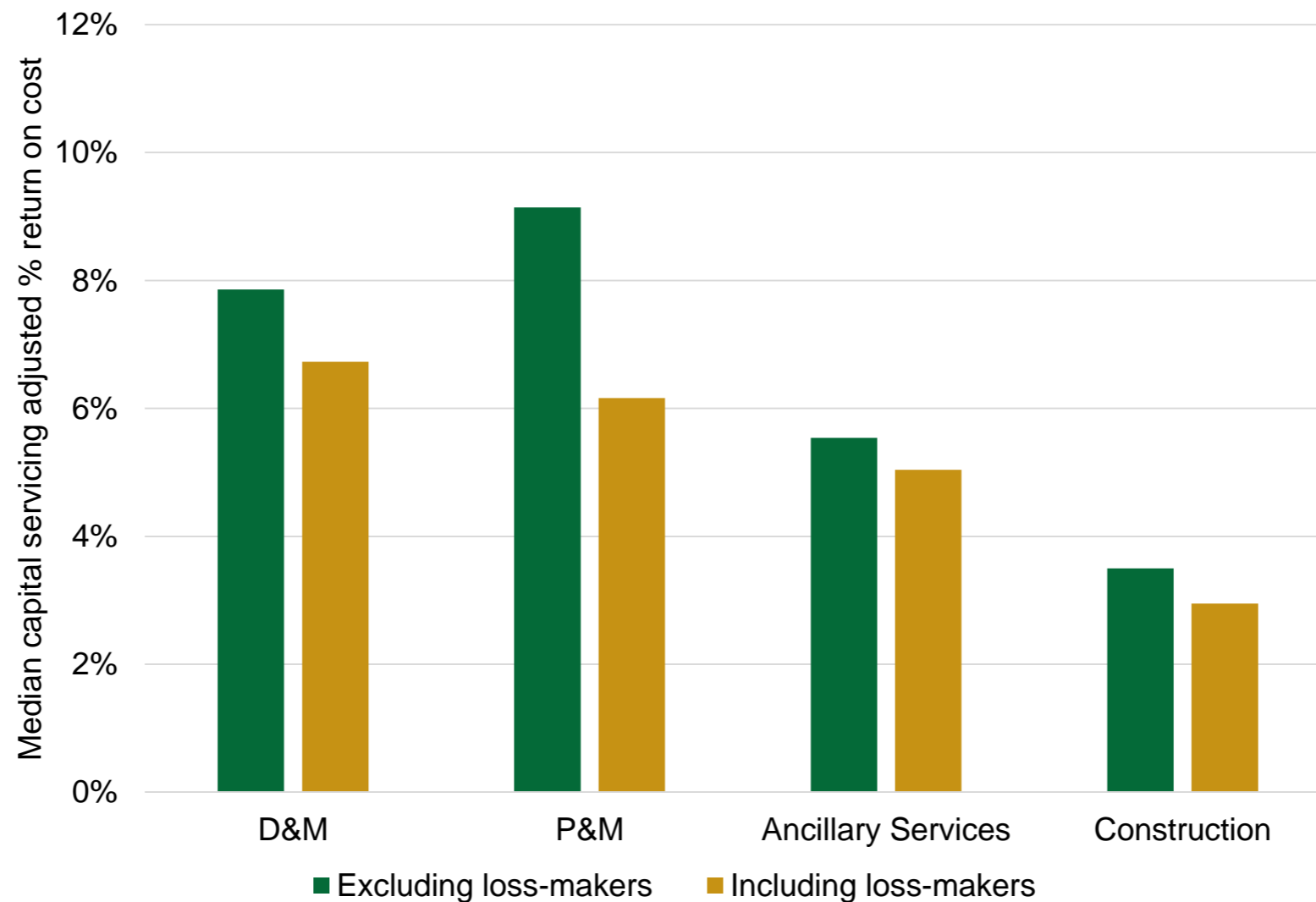
Source: Orbis, SSRO calculations

The robustness of the median

The chart demonstrates relative sensitivity of the median, mean and weighted mean to removing extreme data points. The median is the most robust measure of central tendency given the characteristics of the data set used for the calculation.
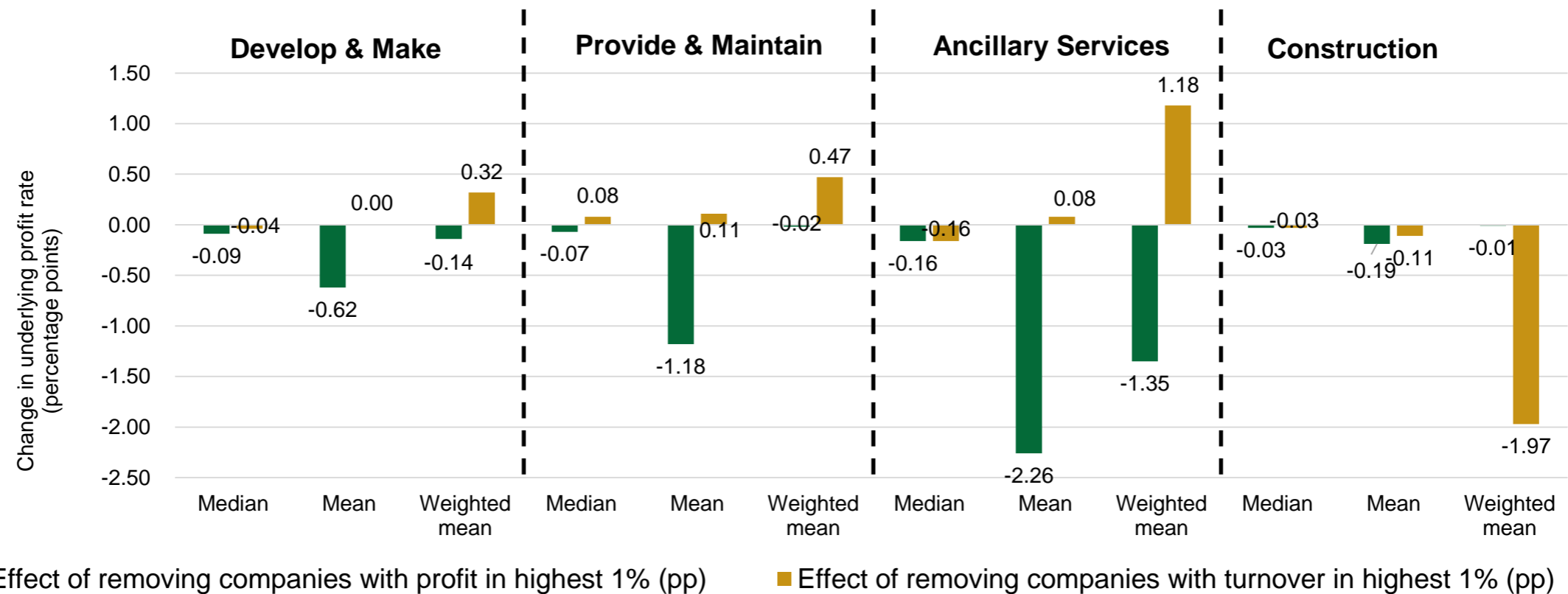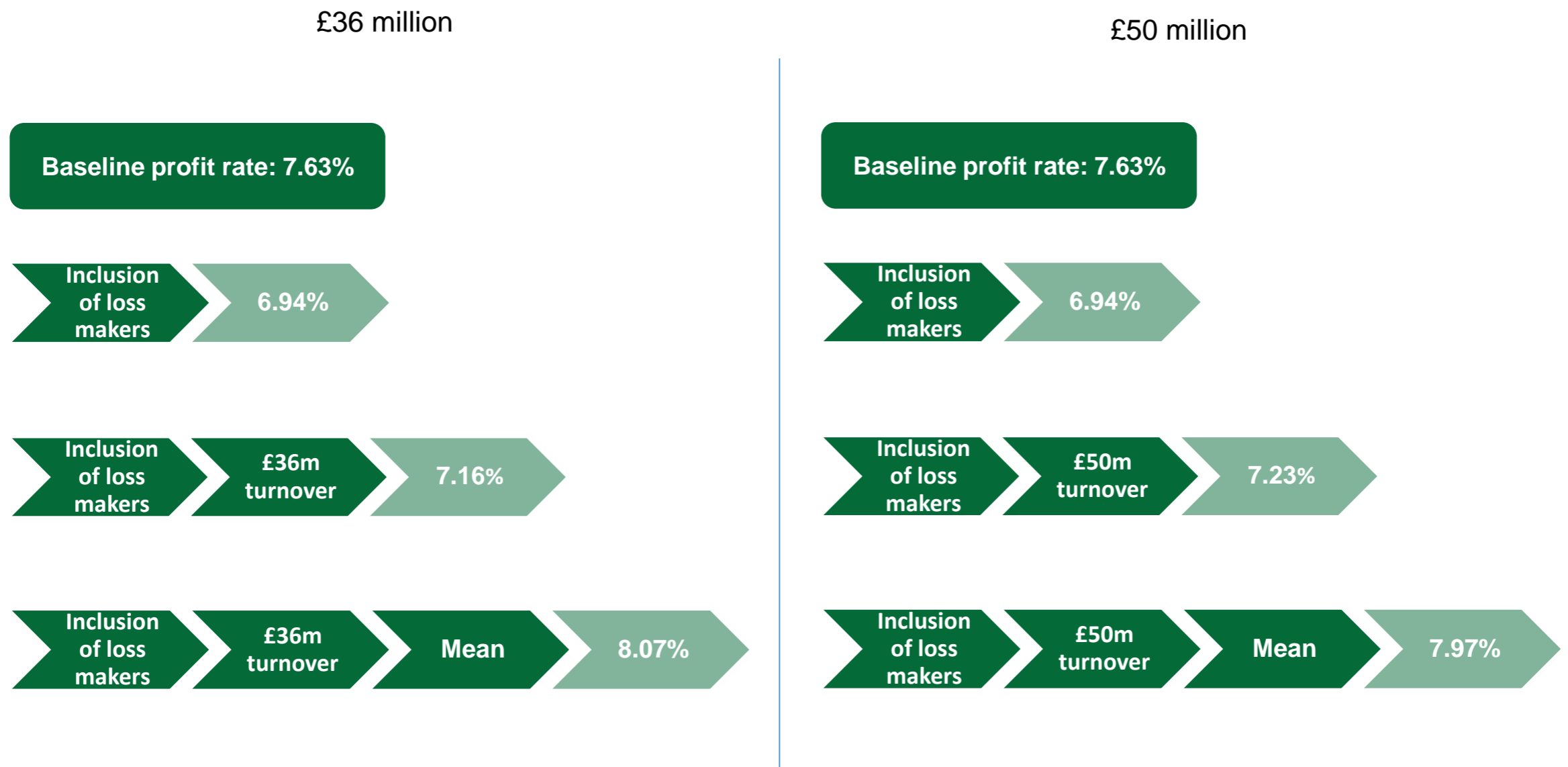

Profit outliers: Removing companies with the highest profits has a more significant effect on the mean than the median. The weighted mean is largely unaffected because the companies with the highest PLIs are small in terms of turnover.

Turnover outliers: removing the companies with the highest turnover has a more significant and unpredictable effect on the weighted mean than on the median or mean. This is a result of the significant influence the particular circumstances of the largest firm has on the weighted mean.

Impact of adjusting approach

A combination of applying an alternative approach to averaging and adjusting the turnover threshold, for example to £36 million or £50 million, might alter the result slightly.

£36 million

Baseline profit rate: 7.63%

Inclusion of loss makers → 6.94%

Inclusion of loss makers → £36m turnover → 7.16%

Inclusion of loss makers → £36m turnover → Mean → 8.07%

£50 million

Baseline profit rate: 7.63%

Inclusion of loss makers → 6.94%

Inclusion of loss makers → £50m turnover → 7.23%

Inclusion of loss makers → £50m turnover → Mean → 7.97%

Detailed change in composition of the comparator groups

The change in the composition of the comparator groups is a combination of a number of technical search criteria applied to the Orbis database and the result of the manual review of the companies' activity and geographic characteristics.

The following slides show the detail of the changes for each comparator group as a result of those processes.

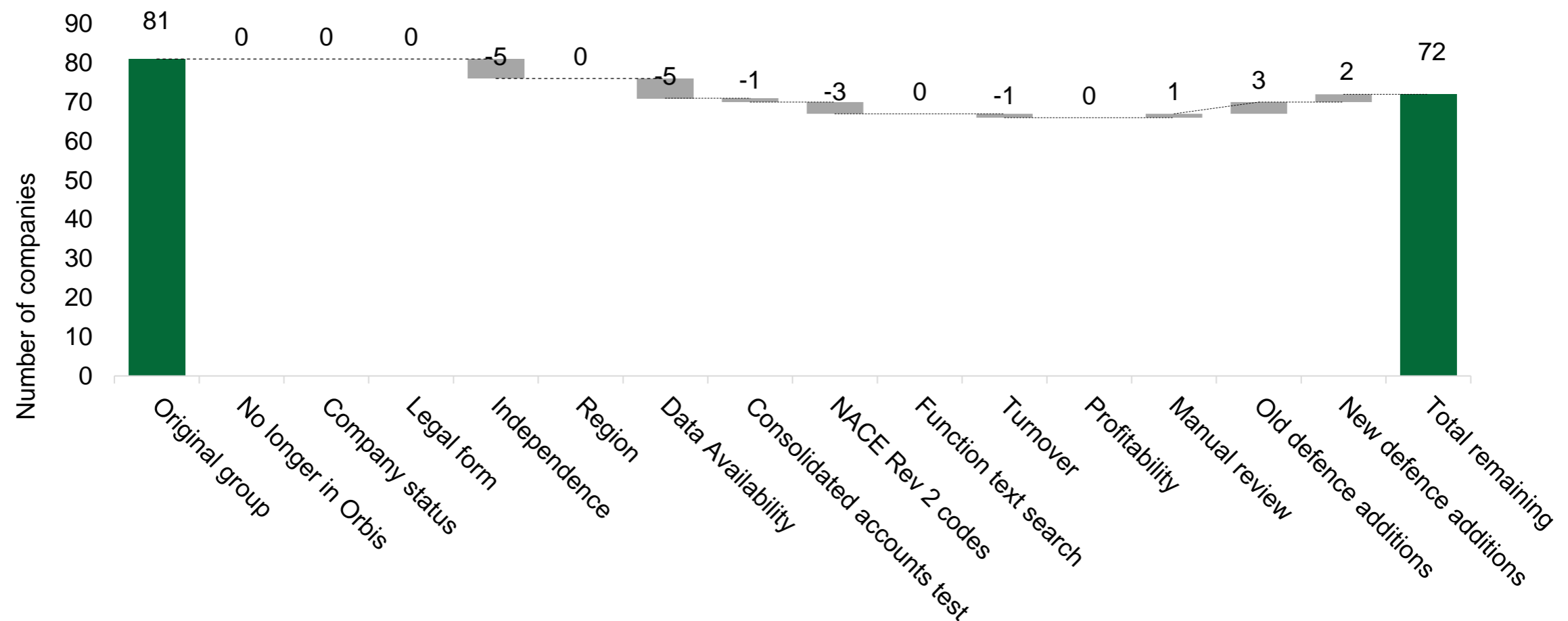# Develop & Make comparator group – joiners and leavers

Some companies present in 2018/19 comparator groups were filtered out for 2019/20 based on the latest evidence. For example, if they have been taken over, no longer meet the turnover threshold, or for which no data has been input in to Orbis. Or if the manual review process decides they no longer perform comparable activities.
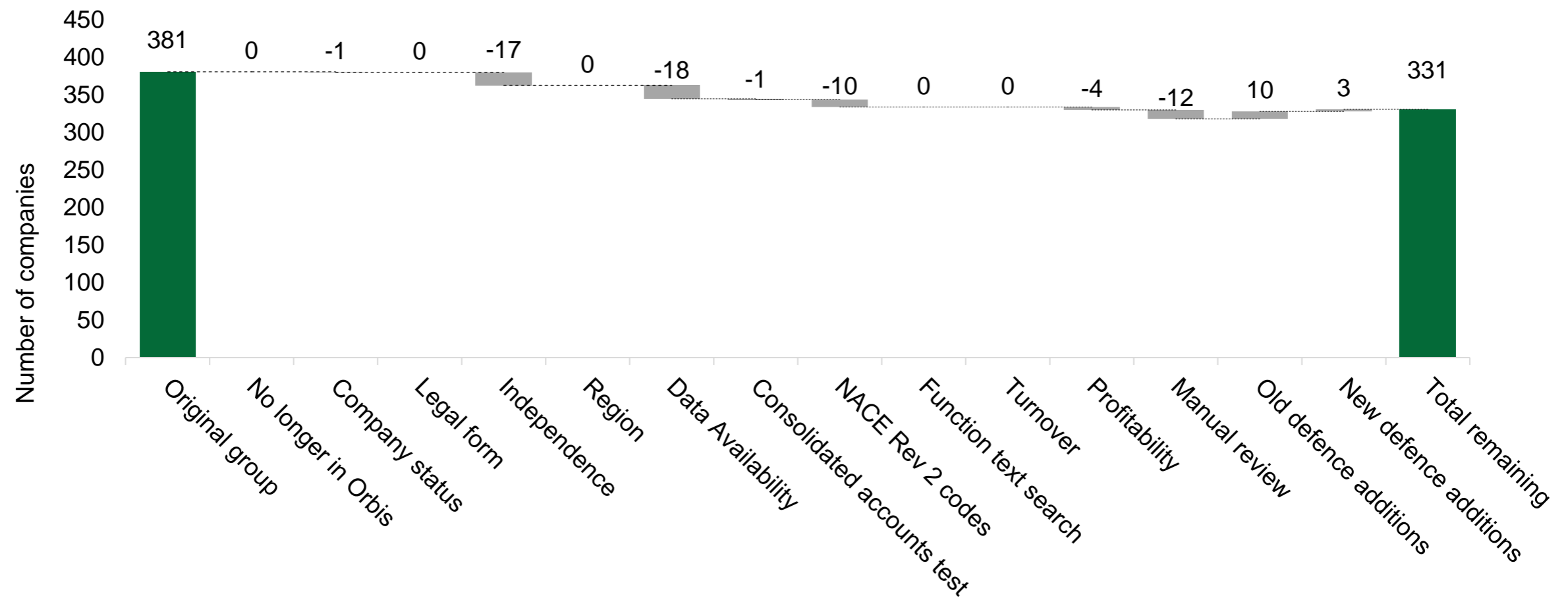
Source: Orbis, SSRO calculations

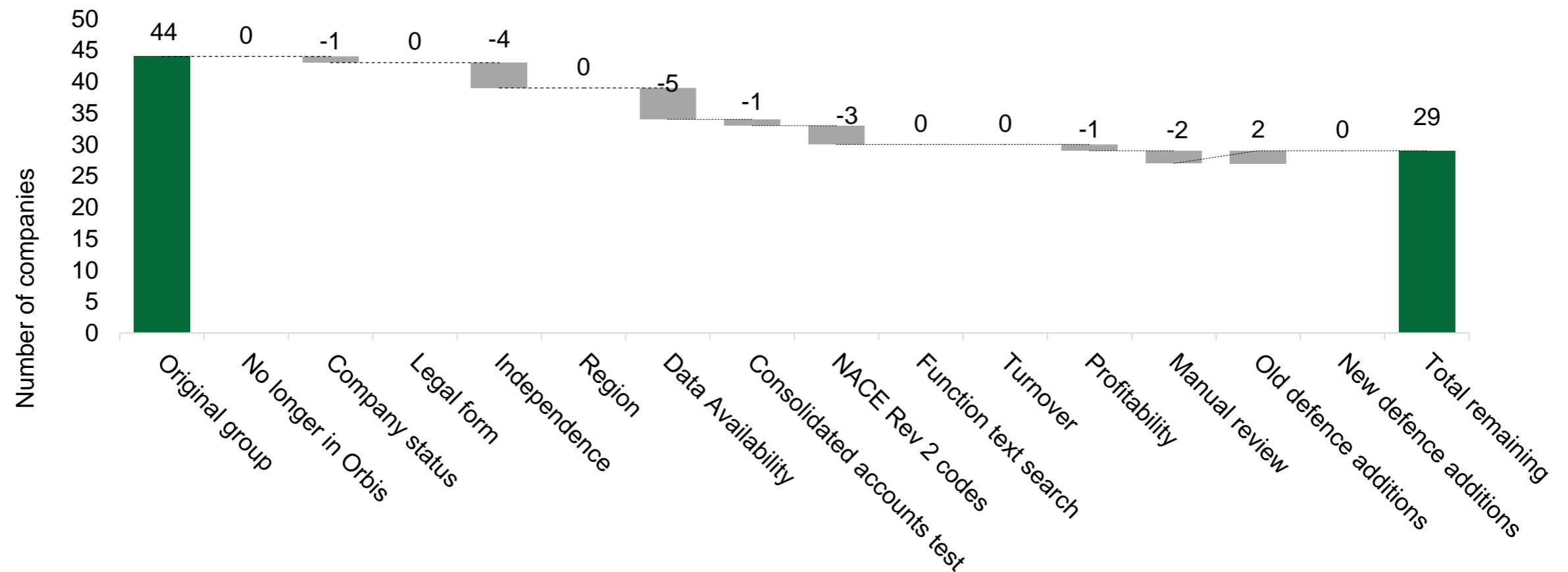# Provide & Maintain comparator group – joiners and leavers

Some companies present in 2018/19 comparator groups were filtered out for 2019/20 based on the latest evidence. For example, if they have been taken over, no longer meet the turnover threshold, or for which no data has been input in to Orbis. Or if the manual review process decides they no longer perform comparable activities.

Source: Orbis, SSRO calculations

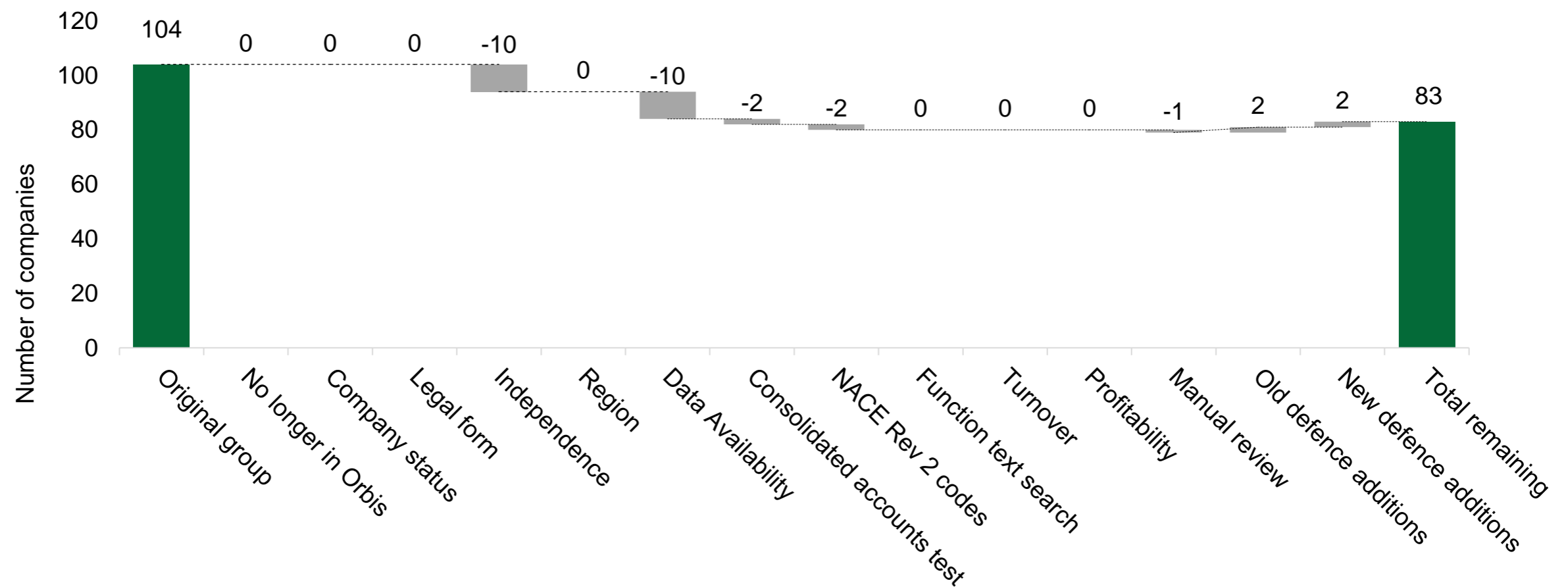# Ancillary Services comparator group – joiners and leavers

Some companies present in 2018/19 comparator groups were filtered out for 2019/20 based on the latest evidence. For example, if they have been taken over, no longer meet the turnover threshold, or for which no data has been input in to Orbis. Or if the manual review process decides they no longer perform comparable activities.

Source: Orbis, SSRO calculations

Construction comparator group – joiners and leavers

Some companies present in 2018/19 comparator groups were filtered out for 2019/20 based on the latest evidence. For example, if they have been taken over, no longer meet the turnover threshold, or for which no data has been input in to Orbis. Or if the manual review process decides they no longer perform comparable activities.

Source: Orbis, SSRO calculations