



Returns in the UK mobile sector

A report for 3 Limited

October 2015

© Economic Insight Ltd 2015

Economic
Insight



CONTENTS

1. Summary	4
1.1. The context for our work	5
1.1. Low returns could indicate that the sector will not attract future investment	5
1.2. It is not possible to draw robust conclusions from Ofcom's evidence	5
1.3. Ofcom's adjustments to ROCE are highly questionable and artificially inflate ROCE	6
1.4. Our research suggests a far more cautious outlook for investment than Ofcom implies	6
1.5. Recommendation	7
1.6. Structure of this report	7
2. Evaluation of Ofcom's evidence	8
2.1. WIK-Consult's analysis	9
2.2. New Street Research's analysis	10
2.3. Ofcom's analysis of EE's accounting information	10
2.4. Conclusion	13
3. Information considered by investors	14
3.1. Overview	15
3.2. Credit rating agencies	16
3.3. Analyst reports	17

3.4. Financial data platforms	19
3.6. Industry reports	20
3.7. Conclusions	20
4. What the evidence shows	21
4.1. Overview	22
4.2. Return on capital measures	23
4.3. EBITDA margin measures	29
4.4. Additional relevant information	31
4.5. Conclusions	34
5. Annex	35
5.1. Measures of profitability	36
5.2. Full list of analyst reports	37
5.3. Analysis of statutory accounts	38
Further information	40



1. Summary

In this section we introduce and summarise the results of our work in relation to returns in the UK mobile sector.

We have been asked by EE to analyse returns in the UK mobile telecoms sector in the context of Ofcom's strategic review of digital communications markets. Our main findings are:

- (i) Ofcom's evidence gathering and analysis suffers from a number of flaws – including but not limited to a lack of breadth – which means that it is not possible to draw robust conclusions from it in relation to the likelihood of future investment in the UK mobile sector.
- (ii) Our research shows that investors can and do use a far wider range of information than Ofcom has considered to help make their decisions.
- (iii) Furthermore, the ROCE figures used by investors are significantly lower than the figures presented by Ofcom. This evidence suggests a far more cautious outlook for investment in the UK mobile telecoms than Ofcom's analysis suggests.

1.1. The context for our work

Ofcom is currently undertaking a strategic review of digital communications markets (the Review). The purpose of the Review is to inform Ofcom's approach to policy and regulation over the next ten years.

On 16 July 2015, Ofcom published a discussion document (the Consultation) containing evidence relevant to its strategic review. The purpose of the discussion document is to “...ensure that any conclusions we reached are based on an accurate assessment of all the available evidence” and it has invited stakeholders to offer views on its analysis or their own.¹

Ofcom states that it will evaluate the evidence in relation to four objectives:

- providing the right incentives for future investment and innovation;
- helping secure sustainable competition to deliver choice and quality at affordable prices;
- the scope for empowering consumers to make choices; and
- the extent to which regulation can be targeted and proportionate.²

We have been asked by EE Limited (EE) to analyse returns in the UK mobile telecoms sector in this context. This report sets out the results of our research and analysis.

1.1. Low returns could indicate that the sector will not attract future investment

An analysis of returns in the UK mobile sector matters for the Review because Ofcom is seeking to understand whether the UK mobile telecoms sector is likely to attract future investment (the first objective above) – evidence of low returns is one indicator that it might not – and could also imply that policy and regulation may need to change.

Ofcom has a different view to some stakeholders on the size of the returns made by the sector.

- » Some stakeholders, including EE, have argued that the UK mobile telecoms sector has earned low returns in recent years. This is partly related to the large investments made in 3G spectrum in 2000, which have not generated the returns expected at the time. EE's statutory accounts show that it earned a return on capital employed (ROCE) of around 2% in 2013.

- » Conversely, Ofcom's recent discussion document relating to the review states that EE earned a ROCE of 27% in 2013.

“On the basis of appropriate adjustments, we calculated that EE's adjusted ROCE in the calendar years 2012 and 2013 was c27-28%, significantly above its cost of capital.”³

“...in general, the sector is earning returns above its cost of capital, and in some cases mobile operators are earning returns significantly higher than the cost of capital.”⁴

Clearly, the difference between what the statutory accounts show and Ofcom's analysis is very large and, depending on which figure is used, one could reach opposite conclusions in relation the attractiveness or otherwise of the sector for investment.

1.2. It is not possible to draw robust conclusions from Ofcom's evidence

Various limitations of Ofcom's evidence gathering and analysis means that it is not possible to draw robust conclusions from it in relation to the future investment in the UK mobile sector. These limitations are exacerbated by Ofcom's adjustments to the ROCE figures implied by EE's statutory accounts.

The main limitation of Ofcom's analysis is that it has not undertaken a comprehensive review of the information that investors rely on when making investment decisions in practice. Ofcom only relies two sources of information: analysis by New Street Research (also relied on by WIK-Consult in its report for Ofcom); and its own analysis of EE's accounts for two years.

Moreover, the two sources of information give significantly different estimates of returns in the UK mobile sector. Namely, the analysis by New Street Research, which we understand is aimed at and used by investors, suggests that the UK mobile sector has most recently earned a ROCE of around 10-11%. This is 17 percentage points lower than the figures implied by Ofcom's analysis.

The size of this gap alone points to the need for a more comprehensive review of the information that investors rely on. This is because it suggests that:

- first, investors use much lower ROCE estimates to help make their decisions than the figures presented by Ofcom (but it is hard to be definitive on this point without further research

¹ Ofcom (2015), *The Consultation, about this document.*

² *Ibid*, paragraph 1.12.

³ *Ibid*, paragraph 4.49.

⁴ *Ibid*, paragraph 4.50.

- because New Street Research represents the view of just one organisation); and
- second, it suggests that one can arrive at very different views on how attractive the UK mobile sector is using the same underlying data.

An additional limitation of Ofcom's analysis is that it only focuses on EE and only covers two years. Ofcom should have looked at the profitability of the sector as a whole and/or over a longer period of time given its research objectives and the fact that the relevant investments are long-lived.

1.3. Ofcom's adjustments to ROCE are highly questionable and artificially inflate ROCE

Ofcom's adjustments to the ROCE figures implied by EE's statutory accounts are highly questionable and will artificially inflate ROCE. There is a risk that Ofcom will reach misleading conclusions about how attractive the UK mobile sector is for investment and, in turn, this could have a harmful effect on the way it regulates the sector.

The main cause of the difference in the ROCE figures implied by EE's statutory accounts (1-2%) and Ofcom's analysis (27-28%) referred to above relate to the valuation of the capital employed. Specifically, to calculate EE's returns on capital employed, Ofcom uses a much lower value of capital employed (c. £3.3 billion in 2013) than is reported by EE in its statutory accounts (c. £12.7 billion). The £9.4 billion gap relates to:

- a significantly lower value of spectrum (c. £2.4 billion lower);
- a zero value of customer relationships (c. £1.2 billion lower); and
- a zero value of goodwill (£5.7 billion lower).

Although it is right to consider whether assets have been appropriately valued in this type of analysis, there is no basis for assuming that the value of goodwill and customer relationships is zero. Indeed, it seems highly doubtful that a new entrant seeking to replicate the cash flows of EE could do so without some upfront investment in intangible assets, such as customer relationships.

Moreover, we note that there seems to be a tension between Ofcom's very high ROCE estimate and its view that the UK mobile sector is competitive, for example:

"UK consumers have benefited greatly from end-to-end competition in mobile services."⁵

The limitations of Ofcom's evidence gathering and analysis, the lack of foundation for its adjustments to ROCE and the tensions with its position elsewhere, point to a need to reconsider the evidence and undertake broader research.

1.4. Our research suggests a far more cautious outlook for investment than Ofcom implies

Our research shows that investors rely on significantly lower ROCE figures than those estimated by Ofcom, suggesting a far more cautious outlook for investment.

Since the objective of analysing returns is to help evaluate whether the UK mobile telecoms sector is likely to attract future investment, the main questions we set out to answer were as follows.

- » **What information can and do investors use to make investment decisions in practice?** We find that investors use a wide range of information and measures to reach their decisions. They consider, for example, other quantitative metrics and qualitative information on the policy and regulatory environment in which firms of interest operate, trends in operating margins etc.
- » **What does the information show?** We find that a balanced evaluation of the information and measures are suggestive of a much more 'cautious' outlook of investment in the UK mobile telecoms sector that might be inferred from Ofcom's ROCE figure of 27% (18 percentage points above its estimate of the industry cost of capital of 9.1%).

For example, the figure overleaf shows the ROCE estimates for the parent companies of the UK MNOs from 11 analyst reports. The analysts ROCE estimates are all significantly lower than Ofcom's ROCE estimate and in most cases below the industry cost of capital. In fact the average ROCE figure of the data points in the chart is 6.4% including the outlier in 2015 and 6.0% excluding it – i.e. below Ofcom's cost of capital estimate of 9.1%.⁶

⁵ Ibid, paragraph 4.43.

⁶ See section 4.2.3.1 of this report.

The data is consistent with the view that analysts:

- consider that the value of capital employed is higher than Ofcom has estimated and will need to be maintained on an on-going basis to generate the current level of returns; and/or
- attach more weight than Ofcom to the historic level of returns when reaching a view of how attractive a sector might be for investment.

1.5. Recommendation

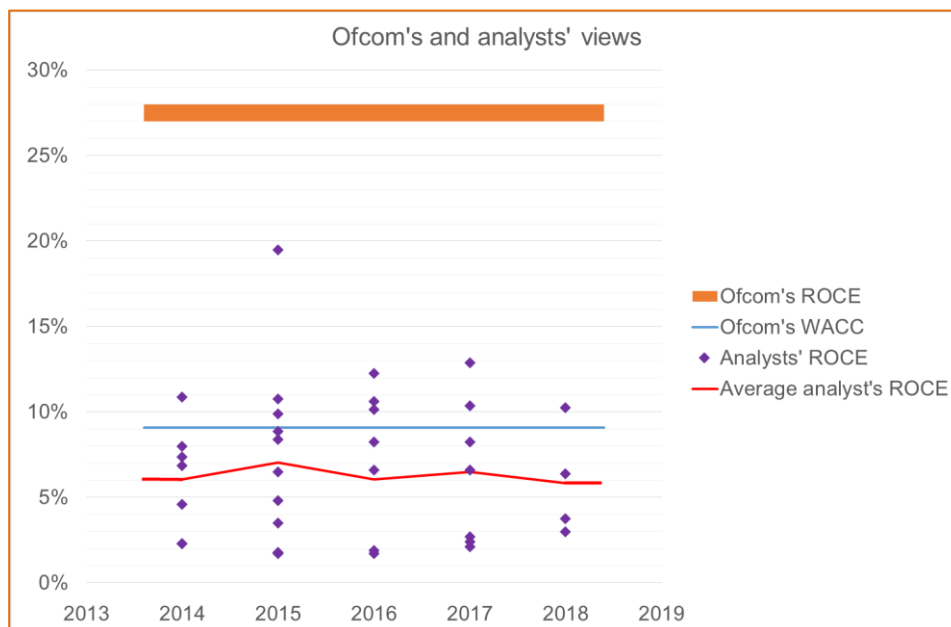
As Ofcom’s Review progresses, we think that it should reach a more balanced view on the investment outlook by using a wider range of information and measures to inform its conclusions, with a particular emphasis on the sources of information that investors use.

1.6. Structure of this report

The structure of this report is:

- Section 2 sets out the results of our review of the evidence that Ofcom relies on;
- Section 3 shows the information and measures investors use to make decisions; and
- Section 4 sets out what evidence shows.

Figure 1: Ofcom’s and analysts’ view of ROCE



Notes: Ofcom’s ROCE is 27%-28%; Ofcom’s WACC is 9.1%; and analysts’ ROCE are the estimates presented in Figure 17, where ROIC estimates have been adjusted by the factor $1/(1-20\%)$ to give an approximate ROCE figure.



2. Evaluation of Ofcom's evidence

This section describes the three sources of evidence that Ofcom relies on: the research by WIK-Consult; the analysis by New Street Research; and Ofcom's analysis of EE's accounting information.

We then evaluate the evidence with reference to Ofcom's research objectives.

In summary:

- (i) Ofcom's evidence paints a more mixed picture of the attractiveness of the sector for future investment than is implied by parts of the Consultation.
- (ii) Various limitations of Ofcom's evidence limit the conclusions that can be reliably drawn from it in relation to future investment.
- (iii) The adjustments that Ofcom has made to EE's statutory accounts are questionable and are likely to overstate its profitability.

2.1. WIK-Consult's analysis

2.1.1. Description

Ofcom commissioned WIK-Consult to analyse the relationship between competition and investment. The WIK-Consult report "*Competition and investment: An analysis of the drivers of investment and consumer welfare in mobile telecommunications*" was published in July this year (the WIK report).

As part of its work, WIK-Consult examined the correlation between profit – as measured by the EBITDA margin and ROCE – and investment as measured by two capital expenditure measures.⁷ The WIK report motivates looking at profitability in the context of its research exercise by stating that:

*"A factor widely claimed by the mobile industry to be central for investment is profitability. While investments certainly require a positive expected return, the controversial issue is whether higher profitability per se is associated with more investment."*⁸

Based on data from New Street Research, the report shows the trends in EBITDA and ROCE margins for 11 countries between 2005 and 2014.⁹ Figure 14 of the WIK report, replicated overleaf, shows that:

- in the UK, EBITDA and ROCE margins have fallen between 2005 and 2014;
- the UK has had the lowest or second lowest EBITDA margins of the 11 countries between 2010 and 2014;
- the UK ranked fourth lowest in terms of ROCE, although its position appears to fluctuate over time; and
- the UK mobile sector achieved a ROCE of between 10-11% in 2015.

Our understanding is that WIK-Consult has not made any adjustments to the data provided by New Street Research.

2.1.2. Evaluation

WIK-Consult's analysis suggests a much more mixed picture of the attractiveness of the sector for future investment than Ofcom's work. For example, its estimate of ROCE is some 16-18 percentage points lower than the figure calculated by Ofcom using EE's accounts.

This difference is significant because, as we understand it, the underlying New Street Research data is used by investors to inform their investment decisions, which is the main advantage of it. New Street Research's homepage states:

"At New Street Research we seek to provide differentiated intellectual capital and insight to support your investment decisions."

"We can tailor delivery of our research to specific investor requirements. We offer one-on-one meetings with investors; we can provide regular telephone, conference call, email and Bloomberg interaction with portfolio managers and buy-side analysts, as requested; and assist investors in company meetings."

A disadvantage of the New Street Research data (at least as presented by WIK-Consult) is that its underlying methodology is not publically available and so it is difficult for us to validate its robustness / suitability for the research exercise at hand one way or another. For example, in relation to the value of capital employed used in the calculation the WIK report states:

*"With regard to the 'fair value' for spectrum, New Street uses certain base valuations. Where there have been auctions at prices that are materially higher than the base case valuations, New Street uses the higher figure for one year, and then tapers back to the base case valuation over the following four years. For example."*¹⁰

It is not clear what the base case valuations are or how they have been derived.¹¹

⁷ The WIK Report (2015), section 3.2. The measures are: capital expenditure divided by turnover and capital expenditure divided by the number of subscribers.

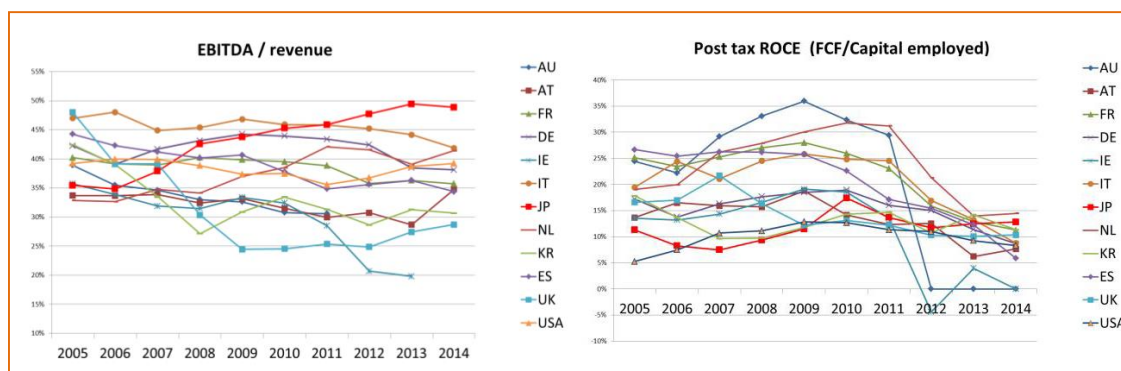
⁸ Ibid, section 3.2.2.2.

⁹ The 11 countries are Ireland, Austria, US, UK, Germany, Spain, Japan, France, Italy, Netherlands and South Korea.

¹⁰ Ibid, section 3.2.2.2. Underlying added.

¹¹ We do know from the report that in markets where spectrum is allocated without spectrum charges, such as in Japan, New Street uses zero for capital employed. Clearly, this is different to the economic value of that spectrum.

Figure 2: Trends in EBITDA and ROCE for European mobile telecoms



Source: WIK Report (2015), Figure 14.

2.2. New Street Research's analysis

Ofcom refers to an article by New Street Research which suggests that overall EU mobile sector ROCE has halved from c20% in 2010 to c10% in 2015.¹²

We do not have access to the specific article quoted by Ofcom. We assume that it is based on the same data and methodology as referred to in the WIK-Consult report and therefore is likely to have the same advantages and disadvantages as the analysis in the WIK-Consult report.

2.3. Ofcom's analysis of EE's accounting information

2.3.1. Description

Ofcom has used data from EE's statutory accounts in the years 2012 and 2013 to calculate a forward looking ROCE measure.

Without adjustments, EE's statutory accounts suggest that EE's ROCE was 1% and 2% in 2012 and 2013 respectively. With the adjustments made by Ofcom, the EE's ROCE rises to 28% and 27% respectively.

The adjustments are shown in the figure overleaf, which is extracted verbatim from a spreadsheet supplied by Ofcom to EE.

The table overleaf shows that Ofcom has made the following adjustments:

- it has reduced the value of 3G spectrum in capital employed by over £2 billion;
- it has roughly halved the value of 4G spectrum in capital employed;
- it has excluded the value of customer relationships valued in the accounts at over £1 billion;
- it has excluded the value of goodwill valued in the accounts at over £5 billion; and finally
- it has made corresponding adjustments to the depreciation and amortisation figures to reflect the lower value of capital employed and hence the lower rate of capital consumption.

Ofcom's view is that these adjustments are necessary to convert a backward looking ROCE estimate into a forward looking "...indicator of an operator's incentives to invest if the operator is not capital constrained."¹³

¹² The source quoted is New Street Research (October 2014), "European Telecoms Review".

¹³ Ofcom (2015), *The Consultation*, paragraph 4.45.

Figure 3: Ofcom analysis of EE statutory accounts

Year end December £m	EE Stat Accounts		Ofcom adjusted	
	2012	2013	2012	2013
Capital employed				
Overhead fixed assets (land and buildings)	219	194	219	194
Network	2,097	2,119	2,097	2,119
Spectrum (3G)	2,761	2,426	255	255
Spectrum (4G)		620		339
Other intangible	458	440	458	440
Customer relationships	1,585	1,216		
Goodwill	5,692	5,692		
Total Capital employed	12,812	12,707	3,029	3,346
Return				
Reported EBITDA	1,429	1,574	1,429	1,574
Total Depreciation & Amortisation	1,270	1,307	589	662
Network	358	418	358	418
Overhead fixed assets	35	44	35	44
Spectrum	335	335	25	59
Customer relationships	369	369		
Other	171	141	171	141
Goodwill	0	0		
Total return	159	267	840	912
Calculated ROCE	1%	2%	28%	27%

Source: Ofcom analysis, provided by EE and referred to in the Consultation.

Ofcom's rationale for the individual adjustments are:

- in relation to 3G spectrum – “...the value of the licences on operators' balance sheets is still a significant proportion of their initial cost, although it is widely accepted that their current value is lower than that cost...”;¹⁴ and
- in relation to customer relationships and goodwill – “They [ROCE calculations] can be sensitive to the treatment of intangible assets created at the time of a merger (e.g. goodwill) rather than through capital investment in the business...our adjustments excluded certain intangible assets (goodwill and customer relationships) that were not likely to have an accounting value corresponding to capital invested in the business.”¹⁵

2.3.2. Evaluation

Our first observation is that the analysis covers a single operator for only two years. This is not enough to reach strong conclusions in relation to long-term industry wide investments.

We understand that EE has already offered its comments on Ofcom's methodology. Our view is that there are two questions to answer:

- First, has Ofcom justified the specific adjustments it has made to EE's statutory accounting information? Are no or different adjustments desirable, given its research objectives? How sensitive are its results and conclusions to such alternatives?
- Second, assuming that the adjustments made by Ofcom are sound, has it interpreted the

¹⁴ Ibid, paragraph 4.46.

¹⁵ Ibid, paragraph 4.47.

resultant ROCE figure appropriately in the current context?

2.3.2.1. The adjustments made by Ofcom

We first examined by how much the adjustments made by Ofcom to EE's statutory accounts affect the ROCE estimates. To do this, we looked at the effect on ROCE of making each adjustment separately and in combination, as shown in the table below.

Figure 4: The effects of Ofcom's adjustments

Adjustment	2012	2013
No adjustments	1%	2%
Spectrum only	5%	5%
Goodwill only	2%	4%
Customer relationships only	5%	6%
Goodwill & customer relationships	10%	11%
Spectrum and goodwill	10%	12%
All adjustments	28%	27%

Source: *EI sensitivity analysis of Ofcom's adjustments*

The table shows that:

- if Ofcom had only made the adjustments relating to the valuation of **spectrum**, its ROCE estimates would fall from 28% and 27% to 5% i.e. much closer to the unadjusted figures of 1% and 2% and below Ofcom's estimate of the cost of capital of 9.1%¹⁶; and
- if Ofcom had only made the adjustments relating to **spectrum and goodwill**, its ROCE estimates would fall to 10% and 12% respectively i.e. again much closer to the unadjusted figures of 1% and 2% and is above the cost of capital.

Ofcom has given its reasons for reducing the value of spectrum (although we recognise that there has been considerable debate over the appropriate valuation of spectrum, which we do not comment on here).

In relation to goodwill and customer relationships, it is clearly possible that the values recorded on EE's balance sheet could be higher or lower than their economic value. But there is no theoretical reason to

assume that they are worth nothing, as Ofcom has done.

- » In terms of **goodwill**, although it is not unusual to exclude goodwill from this type of analysis on the basis that it often relates to future expected returns, not capital invested, this is circumstance specific. For example, goodwill can also relate to intangible assets that have not been identified or fully valued elsewhere on the balance sheet.
- » In terms of **customer relationships**, where their value can be attributed to specific activities and costs incurred (such as marketing), it is a legitimate intangible asset to include. We note, for example, that Ofcom recognised the value of customer relationships as an intangible asset in its modelling of Sky's wholesale must offer price for Sky's core premium sports channels, however it excluded these costs for modelling an average efficient operator for the purposes of its Mobile Call Termination Review.^{17 18}

Without any assessment of the nature of the assets that Ofcom has excluded from its ROCE calculation and the sensitivity of its results to such decisions, there is a clear risk that its ROCE estimates are misleading and imply that the sector is more attractive for investment than it is in reality.

2.3.2.2. The interpretation of adjusted ROCE

In this section we briefly consider the interpretation of the adjusted ROCE measure. There are two features of the measure that are relevant here: first, the use of lower 3G spectrum values than recorded in EE's statutory accounts; and second, the exclusion of goodwill and customer relationships.

As discussed above, if goodwill and customer relationships represent assets that need to be maintained to deliver the returns observed, then they should be included in Ofcom's adjusted ROCE measure. This is not contentious (although the valuation of those assets is), therefore we do not discuss this issue further here and instead focus on the use of lower 3G spectrum values.

Ofcom is using lower 3G spectrum values to recognise that the asset is now worth less than what EE paid for them. The main reason the asset is worth less is because the return it generates is lower than was expected at the time of the 3G auctions – not because the underlying asset has been consumed at a faster rate than expected or because it has been devalued by

¹⁶ *Ibid*, footnote 65.

¹⁷ http://stakeholders.ofcom.org.uk/binaries/consultations/third_paytv/statement/paytv_statement.pdf

¹⁸

http://stakeholders.ofcom.org.uk/binaries/consultations/mobile-call-termination-14/statement/MCT_final_statement.pdf

more productive new technology – as is more often the case when one is revaluing assets.

In this context, the ex-ante value of spectrum is strongly related to the return it is expected to generate and the ex-post value of spectrum is strongly related to the return it in fact generates (the ‘return-value relationship’).¹⁹ Put another way, the size of the gap between the ‘unadjusted’ and ‘adjusted’ measures of ROCE is another way of showing the difference between investor expectations of the value of the asset and what it turned out to be worth. It is saying that investors made a bet and rather than getting the expected return, they got the downside return.

What does this imply for the interpretation of a high adjusted ROCE on a backward and forward looking basis?

- » On a backward looking basis, a high adjusted ROCE does not mean that investors have earned high returns. In this sense, Ofcom’s statement that *“Without appropriate adjustments, these calculations may not reflect true underlying returns on actual investment”* is potentially misleading.²⁰
- » On a forward looking basis, the return-value relationship noted above means that it is important to take considerable care when using and interpreting ROCE measures adjusted in this way in this context. Clearly, it would be counterintuitive to suggest that the more aggressively asset values fall compared to expectations, the more attractive a sector is to invest in. Rather, we think that the proper interpretation depends on three things:
 - First, the extent to which an adjusted ROCE figure drives investment decisions in practice. Our research, set out in the following section, suggests that investors take account of a wide range of factors in reaching their decisions. Here we note that this wider context will be particularly important in sectors subject to material uncertainty around technological developments and demand.
 - Second, the extent to which future investments will require investors to take similar ‘bets’ to the one they took in 2000. If the value of future investments is subject to significant uncertainty, as was the case in 2000, we might reasonably expect investors to invest cautiously given the

past – and not at the rate that is implied by the high adjusted ROCE figure. Put another way, the extent to which investors attach weight to historic performance as an indicator of future performance.

- Third, the extent to which it affects Ofcom’s approach to policy and regulation – both the actuality of its decisions and investors’ perceptions of them.

In relation to this last point, Ofcom’s use of the adjusted ROCE measure alone could indicate that its approach to regulating the sector in future will be based on: (a) a view that the sector is (or has been or could be without entry) excessively profitable – which there is no evidence to substantiate; and/or (b) a view that similar risks associated with future investments are not of primary concern. Both of these could lead to the actuality of an unduly tough regulatory environment unattractive to future investment.

In relation to (b), one might reasonably argue that this is an appropriate position provided that investors can make a fair bet, as Ofcom’s discusses in the context of BT’s regulated returns – i.e. it is right for investors to carry the downside risks if they can also benefit from any upsides.²¹ This of course rests on the bet being fair which, if policy and regulation is guided by factors such as (a) above after the event, it may not be as upsides are implicitly clawed back.²²

2.4. Conclusion

Overall, as discussed above, Ofcom’s evidence paints a more mixed picture of the attractiveness of the sector for future investment than is implied by the Consultation. For example, the WIK-Consult report suggests that ROCE is closer to WACC than Ofcom’s analysis, and that EBITDA margins have fallen over time. As discussed further in the next section of this report, these factors would be considered relevant by investors – together with a range of other information and measures that Ofcom has not considered.

Moreover, although it is right to consider whether statutory accounting information should be adjusted to arrive at a forward looking measure of ROCE, Ofcom’s decision to reduce the value of customer relationships and goodwill to zero is arbitrary and, will give a misleading view of EE’s profitability.

¹⁹ Although the prices of other assets are determined by supply and demand, the price of fixed / physical assets are clearly much more closely connected to supply-side features, such as the cost of production, the conditions of competition, and their productive capacity.

²⁰ Ofcom (2015), *The Consultation*, paragraph 4.46.

²¹ Ofcom (2015), *The Consultation*, paragraph 4.60.

²² There is a rich economic literature on this point. For examples, see Laffont and Tirole (1993), “A theory of incentives in procurement and regulation”, The MIT Press.



3. Information considered by investors

This section sets out the information and measures that are considered by investors.

In summary:

- (i) Investors use a wide range of sources and measures of profitability when assessing how attractive telecoms firms are to invest in.
- (ii) EBITDA is the most widely used metric to measure profitability. The return on capital is used as a measure of profitability by investors, but often in the form of ROA, ROC or ROIC, rather than ROCE.
- (iii) Investors also take account of factors such as interest cover, cash flow and the regulatory environment.

3.1. Overview

We have reviewed a range of qualitative and quantitative evidence that investors take into account when assessing the attractiveness of a market or firm. The purpose of this is to answer the first question our work seeks to address, i.e. what information and measures can and do investors use to make investment decisions in practice?

We have reviewed the following categories of evidence:

- » **Credit rating agencies.** The types of information, and measures of returns, that credit rating agencies take into account when assigning ratings.
- » **Analyst reports.** The evidence that is used in analyst reports to support opinions of whether a firm is attractive to invest in or not.
- » **Industry reports.** The metrics and information used in reports that assess the profitability of the telecoms market as a whole.
- » **Financial data platforms.** The measures that are captured and presented on financial data reporting platforms, such as Thomson Reuters.

By reviewing these categories we aim to cover the range of evidence that is used in practice to make investment decisions and should be used as part of any assessment of returns in the UK mobile sector.

The table at the bottom of this page summarises *what metrics* are used to quantify profitability in each category. In the following sections we discuss each of the categories in more detail, and in section 4 we present *what the metrics show* i.e. what level of return the evidence suggests.

As can be seen, there are a number of different measures of profitability used. The annex to this report gives a general definition of the main metrics used and how they compare to each other.

To fully assess profitability, the measures of return needs to be compared to a benchmark. In many cases comparators will be other similar firms. For example, an MNO with a higher EBITDA margin than other MNOs may be seen as a more attractive investment, all else equal. Investors may also take account of the trend in EBITDA margins, or how outcomes compare to expectations.

Comparisons may be made between 'return on capital' metrics (such as ROCE and ROIC) and the cost of capital. If a firm generates returns on capital that are less than the cost of capital, the company may not be seen as attractive from an investment point of view. ROCE may be compared to the pre-tax weighted average cost of capital (WACC) and ROIC compared to the post-tax WACC. Ofcom consider 9.1% to be the appropriate pre-tax WACC.²³

In addition to measures of profitability, investors also take account of other factors, which may affect profitability in the long-run. For example, interest cover is assessed to ensure that companies are able to finance their debt, and the regulatory environment is considered to assess whether there might be any significant changes to the market.

Figure 5: Summary of evidence by category

	EBIT	EBITDA	ROA	ROC	ROIC	ROCE
Credit rating agencies		✓		✓		
Analyst reports	✓	✓	✓		✓	✓
Industry reports	✓	✓			✓	
Financial data platforms	✓	✓	✓		✓	

Note: this table represents the main measures of profitability that are commonly used by various institutions and is not exhaustive

²³ Ofcom (2015). *The Consultation*, footnote 65

3.2. Credit rating agencies

Credit rating agencies rate a debtor’s ability to make payments as agreed, and assess the probability of default. Information available from the agencies in relation to their methodologies states that the following measures of profitability are taken into account:

- » **EBITDA**; and
- » **ROC**.

The volatility of profitability (measured as EBITDA) is also taken into consideration by one agency in some cases.

Agencies also take into account a range of information that is not directly linked to the profitability of a company or industry, for example: measures of cash flow and interest cover; the political and regulatory environment; and the firm’s business model.

Of the three major credit rating agencies, Moody’s and Standard & Poor’s (S&P) provide readily available information on their methodologies, which are discussed in further detail below.

3.2.1. Moody’s

Moody’s provides summarised guidance for the factors that are generally most important in assigning ratings to telecommunications companies. It does not detail every consideration, and the weights given represent an approximation of their typical importance for rating decisions.

Moody’s ratings are forward looking and incorporate expectations for future financial and operating performance. It uses both historical and projected financial results in the rating process.

As illustrated in the figure at the bottom of this page, Moody’s use the EBITDA margin as a measure of operating performance, and this typically has a 5% weighting in a company’s rating. Moody’s reviews the EBITDA margin trend, as well as the absolute level. As illustrated below, EBITDA margins map to a credit rating.

Figure 7: Moody’s EBITDA ratings

Factor 4 Operating Performance (5%)		Aaa	Aa	A	Baa	Ba	B	Caa
Sub-factor	Weight							
EBITDA MARGIN	5%	≥50%	45%-50%	40%-45%	30%-40%	25%-30%	20%-25%	<20%

Source: Moody’s

Figure 6: Moody’s rating factors for telecoms

FIGURE 2 Global Telecommunications Industry			
Broad Rating Factors	Factor Weighting	Rating Sub-Factor	Sub-factor Weighting
Scale and Business Model, Competitive Environment and Technical Positioning	27%	Scale	12%
		Business Model, Competitive Environment and Technical Positioning	15%
Operating Environment	16%	Regulatory and Political	8%
		Market Share	8%
Financial Policy	5%	Financial Policy	5%
Operating Performance	5%	EBITDA Margin	5%
Financial Strength	47%	Leverage & Cash Flow:	
		Debt/ EBITDA	9%
		FCF/Debt	7%
		RCF/Debt	10%
		Coverage:	
		FFO+Int.Exp./Gross Int. Exp.	13%
		EBITDA-CAPEX/Gross Int. Exp.	8%
Total	100%	Total	100%

Source: Moody’s

In addition to quantitative measures of profitability and 'financial strength' (such as interest cover), Moody's also takes into account more qualitative factors such as: the business model; competitive environment; technical positioning; and regulatory and political environment.

3.2.2. S&P's

S&P take into consideration quantitative assessments of company's level of profitability and volatility of profitability.

In relation to the level of profitability, S&P use the EBITDA margin and, in some cases, a return on capital measure. Specifically:

"We use EBITDA margin as the primary indicator of a telecom and cable company's level of profitability... We use return on capital (ROC) as a supplementary indicator to refine our assessment when the EBITDA margin is close to the threshold for "below average" or "above average"..."²⁴

S&P typically determine the five-year average EBITDA margin and ROC using the last two years of historical data and three years of forecast. Greater emphasis may be placed on forecast years if it does not deem historical data to be representative.

The volatility of profitability is determined on a six point scale, from least to most volatile. S&P use the EBITDA margin to determine the standard error of regression (SER), which, along with an element of judgement, is used to place a company on the scale.

As with Moody's, S&P make a number of standard adjustments to the data reported by companies. Industry specific adjustments are also made to telecoms companies. For example, results are standardised in terms of subscriber acquisition costs, as companies either expense these costs as they arise or capitalise them.

As an illustration of the importance placed on EBITDA margins, in an announcement about a ratings downgrade for an MNO S&P's report led with:

"Vodafone's EBITDA margins have contracted, and we have revised our forecasts for the group downward on continuing challenges in key markets and a slower return to growth."²⁵

²⁴ S&P's criteria for the telecommunications and cable industry, available at www.standardandpoors.com

²⁵ 'U.K. Telco Vodafone Downgraded To 'BBB+' On Tough Operating Conditions And Weakening Credit Metrics; Outlook Stable', S&P, 28th May 2015

²⁶ One limitation, however, may be in relation to the potential short-term nature of analyst reports. They tend to focus on recent developments and results, rather than long-term

As with Moody's, S&P also take into account more qualitative measures, such as: industry risk; country risk; and competitive advantage.

3.3. Analyst reports

Analyst reports are produced by a range of financial institutions. They report on recent developments and analysis, and give opinions as to how attractive a company is to invest in. The reports comment on, and provide figures for, a very wide array of financial metrics.²⁶ Based on our review of reports, the following profitability metrics are used:

- » **EBITDA**;
- » **EBIT**;
- » **EPS**;
- » **ROA**;
- » **ROCE**;
- » **ROE**; and
- » **ROIC**.

EBITDA, however, appears to be far more commonly used, and discussed, than the other measures of profitability.

To draw the above conclusions about analyst reports we reviewed 20 such reports relating to: Vodafone Group Plc; Telefónica SA; Deutsche Telekom AG; and Orange SA.²⁷ The reports date from January 2015 to September 2015 and were authored by:

- Barclays;
- Commerzbank;
- Credit Suisse;
- J.P. Morgan;
- Macquarie Research;
- Mirabaud Securities;
- Morningstar Corporate Credit Research;
- Raymond James Euro Equities;
- RBC Capital Markets;
- S&P Capital IQ;
- Santander; and
- Societe Generale.

The following quotes demonstrate the focus on EBITDA as the measure used to compare profitability across firms and over time.

profitability. Counter to this though, long-term profitability is the sum of short-term performance, and long-term investors can be expected to monitor firms on a frequent, ongoing basis.

²⁷ A full list of the analyst reports that we reviewed can be found in the annex to this report.

“Event: Following Q1 results and FX changes we cut Vodafone EBITDA forecasts c1.5%. Excluding FX changes, our EBITDA forecasts rise 1%.”²⁸

“We maintain our Outperform rating – we upgraded DTE on the back of: 1) strong acceleration in EBITDA growth, largely relying on US growth; 2) 4G take-off in Germany and stabilising European earnings; 3) possible good news on cost initiatives.”²⁹

“...we highlighted that Vodafone's return to organic growth would NOT flow down to EBITDA as rapidly as investors expected.”³⁰

As can be seen, expectations of EBITDA are formed and actual performance compared against them.

Analysts also take account of ‘return on capital’ measures, as illustrated by the following quote.

“Orange believes that its French Fibre IRR will always exceed the country's WACC. We put this assertion to the test...we calculate Orange's return on fibre capital employed is 12.7%, exceeding the company's WACC. Articulated another way: the near-term benefit Orange receives from co-investment outweighs the alternative operators' benefit from fibre migration. Inevitably over time, these respective benefits will converge...”³¹

Along with statements about recent and expected profitability measures, analyst reports also present tabulated data. These include a range of metrics which can be used to assess profitability, as illustrated at the bottom of this page.

Figure 8: Data tables in analyst reports

£m except per share data	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Revenues	41,087	42,088	42,665	43,536	44,372	45,223	46,080	46,943	47,822	48,759	50,142
Adjusted EBITDA	11,531	12,050	12,480	13,015	13,553	14,071	14,628	15,199	15,754	16,276	16,955
EBIT/Operating Profit	2,884	3,446	4,036	4,697	5,374	6,000	6,668	7,369	8,081	8,746	9,727
Net Income	995	1,228	1,585	2,048	2,531	2,992	3,491	4,023	4,573	5,100	5,854
EPS	3.76	4.64	5.98	7.73	9.56	11.29	13.18	15.19	17.26	19.25	22.10
DPS	11.33	11.45	11.56	11.68	11.79	11.91	12.03	12.15	12.27	12.39	12.52
Capex	8,493	6,126	5,986	6,046	6,119	6,202	6,288	6,381	6,479	6,585	7,691
OpFCF	3,038	5,924	6,494	6,969	7,433	7,869	8,339	8,818	9,276	9,691	9,264
Adjusted Equity FCF	906	3,335	3,658	4,052	4,419	4,772	5,173	5,555	5,893	6,185	5,525
Number of shares	26,489	26,489	26,489	26,489	26,489	26,489	26,489	26,489	26,489	26,489	26,489
Net debt/(cash)	29,040	29,217	29,128	28,649	27,833	26,695	25,187	23,329	21,164	18,741	17,010

Margin and return data					Average
EBITDA margin (%)	28.2	28.7	29.0	30.1	29.0
EBIT margin (%)	4.7	6.1	7.9	10.2	7.2
Pre-tax margin (%)	2.6	2.3	4.1	6.8	4.0
Net margin (%)	13.6	1.1	2.5	4.4	5.4
Operating CF margin (%)	N/A	N/A	N/A	N/A	N/A
ROIC (%)	15.6	N/A	N/A	N/A	15.6
RONTA (%)	37.2	3.7	N/A	N/A	20.5
ROA (%)	15.4	N/A	N/A	N/A	15.4
ROE (%)	8.6	1.0	1.6	2.9	3.5

Financial and valuation metrics	Year	03/15A	03/16E	03/17E	03/18E
Revenue (£ m)		42,227.0	40,467.0	40,653.8	41,073.2
EBITDA (£ m)		11,915.00	11,679.11	11,834.38	12,200.80
Pre-tax Profit Adjusted (£ m)		1,095.00	362.27	1,120.04	2,149.23
CS adj. EPS (p)		26.54	3.13	3.68	5.56
Prev. EPS (p)		—	2.36	3.25	5.29
ROIC (%)		1.45	-2.39	1.67	3.01
P/E (adj. x)		9.03	76.44	65.05	43.06
P/E rel. (%)		61.7	467.6	443.9	330.1
EV/EBITDA		6.9	8.0	7.9	7.7
Dividend (03/16E, p)		11.44	IC (03/16E, £ m)		85,918.27
Dividend yield (%)		4.8	EV/IC		1.1
Net debt (03/16E, £ m)		29,569.1	Current WACC		8.00
Net debt/equity (03/16E, %)		52.5	Free float (%)		99.98
BV/share (03/16E, £)		2.1	Number of shares (m)		26,547.05

²⁸ ‘Vodafone Group, Q1 update’, Credit Suisse, 19th Aug 2015

²⁹ ‘Deutsche Telekom, Company Brief’, Raymond James, 13th May 2015

³⁰ ‘Vodafone Group Plc, Top of the Pops – A Telco Tag along’, RBC Capital Markets, 1st September 2015

³¹ ‘Orange SA, On the road with RBC – Grade versus Quality’, RBC Capital Markets, 14th April 2015

3.4. Financial data platforms

To enable the efficient and accurate analysis of companies' financial data, investors use data 'platforms'. These services aggregate financial data on a wide variety of firms and present it in a manner suitable for analysis. Thomson One, a platform provided by Thomson Reuters, provides (among others) the following measures of profitability:

- » **EBIT**;
- » **EBITDA**;
- » **ROE**;

- » **ROA**;
- » **ROIC**; and
- » **EPS**.

Thomson One includes the functionality to compare such metrics across similar firms. For example, the following figure shows Vodafone Group Plc and its 'comparables' in terms of some key metrics (including EBITDA).

In addition to financial data based on companies' accounts, data platforms also provide, for example, credit ratings and analyst reports (as discussed above).

Figure 9: Data platform 'comparables' data

COMPARABLES VODAFONE GROUP PUBLIC LIMITED COMPANY (VOD-LN)							
PEERS (BY CRITERIA)							
Market Data & Price Multiples		EV Multiples & Credit Ratios		Key Financials & Effectiveness			
KEY FINANCIALS & EFFECTIVENESS							
NAME	TICKER	LAST PERIOD END DATE	SALES TTM [□]	SALES YEAR/YEAR [□]	SALES FY1 [□]	EBITDA TTM [□]	
VODAFONE GROUP PUBLIC LIMITED COMPANY	VOD-LN	31/03/2015	42,227.00	1.10	40,944.95	11,929.00	
BT GROUP PLC	BT.A-LN	30/06/2015	17,775.00	0.98	17,801.29	5,764.00	
Deutsche Telekom	DTE-XE	30/06/2015	47,410.09	1.09	48,788.43	11,588.27	
Telecom IT	TIT-MI	30/06/2015	14,961.95	0.96	14,557.44	5,631.54	
Telefonica	TEF-MC	30/06/2015	34,600.44	0.91	34,703.10	10,242.90	
TALKTALK TELECOM GROUP PLC	TALK-LN	31/03/2015	1,795.00	1.04	1,877.85	175.00	
Orange	ORA-FR	30/06/2015	27,920.38	0.99	27,908.09	7,517.46	
TeliaSonera	TLSN-SK	30/06/2015	8,063.62	1.04	8,164.99	2,948.39	
Bouygues	EN-FR	30/06/2015	23,417.41	1.00	22,870.52	1,472.18	
SKY PLC	SKY-LN	31/12/2014	8,177.00	1.10	11,738.29	2,458.00	
KPN	KPN-AE	30/06/2015	5,367.29	0.68	5,163.46	1,813.66	
Mean			21,065.01	0.99	21,319.85	5,594.58	
Median			17,775.00	1.00	17,801.29	5,631.54	
High			47,410.09	1.10	48,788.43	11,929.00	
Low			1,795.00	0.68	1,877.85	175.00	

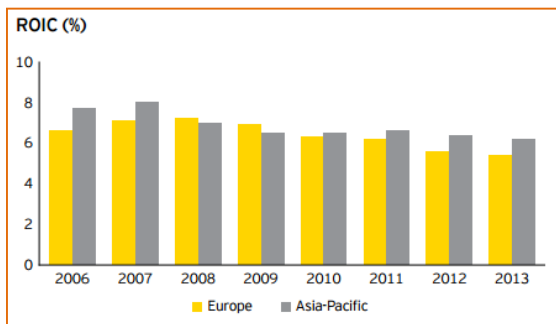
3.6. Industry reports

In addition to analyst reports, which tend to focus on individual companies, organisations also produce reports that assess the performance of the industries as a whole. Reports on the telecoms industry tend to focus on the following measures:

- » **Dividend yield;**
- » **ROIC;**
- » **EBIT;** and
- » **EBITDA.**

For example, as illustrated by the following figure, Ernst & Young (2014)³² use ROIC to compare returns in the telecommunications sector across geographies.

Figure 10: Operator ROIC by region



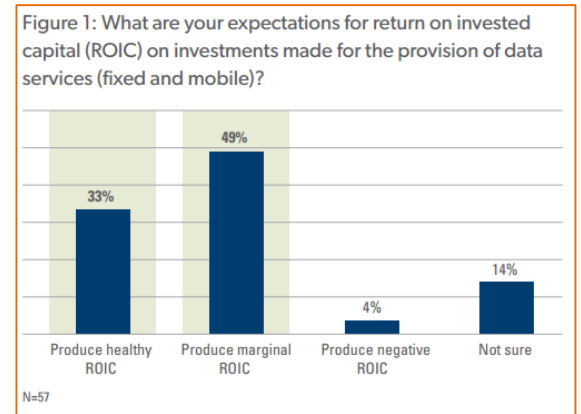
Source: Ernst & Young

AlixPartners (2014)³³ states that:

“Heading into a fifth straight year of revenue decline in 2014, European telecom operators are today the poor relatives of their North American cousins, whose growth...enables them to continue commanding higher valuations...despite lower earnings before interest, taxes, depreciation, and amortization (EBITDA) margins”

The report also gives results on an executive survey, which asked respondents about their expectations of ROIC in relation to mobile and fixed data service investments, as illustrated below.

Figure 11: Telco expectations based on ROIC



Source: AlixPartners

3.7. Conclusions

Investors use a wide range of sources and metrics of profitability to assess how attractive telecom firms are to invest in.

Alongside ROCE and ROIC, they also consider other metrics such as EBITDA margins and qualitative information on the regulatory and market context. We would expect that any assessment of returns in the UK mobile sector should consider the wide range of metrics available to investors before reaching conclusions.

³² ‘Top 10 risks in telecommunications 2014’, Ernst & Young, 2014

³³ ‘Between a Rock and a Hard Place’, AlixPartners, 2014



4. What the evidence shows

This section sets out what the evidence suggests about the returns in the UK mobile sector.

In summary:

- (i) The sources used by investors to help make investment decisions show that EE earns significantly lower return on capital employed than suggested by Ofcom's analysis.
- (ii) Qualitative evidence that investors take into account is mixed. It tends to point to a recent underperformance but expectations of future growth.

4.1. Overview

In this section we present evidence of the profitability of MNOs that is taken into consideration by investors. Specifically, this section includes:

- » **'Return on capital' measures** which reviews ROCE and ROIC measures from: Ofcom's analysis; our own analysis of statutory accounts; and other sources that investors take into account (analyst reports, industry reports and financial data platforms).
- » **EBITDA margin measures** which, similar to the preceding section, reviews EBITDA margin measures. Again this covers Ofcom's analysis, our analysis of statutory accounts and other sources that investors take into consideration.
- » **Additional relevant information** presents: commentary on the sector; credit ratings; and share prices.

The table below shows the ROCE and EBITDA margin evidence that we have found. As can be seen, all other sources suggest a significantly lower ROCE than Ofcom's analysis. This is on both a forward and backward looking basis. That is, investors are likely to judge MNOs to have earned significantly less than a 27%-28% return on capital employed, and expect them to earn significantly less than this in the future. Estimates of ROCE vary considerably across sources, but tend to lie in the range 0% to 10%. This is at or below Ofcom's view of WACC.

Figure 12: Summary of ROCE evidence

Source	ROCE	Notes
Ofcom's analysis	c. 27% to 28%	2012 and 2013 figures for EE. Based on Ofcom's adjustments for spectrum, goodwill and customer relationship values.
Our analysis of company accounts (unadjusted)	-1.3% and 0.0%	2012 and 2013 figures for EE. Based on our analysis of EE Limited's accounts, without making adjustments. Industry ROCE for this period was 1.5% and 2.0%.
Our analysis of company accounts (adjusted)	-0.5% and 0.7%	2012 and 2013 figures for EE. Based on our analysis of EE Limited's accounts, with adjustments for exceptionals and sources of finance. Industry ROCE for this period was 1.4% and 2.1%.
Analyst reports	-2.4% to 19.5%	Based on ROCE and adjusted ROIC figures given in analyst reports covering outturn and expectations for listed MNOs. These figures therefore reflect both a backward and forward looking perspective.
Industry reports	1.3% to 10.1%	Based on adjusted ROIC figures for the period 2001 to 2013 for European operators.
Financial data platforms	-4% to 11.3%	Based on adjusted ROIC figures for 2013 and 2013 of listed MNOs.

4.2. Return on capital measures

4.2.1. Ofcom's analysis

As discussed in section 2.3, Ofcom's analysis of EE's statutory accounts suggests that EE's ROCE was **28%** and **27%** in 2012 and 2013 respectively. These figures are based on Ofcom's adjustments, specifically:

- revaluations of 3G and 4G spectrum;
- exclusion of the value of customer relationships;
- exclusion of the value of goodwill; and
- corresponding adjustments to depreciation and amortisation figures.

Ofcom's view is that these adjustments are necessary to convert a backward looking ROCE estimate into a forward looking "...indicator of an operator's incentives to invest if the operator is not capital constrained."³⁴ As is presented in the following sections, the evidence that investors take into account is much more modest in both a forward and backward looking perspective and is suggestive that investors estimate the value of capital employed to be much higher than Ofcom's.

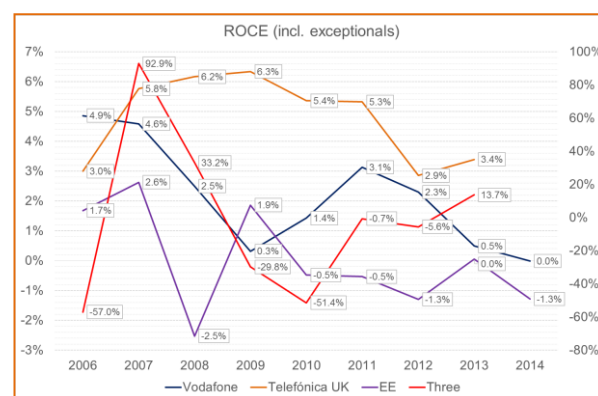
4.2.2. Our analysis of statutory accounts

We have calculated ROCE figures based on accounting information as it is presented in companies' accounts (adjusted for time periods) and based on adjustments for exceptionals and sources of finance. We present both of these measures for the MNOs and the industry as a whole below. Further details of our analysis are in the annex to this report.

4.2.2.1. Companies

The following figure shows the different MNOs' ROCE based on data as presented in companies' accounts i.e. including exceptional items). Three's figures are measured on the right-hand axis.

Figure 13: Individual MNOs ROCE incl. exceptionals



Source: Company statutory accounts, EI analysis

The chart shows the following:

- » **Vodafone's** accounting ROCE is quite volatile, as it fell from 4.9% in 2006 to 0.3% in 2009, rose to 3.1% in 2011 and dropped to 0.0% in 2014.
- » **Telefónica UK's** accounting ROCE rose from 3.0% in 2006 to 6.3% in 2009, and dropped to 3.4% in 2013.
- » **EE's** accounting ROCE is also very unstable. It dropped sharply from 2.6% in 2007 to -2.5% in 2008, and rose to 1.9% in the following year. ROCE then dropped slowly to -1.3% in 2012, rose to 0.0% in 2013 and dropped again to 1.3% in 2014.
- » **Three's** accounting ROCE is the most volatility in the industry. It went from a low of -57.0% in 2006 to 92.9% in 2007, and then fell sharply to -51.4% in 2010.³⁵ From 2011 onwards its variation was less 'extreme' and it plateaued at 13.7% in 2013.

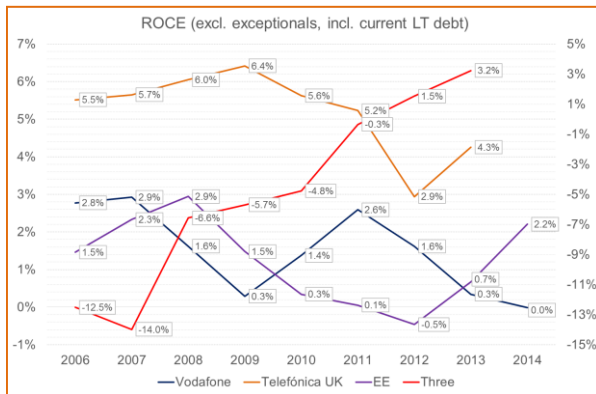
The following figure shows companies' ROCE based on the adjustments mentioned above – specifically, we have excluded exceptional items from EBIT and added back to capital employed current debt that from an economics perspective is long term. By doing this, there is less variation within a company year-on-year, and also a smoother profile of the ROCE. Three's ROCE is measured on the right-hand axis.

³⁴ Ofcom (2015), *The Consultation*, paragraph 4.45.

³⁵ The spike in Three's ROCE in 2007 is due to a one-off increase in current liabilities which relate to intragroup

finance. This is subsequently treated as long-term debt, thus reducing current liabilities significantly.

Figure 14: Individual MNOs ROCE excl. exceptionals, incl. current LT debt



Source: Company statutory accounts, EI analysis

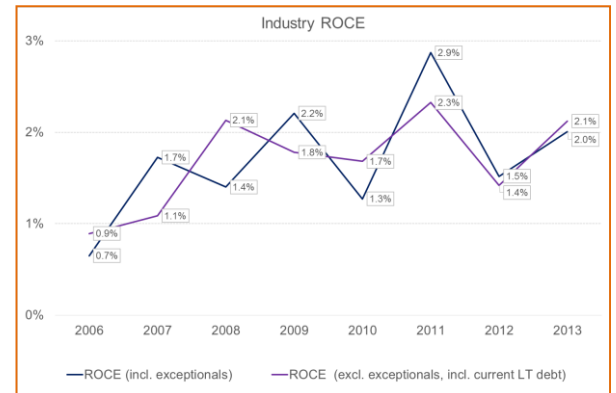
The figure shows that:

- » **Vodafone's** ROCE moved from 2.8% in 2006 to 0.0% in 2014.
- » **Telefónica UK's** ROCE follows a smoother profile. It rose from 5.5% in 2006 slowly to 6.4% in 2009, and fell to 4.3% in 2013.
- » **EE's** ROCE climbed from 1.5% in 2006 to 2.9% in 2008. It dropped to -0.5% in 2012 and subsequently rose to 2.2% in 2014.
- » **Three's** ROCE follows a more stable growth path, rising from its low of -14.0% in 2007 to 3.2% in 2013.

4.2.2.2. Industry

The following chart depicts both industry ROCE based on measures as they are presented in the companies' statutory accounts and adjusted for exceptional items and sources of finance.

Figure 15: Industry ROCE



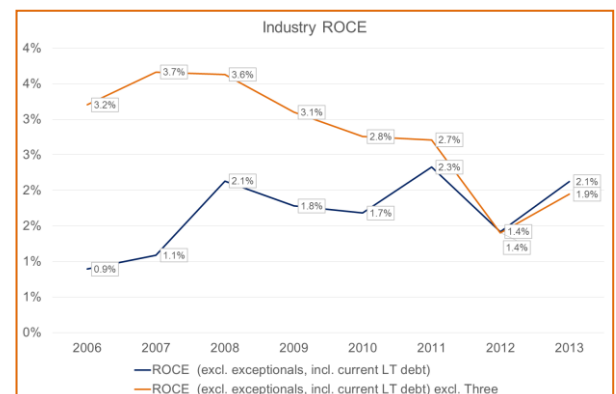
Source: Company statutory accounts, EI analysis

As can be seen, industry ROCE is much consistent over time and between the two measures compared to the company level series. The five year average is 2.0% and 1.9% for the unadjusted and adjusted measures respectively.

In addition to the above, we have also calculated an industry ROCE excluding Three. Three launched in 2003 and its growth has an impact on the figures.

The diagram below shows industry ROCE (adjusted for exceptionals and sources of finance) including and excluding Three. Without Three, industry ROCE is higher and smoother between 2006 and 2011. As Three becomes a more 'established' player in the market, including or excluding it from industry ROCE bears little significance, as between 2012 and 2013 there is little difference between the industry ROCE with and without Three.

Figure 16: Industry ROCE excl. and incl. Three



Source: Company statutory accounts, EI analysis

4.2.2.3. Summary of our analysis

Our analysis of companies' statutory accounts suggests ROCE figures significantly below those calculated by Ofcom. There are material differences between companies' ROCE when figures are taken as reported in company accounts (i.e. including exceptionals). When exceptionals are excluded and sources of finance adjusted for, ROCE is far more consistent across companies. The adjustments we have applied have a marginal impact on industry ROCE figures, and the exclusion of Three only affects earlier time periods.

For the purpose of comparing with Ofcom's analysis, our analysis shows:

- » EE's ROCE in 2012 and 2013, based on data as it is presented in their accounts, was **-1.3%** and **0.0%** respectively.³⁶
- » Based on adjustments for exceptionals and sources of finance, we calculated EE's ROCE in 2012 and 2013 was **-0.5%** and **0.7%** respectively.
- » Similarly, based on figures presented in companies' accounts, industry ROCE was **1.5%** and **2.0%** in 2012 and 2013 respectively. Based on our adjustments for exceptionals and sources of finance, industry ROCE was **1.4%** and **2.1%**.
- » Moreover, ROCE has been at around this level over the longer time period 2006-2013.

4.2.3. Information considered by investors

In this section we consider the 'return on capital' measures used by investors when assessing MNOs. We draw on three sources of information which were presented in section 3, specifically: analyst reports; industry reports; and financial data platforms. We address each of these in turn before summarising the evidence.

4.2.3.1. Analyst reports

As discussed in section 3.3, we have reviewed 20 analyst reports relating to the four listed MNOs that operate in the UK (11 of these reports contain ROIC or ROCE figures). Due to the structure of the MNOs, analyst reports relate to the parent companies which operate in multiple countries, rather than just the UK. The figures reported in this section are therefore not directly comparable to the analysis of company accounts presented in the preceding section.

One benefit of looking at the parent groups is that finance may often be raised at this level, and therefore these would be the relevant entities that investors would assess. From a practical perspective, data at the UK MNO level is not as readily available. A drawback of analysing the listed companies is that the UK results will be 'diluted'. Some commentators suggest that UK returns are lower than European returns, and so this 'dilution' could bias the figures upwards.

The table overleaf shows the return on capital measures given in the reports for the period 2014 to 2018. Four of the reports present ROCE figures and seven present ROIC figures.³⁷

³⁶ These figures differ from Ofcom's 'unadjusted' ROCE. For comparative purposes we have not excluded "management and brand fees", which EE does in its accounts (EE's adjusted EBITDA). Ofcom reports 'unadjusted' ROCE figures of 1% and 2% for 2012 and 2013 respectively.

³⁷ One report gave ROCE figures for two MNOs and two reports by Societe Generale gave the same ROIC figures for Orange. As such, the number of reports does not directly match the number of columns in the table.

Figure 17: Return on capital estimates

Source	Company	2014 (A)	2015 (E)	2016 (E)	2017 (E)	2018 (E)
ROCE						
Macquarie (14/08/15) ³⁸	DTE		4.8%*			
Macquarie (14/08/15) ³⁹	ORA		3.5%*			
Commerzbank (6/08/15) ⁴⁰	DTE	4.6%	6.5%	6.6%	6.6%	6.4%
Macquarie (22/1/15) ⁴¹	VOD	2.3%	1.7%	1.9%	2.7%	
Macquarie (22/7/15) ⁴²	VOD	2.3%	1.8%	1.7%	2.4%	3.0%
ROIC						
Barclays (4/3/15) ⁴³	DTE	6.4%	7.1%	8.5%	10.3%	
Commerzbank (6/08/15) ⁴⁴	DTE	5.5%	7.9%	8.1%	8.3%	8.2%
Societe Generale ⁴⁵	ORA	5.9%	6.7%	6.6%	6.6%	
Barclays (22/1/15) ⁴⁶	TEF	8.7%**	8.6%	9.8%		
Credit Suisse (19/8/15) ⁴⁷	VOD		1.4%***	-2.4%	1.7%	3.0%
Barclays (27/7/15) ⁴⁸	VOD		15.6%***			

Note: figures are actuals (A) or expectations/forecasts (E) unless otherwise stated and are based on companies' financial year end (Vodafone has a March year end, all others a December year end). DTE = Deutsche Telekom AG; ORA = Orange SA; VOD = Vodafone Group Plc; and TEF = Telefonica SA.

* Figures are actuals for "FY1" at Q2 2015

** Expectation

*** Actuals

³⁸ 'Orange over Magenta', Macquarie Research, 14th August 2015

³⁹ Ibid

⁴⁰ 'Deutsche Telekom, Still in a good place', Commerzbank, 6th August 2015

⁴¹ 'Vodafone Group, Returning to growth', Macquarie Research, 22nd January 2015

⁴² 'Vodafone Group, Regulation, data, money and content', Macquarie Research, 27th July 2015

⁴³ 'Deutsche Telekom AG, Moving ahead of guidance', Barclays, 4th March 2015

⁴⁴ 'Deutsche Telekom, Still in a good place', Commerzbank, 6th August 2015

⁴⁵ 'Orange, No consolidation in France', Societe Generale, 23rd February 2015 and 'Orange, Our take-away from Orange's strategic plan', Societe Generale, 18th March 2015

⁴⁶ 'Telefonica SA, We still prefer the parts', Barclays, 22nd January 2015

⁴⁷ 'Vodafone Group, Q1 update', Credit Suisse, 19th August 2015

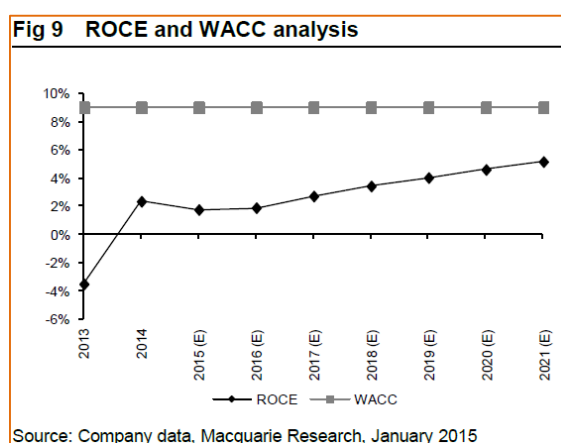
⁴⁸ 'Vodafone Group Plc, Inflection and operating leverage', Barclays, 27th July 2015

As can be seen, the ROCE figures range from 1.7% to 6.6%. These figures, which are both calculated actuals and expectations of future values, are significantly below Ofcom's figures.

ROIC figures range from -2.4% to 15.6%. We note, however, that most figures are in the range 0% to 10%. In section 4.2.3.4 we convert these ROIC figures into ROCE figures.

A number of reports also make explicit comparisons between return on capital and WACC. Macquarie (22/1/15)⁴⁹ gives the following chart for Vodafone, which shows WACC (9%) significantly above ROCE.

Figure 18: ROCE WACC comparison



4.2.3.2. Industry reports

We have identified industry reports that focus on both the UK and Europe as a whole.

- » Capital Economics (2014)⁵⁰ reports ROCE measures for the four UK MNOs based on their statutory accounts. For 2012 and 2013 they report 1.3% and 2.3% respectively for EE. The figures for the other MNOs range from 1.8% to 10.1%.
- » PwC (2013)⁵¹ reports ROIC figures ranging between c.3% and c.8% for the period 2002 to 2012 for network operators (note: unclear whether estimates relate to UK or European operators).
- » Ernst & Young (2013)⁵² show ROIC for Western European operators ranging from c.3% to c.8% for the period 2001 to 2011.
- » Ernst & Young (2014)⁵³ shows European operators' ROIC of c.5-7% over the period 2006 to 2013.
- » AlixPartners (2014)⁵⁴ shows European telecom executives are expecting ROIC margins that are 'marginal' (49% of respondents) or 'healthy' (33% of respondents).
- » JP Morgan (2015)⁵⁵ presents analysis which calculates industry level ROIC on a "...forward looking' replacement cost...ignore and discount historically inflated spectrum costs...our calculated ROIC is actually higher than the true realised industry ROICE one would derive if they used an operator's actual invested capital...". They find that ROIC is currently around 5% and *"With industry returns now below the cost of capital it is understandable that Telco CEOs...struggle to justify taking aggressive long-term investment decisions without having the visibility of an acceptable payback."*

⁴⁹ 'Vodafone Group, Returning to growth', Macquarie Research, 22nd January 2015

⁵⁰ 'Improving connectivity – stimulating the economy, Mobile network operators and the UK economy', Capital Economics, 2014 (a report for EE)

⁵¹ 'PwC Valuation Index, Connecting investment to returns in telecoms', PwC, 2013

⁵² 'Metrics transformation in telecommunications', Ernst & Young, 2013

⁵³ 'Top 10 risks in telecommunications 2014', Ernst & Young, 2014

⁵⁴ 'Between a Rock and a Hard Place', AlixPartners, 2014

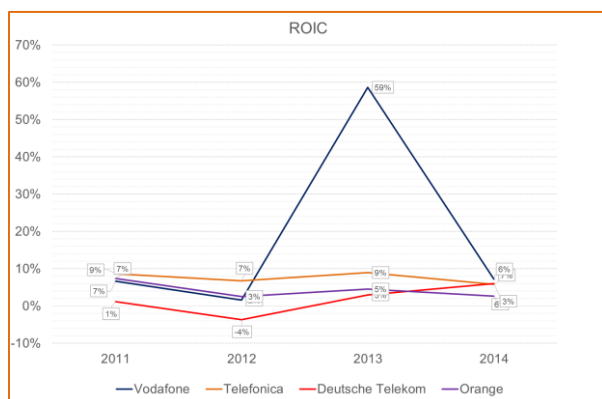
⁵⁵ 'Assessing the prospects for future industry consolidation following the failed Danish merger', J.P. Morgan Cazenove, 2015.

4.2.3.3. Financial data platforms

Thomson Reuters provides ROIC estimates for the four listed MNOs that operate in the UK.⁵⁶

The following figure shows ROIC for the four MNOs. With the exception of Vodafone in 2013 (year ending 31st March 2014), all ROIC figures are below 10%. The outlier for Vodafone is due to the inclusion of an extraordinary item (sale of an asset).

Figure 19: ROIC reported by Thomson Reuters



Source: Thomson Reuters

Excluding the outlier, in the years 2012 and 2013 ROIC ranges from -4% to 9%.

4.2.3.4. Summary of investor evidence

As presented above, some sources focus on ROIC measures. To allow for a direct comparison between these figures and ROCE estimates we make a simple adjustment to reflect the differential treatment of tax in these two measures. As discussed in the annex, the difference between ROCE and ROIC is:

- ROIC uses operating profit after tax as the numerator, whereas ROCE uses operating profit before tax; and
- ROIC subtracts cash from the denominator, whereas ROCE includes cash.

As cash information is not available alongside all the ROIC estimates, we make the simplifying assumption that its effect is negligible. To convert a ROIC figure into a ROCE figure we 'upscale' by the UK corporate tax rate of 20%.⁵⁷

Analyst reports gave:

- » ROCE figures of 1.7% to 6.6% for the listed MNOs for the period 2014 to 2018.
- » ROIC figures of -2.4% to 15.6% for the period 2014 to 2018. As per our rough adjustment, this equates to ROCE of -2.4% to 19.5%.

Analyst reports therefore suggest the ROCE ranges from -2.4% to 19.5%, with an average of 6.4%.

Industry reports suggest ROIC ranged from c.3%-8% over the period 2001 to 2013. This roughly equates to 3.8% to 10.0% ROCE. The Capital Economics report had a slightly larger ROCE range of 1.3% to 10.1%.

Data from Thomson Reuters suggests that ROIC ranged from -4% to 9% over 2012 and 2013. This roughly equates to -4% to 11.3% ROCE.

⁵⁶ Vodafone has March financial year ends, and therefore its data is presented in the calendar year for which most of its financial year fell e.g. data for the year ending March 2012

is presented as 2011. The other MNOs' financial years end in December.

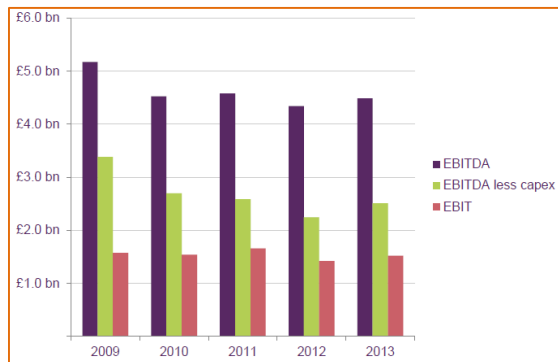
⁵⁷ Specifically, we calculate ROCE as $ROIC \times (1/(1-20\%))$.

4.3. EBITDA margin measures

4.3.1. Ofcom's analysis

Ofcom does not explicitly give an EBITDA margin for EE. It has considered EBITDA less capex as a relevant "aggregate profitability indicator" in its latest mobile call termination review. Its analysis shows that, for the four largest MNOs, EBITDA less capex fell between 2009 and 2013.⁵⁸

Figure 20: Ofcom's analysis of EBITDA less capex margins



Source: Ofcom, MCT Review 2015-18, Figure 6.

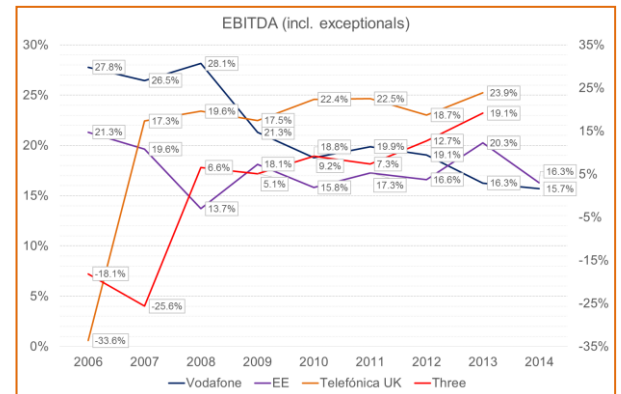
4.3.2. Our analysis of statutory accounts

Mirroring our ROCE analysis presented in section 4.2.2, here we show both EBITDA margins including and excluding exceptional items, for the individual companies and the industry as a whole.

4.3.2.1. Companies

The next figure shows MNOs EBITDA including exceptional items. Three's and Telefónica UK's EBITDA including exceptionals are measured on the right-hand axis.

Figure 21: Individual MNOs EBITDA incl. exceptionals



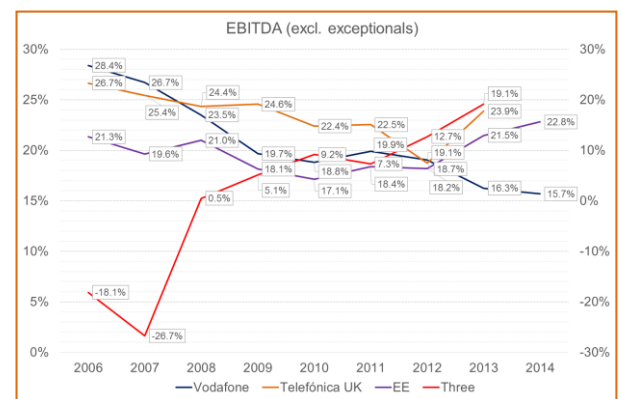
Source: Company statutory accounts, EI analysis

As can be seen:

- » **Vodafone's** EBITDA including exceptional items dropped from highs of 27.8% in 2006 to 15.7% in 2013.
- » **Telefónica UK's** EBITDA including exceptionals rose from -33.6% in 2006 to 23.9% in 2013.
- » **EE's** EBITDA including exceptional items fell from 21.3% in 2006 to 16.3% in 2013.⁵⁹
- » **Three's** EBITDA including exceptionals rose from -25.6% in 2007 to 19.1% in 2013.

The following chart shows individual MNOs EBITDA excluding exceptional items. Three's EBITDA excluding exceptionals is measured on the right axis.

Figure 22: Individual MNOs EBITDA excl. exceptionals



Source: Company statutory accounts, EI analysis

58

http://stakeholders.ofcom.org.uk/binaries/consultations/mobile-call-termination-14/statement/MCT_final_statement.pdf, paragraph 6.78.

59

Our EBITDA measure here only excludes exceptional items. It does not exclude "management and brand fees" as reported in EE's accounts (EE's adjusted EBITDA). This is to ensure a like-for-like comparison between MNOs, as the other MNOs do not outline these fees.

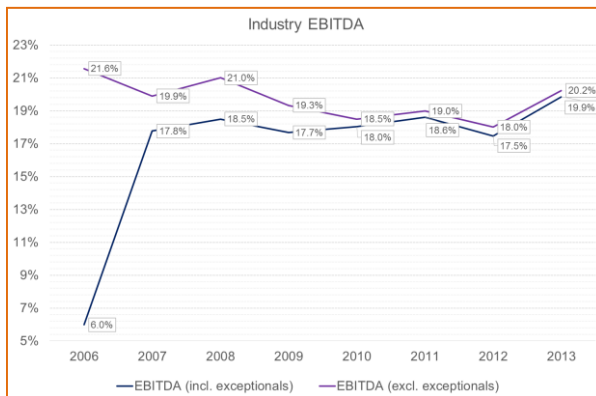
As expected, EBITDA excluding exceptional items is above EBITDA. Telefónica UK’s EBITDA excluding exceptional items falls slowly from a high of 26.7% in 2006 to 19.1% in 2012, rising to 23.9% in 2013. For the other MNOs, this adjustment smooths their time series and there is less variation year-on-year.

4.3.2.2. Industry

The chart below depicts industry EBITDA between 2006 and 2013. It shows both industry EBITDA including and excluding exceptional items.

EBITDA excluding exceptional items is above EBITDA including them. The former is also smoother than the latter. EBITDA excluding exceptional items rises from 6.0% in 2006 to 19.9% in 2013, whereas EBITDA including exceptional items drops from 21.6% in 2006 to 20.2% in 2013. Overall, EBITDA excluding exceptionals is lower than it was in 2006 and shows a general falling trend.

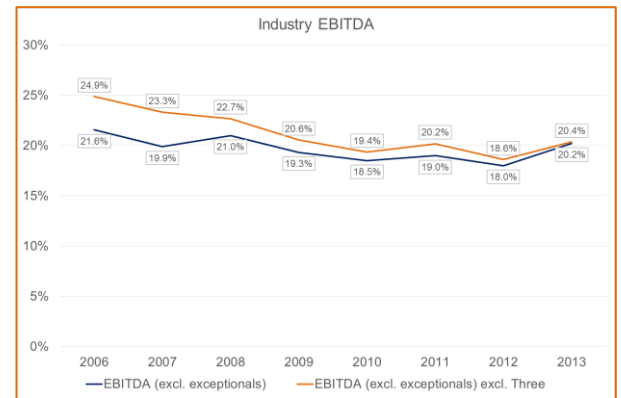
Figure 23: Industry EBITDA



Source: Company statutory accounts, EI analysis

Similarly to the industry ROCE figures above, Three’s specificities may be driving some of the industry measures. As such, we have recalculated industry EBITDA excluding exceptionals, excluding Three. This is shown in the following chart, and as can be seen this pushes up EBITDA slightly.

Figure 24: Industry EBITDA excl. and incl. Three



Source: Company statutory accounts, EI analysis

4.3.2.3. Summary of our analysis

The evidence suggests that EBITDA margins have fallen overtime and are only now rising to pre-2008 levels.

4.3.3. Information considered by investors

We now turn to the measures of EBITDA margins that are presented by the sources considered by investors. Again, we draw on three sources of information which were presented in section 3, specifically: analyst reports; industry reports; and financial data platforms.

4.3.3.1. Analyst reports

EBITDA margins are frequently discussed and presented in the analyst reports that we reviewed. For each of the MNOs we report the figures from one analyst report.

- » Deutsche Telekom actual and forecasted EBITDA margins for 2014 to 2016, averaging 28.4%.
- » Orange actual and forecasted EBITDA margins for 2010 to 2017, averaging 30.6%.
- » Telefónica actual and forecasted EBITDA margins for 2014 and 2015, averaging 32.5%.
- » Vodafone actual and forecasted EBITDA margins for 2015 to 2018, averaging 29.0%.

4.3.3.2. Industry reports

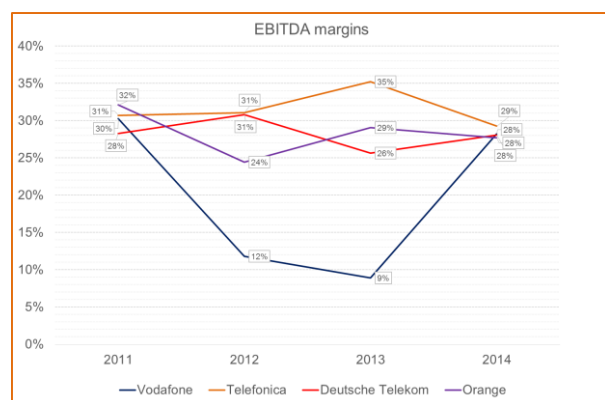
In relation to EBITDA margins, industry reports included the following figures.

- » Ernst & Young (2014)⁶⁰ shows an EBITDA margin for UK operators of c.23% (date unclear).
- » AlixPartners (2014)⁶¹ shows European telecom operators EBITDA margin of 31% over the period 2010-2013.

4.3.3.3. Financial data platforms

Thomson Reuters provides EBITDA estimates for the four listed MNOs that operate in the UK. As can be seen in the following diagram,⁶² Vodafone's figures are significantly different from the others in 2012 and 2013. Over the whole time period EBITDA ranges from 9% to 35%.

Figure 25: EBITDA margins reported by Thomson Reuters



Source: Thomson Reuters

As discussed above, EBITDA margins have a bearing on credit ratings and so the downward trend in the margins could affect MNO's ability to raise debt.

4.4. Additional relevant information

In this section we present other evidence that may inform investors' view of the performance of UK MNOs and the industry as a whole.

4.4.1. Commentary on the sector

As with the analyst reports and many of the industry reports, qualitative commentary on the sector usually focuses on the parent companies and the European sector. However, there is some discussion of the UK.

The analyst reports suggests that the European industry has not been performing particularly well recently.

*"In our report, European Telecoms - Top of the Pops, we utilise a new way of assessing Telecom performance in Europe. Rather than focus on ARPU, we take a market's service revenues, EBITDA and opex and apportion it across a country's population. In so doing, we've determined that 2014 was THE trough for European service revenues and EBITDA."*⁶³

*"Both operators overstate economic profitability materially in our view but ORA has discounted valuation multiples (FY1 EV/OIBDA 5.5x vs 7.0x), partly reflecting the stakeholder focus rather than the returns focus at DTE."*⁶⁴

However, reports also signal the expectation that performance will improve.

*"Our sector thesis assumes improving revenue performance, but with a two-year delay to OIBDA confidence in most markets, as operators signal 2016 will be the year of stabilisation and growth will return in 2017."*⁶⁵

*"We expect cost-cutting efforts to continue, with a further 3,000 headcount reduction this year. This is stabilizing the EBITDA margin before sales growth helps it expand again."*⁶⁶

Analysts are cautious of the impact of potential mergers in the UK.

*"...we take in a relatively cautious view of market repair, assuming new competitors negatively impact Vodafone in the UK..."*⁶⁷

⁶⁰ 'Top 10 risks in telecommunications 2014', Ernst & Young, 2014

⁶¹ 'Between a Rock and a Hard Place', AlixPartners, 2014

⁶² Vodafone has March financial year ends, and therefore its data is presented in the calendar year for which most of its financial year fell e.g. data for the year ending March 2012 is presented as 2011. The other MNOs' financial years end in December.

⁶³ 'Vodafone Group Plc, Top of the Pops – A Telco Tag along', RBC Capital Markets, 1st September 2015

⁶⁴ 'Orange over Magenta', Macquarie Research, 14th August 2015

⁶⁵ Ibid

⁶⁶ 'Orange, Stock Report', S&P Capital IQ, 23rd June 2015

⁶⁷ 'Vodafone Group, Q1 update', Credit Suisse, 19th August 2015

“In the UK, a potential deal with H3G could create value”⁶⁸

Industry reports also paint a mixed picture. Capital Economics (2014)⁶⁹ – which was commissioned by EE – is relatively pessimistic about the profitability of the UK operators in comparison to other regions, industries and WACC.

“Mobile network operators in the United Kingdom are less profitable than European and North American peers for a variety of reasons, including the after-effects of the 3G auction, the competitive nature of the market and the increasing impact of regulation.”

“British mobile telephony not only delivers below par returns compared with others in their sector globally, they also make only modest or even negative earnings relative to their rates of capital expenditure compared with other industries.”

“It is not just rates of return being less than other sectors or industries that should be a concern for anyone wanting to see a vibrant industry, and future innovation and growth; analysis suggests that up to one-third of current mobile operators consistently fail to earn their cost of capital.”

PwC (2013)⁷⁰ highlight the importance of investment decisions following previous poor performance.

“Network operators are not getting a big slice of the returns and hence value in the wider infocomms market.”

“Returns generated by network operators appear to be lower than their cost of capital.”

“Efficient capital allocation whether through deals or organic investment will be key to success... the challenge is to pick the right investment and pay the right price.”

Ernst & Young (2014)⁷¹ is optimistic about the future for European telecoms:

“This relatively gloomy environment for many operators is brightened by promising growth opportunities across a range of information and communications technology (ICT) services...”

4.4.2. Credit ratings

The figure on the following page shows the credit ratings assigned to MNOs by Moody's. As can be seen, EE's long term domestic debt was rated Baa2 in 2012 and 2013.

“Obligations rated Baa are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics.”⁷²

EE is in the middle of the Baa category – as denoted by the '2'. Baa is consistent with an EBITDA margin of 30%-40%, as per Figure . However, as the performance measure only has an approximate weighting of 5%, we cannot deduce the underlying value that Moody's used.

Credit ratings are now lower than they were in 2000. Vodafone and Deutsche Telekom have experienced upgrades and downgrades and Telefónica has experienced a number of downgrades. All else equal, a lower credit rating reduces the ability of MNOs to raise finance. Overall, the evidence suggests that the MNOs ability to repay debt has been in decline.

⁶⁸ 'Telefonica SA, We still prefer the parts', Barclays, 22nd January 2015

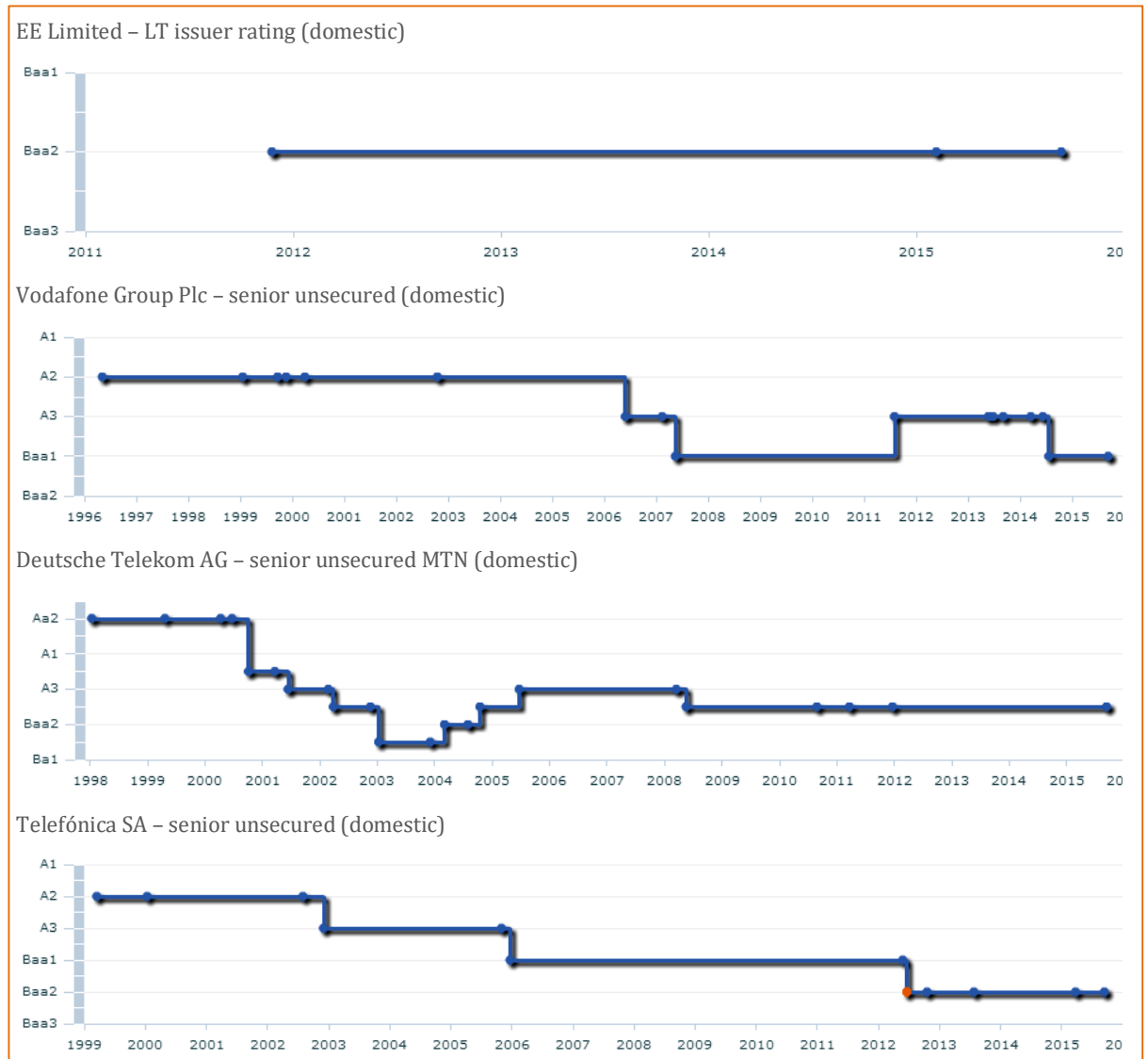
⁶⁹ 'Improving connectivity – stimulating the economy, Mobile network operators and the UK economy', Capital Economics, 2014 (a report for EE)

⁷⁰ 'PwC Valuation Index, Connecting investment to returns in telecoms', PwC, 2013

⁷¹ 'Top 10 risks in telecommunications 2014', Ernst & Young, 2014

⁷² Moody's

Figure 26: NMO credit ratings



Source: Moody's

4.4.3. Share prices

Share prices can be considered as a very basic measure of profitability. The ‘price’ of a company is the discounted sum of future profits, and as such a more profitable company, all else equal, will have a higher share price. As future profits are not known, share prices are based on investors’ expectations and in theory take into account a wide range of evidence.

The figure below shows, for the parent companies of each of the listed MNOs, its share price from January 2010 to the beginning of September 2015 against its local market index. As can be seen, Vodafone’s and Deutsche Telekom’s share price has increased since 2010, whereas Telefónica’s and Orange’s has decreased. This suggests that investors have mixed views of the profitability of MNOs, compared to 2010. That is, investors expect some MNOs to be more profitable now than they did in 2010 and others to be less profitable. A limitation of this evidence is that the parent companies cover a wide range of activities, not just UK mobile telecoms.

4.5. Conclusions

This evidence suggests a far more cautious outlook for investment in the UK mobile telecoms than Ofcom’s analysis suggests. In particular, the ROCE figures used by investors are significantly lower than the figures presented by Ofcom.

Figure 27: Listed MNO share prices



Source: Thomson Reuters



5. Annex

5.1. Measures of profitability

Figure 28: General definitions of metrics

The key financial metrics are defined in the table below. Institutions may however differ slightly in their application of these metrics.

As can be seen, the 'return on' metrics differ in both their measures of return (the numerator) and capital/assets (the denominator). The main differences can be summarised as:

- » ROCE uses EBIT whereas ROC and ROIC use a measure of operating profit after tax. ROA uses net income, which includes both tax and interest expenses (although some investors do not include interest expenses).
- » ROCE uses capital employed, whereas ROIC uses invested capital (which is equal to capital employed minus cash). ROC uses debt plus equity minus cash, and ROA uses total assets.

Measure	Definition
ROCE	Return on capital employed (ROCE): $EBIT / \text{Capital employed}$ Where capital employed is: $\text{Total assets} - \text{current liabilities}$ Capital employed is often calculated as an average over the accounting period i.e. the average of opening and closing capital employed for the time period.
ROC	Return on capital (ROC): $\text{Net operating profit after tax} / (\text{Book value of debt} + \text{book value of equity} - \text{cash})$
ROIC	Return on invested capital (ROIC): $\text{Net operating profit after tax} / \text{Invested capital}$ Where invested capital is: $\text{Total assets} - \text{current liabilities} - \text{cash}$
ROA	Return on assets (ROA): $\text{Net income} / \text{Total assets}$ Where net income is: $EBIT - \text{interest} - \text{tax}$ Some investors add back in interest expenses.
EBIT margin	Earnings before interest and tax (EBIT) margin: $(\text{Revenue} - \text{operating expenses} + \text{non-operating income}) / \text{Revenue}$
EBITDA margin	Earnings before interest, tax, depreciation and amortisation (EBITDA) margin: $(EBIT + \text{depreciation} - \text{amortisation}) / \text{Revenue}$

The relationship between the different capital/asset measures can be summarised as:

$$\text{Capital employed} = \text{Total assets} - \text{current liabilities}$$

$$\text{Invested capital} = \text{Capital employed} - \text{cash}$$

$$\text{Total capital} = \text{Book value of debt} + \text{book value of equity} - \text{cash}$$

5.2. Full list of analyst reports

We reviewed 20 analyst reports, as listed below. All reports were accessed through ThomsonOne – a Thomson Reuters service.

- » 'Deutsche Telekom, Company Brief', Raymond James, 26th February 2015
- » 'Deutsche Telekom, Company Brief', Raymond James, 13th May 2015
- » 'Deutsche Telekom AG, Moving ahead of guidance', Barclays, 4th March 2015
- » 'Deutsche Telekom, Still in a good place', Commerzbank, 6th August 2015
- » 'Deutsche Telekom, Although leverage is trending higher, DT maintains significant financial flexibility', Morningstar Corporate Credit Research, 6th March
- » 'Orange, Stock Report', S&P Capital IQ, 23rd June 2015
- » 'Orange over Magenta', Macquarie Research, 14th August 2015
- » 'Orange, No consolidation in France', Societe Generale, 23rd February 2015
- » 'Orange, Our take-away from Orange's strategic plan', Societe Generale, 18th March 2015
- » 'Orange SA, On the road with RBC - Grade versus Quality', RBC Capital Markets, 14th April 2015
- » 'Telefonica SA, We still prefer the parts', Barclays, 22nd January 2015
- » 'Telefonica, 2Q15 Mixed, but More Pros than Cons', Santander, 30th July 2015
- » 'Telefonica Group, Telefonica 2.0', RBC Capital Markets, 31st July 2015
- » 'Telefonica, Revenues 1.2%, EBITDA 0.6% ahead. Recognising higher tax credits. June Spain KPIs rebound – ALERT', J.P. Morgan, 30th July 2015
- » 'Telefonica, Preview 2Q15 results', Mirabaud Securities, 22nd July 2015
- » 'Vodafone Group Plc, Inflection and operating leverage', Barclays, 27th July 2015
- » 'Vodafone Group, Q1 update', Credit Suisse, 19th August 2015
- » 'Vodafone Group, Regulation, data, money and content', Macquarie Research, 27th July 2015
- » 'Vodafone Group, Returning to growth', Macquarie Research, 22nd January 2015
- » 'Vodafone Group Plc, Top of the Pops – A Telco Tag along', RBC Capital Markets, 1st September 2015

5.3. Analysis of statutory accounts

We have collected the statutory accounts for the following UK MNOs:

- » **Orange** – ‘Orange Personal Communication Services Limited’;
- » **T-Mobile** – ‘T-Mobile (UK) Limited’;
- » **EE** – ‘EE Limited’;
- » **Vodafone** – ‘Vodafone Limited’;
- » **O2** – ‘Telefónica UK Limited’; and
- » **Three** – ‘Hutchinson 3G UK Limited’.

We have covered the period from 2006 to the latest year available for each individual MNO. Orange and T-Mobile merged in 2010 to form EE. We have combined historic Orange and T-Mobile financial data in the UK to create a consistent EE time series for the whole time period considered.

In the subsequent analysis, when we refer to industry figures, these capture all UK MNOs’ data.

We have made the following adjustments to all accounting data referenced below:

- » **Time periods.** Firstly, all accounting results are annualised.⁷³ Secondly, to improve comparability across companies, all results are standardised to a December financial year end.⁷⁴

We have undertaken some further adjustments (clearly signalled in the charts) to enhance comparability across companies:

- » **Exclusion of exceptional items.** Where indicated, we state results excluding exceptional items. This includes: (i) items specifically identified as exceptionals within the relevant accounting data; (ii) restructuring costs (where these are not already included within exceptionals); (iii) one-off impairments of assets (where this occurs, corresponding balance sheet adjustments are made); and (iv) profits or losses on the disposal of fixed assets.
- » **Sources of finance.** All long term liabilities are assumed to be a source of (debt) finance and are included in our (preferred) measure of capital employed. As such, certain items are included within capital employed where our assessment is that they effectively are a source of long term debt necessary to the on-going operation of the business. Items where this is typically the case include: (i) the current proportion of long term debt; (ii) current finance leases; and (iii) significant intragroup finance which, while in accounting sense might be deemed ‘current’, were the entity in question considered independently from its group / parent, the financing would be external debt and, most likely, long term in nature.⁷⁵

⁷³ We annualise in the following way: if an accounting period is either greater or shorter than 12 months, the respective P&L data is multiplied by a factor of $12/n$ where n = the number of months in the accounting period.

⁷⁴ This is done as follows: For ‘flow’ items (i.e. P&L data) a weighted average is calculated using the relevant accounting periods. For example, if a company has a March year end, the weighted average for any flow item would be based on a weighting of 9 months for the current period and 3 months for the prior period. For ‘stock’ items (i.e. balance sheet items) the end position for December is calculated based on the average daily rate of change between the current and prior accounting periods.

⁷⁵ This is based on a detailed review of the notes to the accounts of each individual company.

Further information

Economic Insight Limited

88 Wood Street

London

EC2V 7RS

www.economic-insight.com

Economic Insight Ltd is registered in England No. 760829.

Whilst every effort has been made to ensure the accuracy of the material and analysis contained in this document, the Company accepts no liability for any action taken on the basis of its contents. Economic Insight is not licensed in the conduct of investment business as defined in the Financial Services and Markets Act 2000.

Any individual or firm considering a specific investment should consult their own broker or other investment adviser. The Company accepts no liability for any specific investment decision, which must be at the investor's own risk.

© Economic Insight, 2015. All rights reserved. Other than the quotation of short passages for the purposes of criticism or review, no part of this document may be used or reproduced without express permission.

The logo for Economic Insight features the word "Economic" in a white sans-serif font above the word "Insight" in a larger, bold white sans-serif font. The text is positioned to the right of a large, semi-transparent purple circle. A small white dot is located above the letter "i" in "Insight".

Economic
Insight