Renewal of the Independent National Radio licences

Methodology for review of financial terms

Statement

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About this document

The UK's three national analogue (FM and AM) commercial radio licences (currently held by Classic FM, Talksport and Absolute Radio) are all due to expire in 2018. Under the Broadcasting Act 1990 (as amended), all three licences qualify for a further five-year renewal. This means that each licensee can apply to extend their licence, rather than having to re-apply for their licence in an open competition.

The licences were originally awarded by an auction process, and the licensees are required to make annual financial payments to the Treasury. These financial payments consist of a cash bid amount, and a specified proportion of the revenue obtained by the licensee. This latter payment is known as the percentage of qualifying revenue, or PQR.

As the licence renewal process means there is no actual auction of the licences (and therefore no cash bids), Ofcom is required to set new financial terms for each licence. These financial terms consist of an amount which, in our opinion, would have been the cash bid of the licence holder if the licence had been auctioned for the renewal period, together with a PQR.

In May, we consulted on the timetable and methodology we propose to follow in order to set these financial terms. We received three responses to the consultation. This statement sets out Ofcom's methodology having carefully considered the responses received.

We propose that the methodology previously used by Ofcom in 2010 for setting the financial terms of the three licences remains broadly appropriate, taking account of developments and making certain modifications in response to the consultation, as set out in this document.

Following applications for renewal from the three licence holders we will determine financial terms using the methodology set out in this statement. These determinations will be published on our website.

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Section 1

Executive summary

1.1 Section 103B of the Broadcasting Act 1990 (as amended) ("the 1990 Act")[1] enables the further renewal of the three independent national radio ('INR') licences for a period of five years, beginning with the date of renewal. The three INR licences are held by Classic FM, Absolute Radio and Talksport. This amended legislation represents a third opportunity for the three INR licensees to apply for a licence renewal and thus avoid having to apply for a new licence in an auction process.

1.2 Licence renewal is a statutory incentive for the holder of an analogue licence to provide a digital service on the DAB platform. Specifically, an INR licence is eligible to be renewed only if its holder is providing a DAB simulcast service. All three INR licensees are currently providing such a service, and thus are eligible to apply for a renewal.

1.3 Each of the three INR licences has an expiry date between February 2018 and December 2018. Consequently, the timetable for each licence to undergo the process of renewal is potentially different.

1.4 As part of the process of INR licence renewal, Ofcom is required to set new financial terms for each licence. These financial terms consist of an amount which, in our opinion, would have been the cash bid of the licence holder were the licence being auctioned for the renewal period rather than renewed (the "cash bid"), and a percentage of qualifying revenue ("PQR"). In May 2016 we published a consultation which was primarily concerned with the methodology we propose to follow in order to set these financial terms.

1.5 We received three responses to the consultation, one of which was confidential and one which was not specifically related to the renewal of the INR licences. This statement sets out Ofcom's methodology having carefully considered the responses received.

1.6 Following careful consideration of the consultation responses, we have decided to adopt our proposed methodology, but with the following changes:

- We will not ascribe any value to reserved capacity on the Digital One national DAB multiplex.
- On the potential for digital switchover, we will consider the sensitivity of the valuation to low probabilities that switchover could occur in the final year of the renewed five-year licence term.
- In projecting the future growth of digital listening, we will take into account forecasts made by the applicants that depart from historic trends where these are supported by evidence or where they reasonably take into account the possible impact of various factors cited by the respondents.

1.7 The methodology should ensure the taxpayer gets a proper return for the use of scarce analogue spectrum and the process should enable us to set terms that are

[1] This section was originally inserted by section 31 of the Digital Economy Act 2010 and has now been amended by the Legislative Reform (Further Renewal of Radio Licences) Order 2015/2052.

reasonable within the context of the market environment, and continue to be reasonable for the renewed period of the licence.

Section 2

Legal framework

2.1 Section 103B of the 1990 Act (as amended)[2] enables the further renewal of the three INR licences for a period of five years, beginning with the date of renewal. The three INR licences are held by Classic FM, Absolute Radio and Talksport.

2.2 This amended legislation represents a third opportunity for the three INR licensees to apply for a licence renewal, and thus avoid having to apply for a new licence in an auction process. All three licences were previously renewed in 1999/2000 (for an eight-year period); extended in 2006 (for a four-year period)[3] and renewed in 2011 (for a seven-year period).

2.3 Under the 1990 Act, where the holder of a national analogue licence applies for renewal, Ofcom must renew the licence if:

- it is satisfied that the licensee would continue to provide its analogue service in accordance with its licensed Format;
- a digital simulcast service is being provided by the licensee; and
- the licensee agrees to the financial terms (also known as 'additional payments') set by Ofcom.

2.4 In relation to the financial terms, the legislation requires us to determine the amount which, in our opinion, would have been the cash bid of the licence holder were the licence (instead of being renewed) to be granted for the (further) renewal period on an application made in accordance with the competitive process for new licences.[4] It also requires Ofcom to specify the PQR for each accounting period that will be payable by the applicant during the licence renewal period.[5]

2.5 This statement sets out the process and timetable for national analogue licence renewal applications and the methodology for determining the financial terms.

Timetable for the renewal applications and financial terms reviews

2.6 The legislation prescribes a 'window' within which a national analogue licensee is able to apply for a renewal – this 'window' opens three years before the expiry date of the current licence, and closes three months before the 'relevant date'.

2.7 The 'relevant date' is defined in statute as the date by which, if the licence was not renewed, Ofcom would need to publish a notice inviting applications for the licence to enable a fresh licence to be granted from the expiry date of the current one. Ofcom has already determined that the 'relevant date' for each of the three INR licences is one year prior to the expiry of the current licence. The legislation sets the application deadline as three months prior to the 'relevant date' to allow Ofcom up to three months to reach a decision as to whether or not to renew a licence (this

[2] This section was originally inserted by section 31 of the Digital Economy Act 2010 and has now been amended by the Legislative Reform (Further Renewal of Radio Licences) Order 2015/2052.
[3] Under section 253 of the Communications Act 2003.
[4] Under section 98 of the Broadcasting Act 1990.
[5] The cash bid and PQR are payable to Ofcom but then passed to the Treasury.

includes offering financial terms). If, for whatever reason, a licence is not renewed it can then be re-advertised by the 'relevant date'.

2.8 Table 2.1 shows the application deadline for each INR licensee.

Table 2.1: Application deadlines

Service	Expiry date	Relevant date	Application deadline
Classic FM	28 Feb 2018	28 Feb 2017	28 Nov 2016
Absolute Radio	30 Apr 2018	30 Apr 2017	30 Jan 2017
Talksport	31 Dec 2018	31 Dec 2017	30 Sep 2017

2.9 The statutorily-prescribed deadline for applying for licence renewal represents the date by which a licensee must have formally applied for renewal. It is not necessarily the date by which a licence must have been renewed. Rather, the legislation says that, if it is not reasonably practicable to renew a licence by the relevant date, the licence should be renewed as soon as is reasonably practicable after that date.[6]

2.10 As can be seen from Table 2.1, the first 'relevant date' is 28 February 2017, in respect of the licence held by Classic FM. It is open to both Absolute Radio and Talksport to apply for renewal at the same time as Classic FM. This will enable Ofcom to carry out the work to determine the financial terms for all three licences at the same time. But, if one or both of Absolute Radio and Talksport choose not to apply for renewal at the same time as Classic FM, that will not delay the determination of the financial terms for the Classic FM licence.

2.11 As noted above, a licence is renewed from the date of renewal, not from the expiry date of the current licence. This means that any revised financial terms will apply from the date of renewal. Following this statement, we will request detailed financial information from licensees to inform our determination of financial terms. Licensees will have 30 days (or until their ‘relevant date’, as appropriate) to accept the financial terms determined by Ofcom. Table 2.2 sets out the renewal timetable for all three licences.

Table 2.2: Renewal timetable

Date	**Event**
28 November 2016	Statutory deadline for Classic FM to submit its application for renewal. Deadline for Absolute Radio and Talksport to submit their applications for renewal, if they wish to have their financial terms determined at the same time as Classic FM.
30 January 2017	Ofcom expects to offer revised financial terms to Classic FM and any other licensees who have applied to have their financial terms determined at the same time as Classic FM.

[6] See section 103A (8) of the Broadcasting Act 1990.

	The deadline for Classic FM to accept terms is 30 days from the date of the determination. Other licensees who have applied to have their financial terms determined concurrently with Classic FM have until their own relevant date to accept the terms. Revised terms take effect from the date upon which the licence is renewed (i.e. on acceptance of the terms).
30 January 2017	Statutory deadline for Absolute Radio to submit its application for renewal – unless it has already had its financial terms determined alongside Classic FM. Deadline for Talksport to submit its application for renewal if it wishes to have its financial terms determined alongside Absolute Radio.
1 April 2017	Ofcom expects to offer revised terms to Absolute Radio (and Talksport if it applied for a review by Absolute Radio’s application deadline). Deadline for Absolute Radio to accept terms is 30 days from the date of the determination. Talksport, if having its financial terms determined concurrently with Absolute Radio, has until its own relevant date (31 December 2017) to accept the terms. Revised terms take effect from the date upon which the renewal is accepted.
30 September 2017	Statutory deadline for Talksport to submit its application for renewal – unless it has already had its financial terms determined alongside Classic FM or Absolute Radio.
2 December 2017	Ofcom expects to offer revised terms to Talksport if it applied for a review by its application deadline. Deadline for Talksport to accept terms is 30 days from the date of the determination. Revised terms take effect from the date upon which the renewal is accepted.
28 February 2018	Licence expiry date for Classic FM licence if no renewal is applied for or granted, or financial terms not accepted.
30 April 2018	Licence expiry date for Absolute Radio licence if no renewal is applied for or granted, or financial terms not accepted.

31 December 2018	Licence expiry date for Talksport licence if no renewal is applied for or granted, or financial terms not accepted.

Impact assessment

2.12 As is set out in this document, the legislation requires that where an application for renewal under section 103B of the Broadcasting Act 1990 is made to it, Ofcom must determine the additional payments in part at least as if the licence in each case were being granted afresh for the period of the (further) renewal on an application made in accordance with section 98 of the same Act (i.e. on the basis of a competitive tender), instead of being renewed. It is a statutory requirement that Ofcom should determine the additional payments on this basis, and a separate impact assessment on the statutory requirement is not therefore necessary or appropriate.

Section 3

Approach to the review of financial terms

Introduction

3.1 This section sets out our approach towards setting the PQR and determining the cash bid for each INR licence holder that applies for a renewal of its licence.

3.2 We have decided that the methodology used by Ofcom in 2010[7] remains broadly appropriate, with some modifications that are set out in this section.

3.3 We received three responses to our consultation, one from Talksport, one from Peterborough Tribune[8] and one confidential response. We have considered them carefully. We respond to relevant stakeholder responses in the appropriate sections below.

Ofcom's statutory task

3.4 Section 103B (and certain parts of section 103A) of the 1990 Act set out the statutory framework for determining financial terms following an application for renewal made by the licensee. For the five-year period of renewal Ofcom must determine two elements:

3.4.1 a fixed annual cash amount ("Cash Bid"), which rises in line with RPI each year.

3.4.2 the PQR to be payable for each year of the (further) renewed licence.[9] The PQR can vary from year to year.

3.5 In respect of the Cash Bid, the Act requires that Ofcom determine the amount that, in its opinion, would have been the Cash Bid of the licence holder were the licence being granted afresh for the period of the (further) renewal on an application made in accordance with section 98 of the 1990 Act (which established the process for the original auction of the national licences), instead of being renewed.

3.6 Under the 1990 Act the procedure Ofcom must follow in connection with considering applications for national licences is described in section 99. This sets out certain thresholds an applicant must meet before Ofcom may consider its Cash Bid under section 100 of Act. Section 100 indicates that the award of a national licence would then be made to the person submitting the highest Cash Bid who has met the section 99 thresholds. On this basis, Ofcom must, for the purposes of the further renewals now being contemplated, consider the results of a hypothetical auction and determine what, in its opinion, was likely to have been the level of Cash Bid for the licence.

[7] The consultation and statement on the methodology and the associated determinations of the 2010 review are available here: http://stakeholders.ofcom.org.uk/consultations/renewal-national-licences/?a=0.
[8] The response provided by Peterborough Tribune concerned wider UK radio industry matters and did not address the specific questions posed by the consultation.
[9] The Act says that the cash bid should be determined for the first complete calendar year falling within the period for which the licence is to be renewed and the PQR for each accounting period.

3.7 Under section 98 of the 1990 Act, Ofcom must set out, in its notice inviting licence applications, the PQR that would be payable by an applicant if he were granted the licence. The PQR would therefore be determined before bids are made for the Cash Bid element. No guidance is given in the Act as to how Ofcom should set the PQR or indeed the relative sizes of the PQR payments and Cash Bid. The definition of qualifying revenue is set out in section 102 of the 1990 Act and Ofcom is simply required to determine a percentage of it which shall be payable to the Treasury.

3.8 Ofcom therefore has a level of discretion in relation to setting the PQR that it does not have in respect of the Cash Bid. However, we consider that to ensure a consistent approach to setting both the PQR and the Cash Bid, it is appropriate to conduct a single valuation according to common principles. This valuation is intended to meet the requirements of the Act in relation to determining the Cash Bid, and also to provide a robust basis for informing Ofcom's decision as to the appropriate level of the PQR, taking into account both the objectives and the uncertainties discussed in this document.

Valuation methodology

3.9 The methodology set out in the 2006[10] and 2010 reviews was established to inform Ofcom's decision when deciding on the PQR and determining the Cash Bid for each licence. We have decided to use a similar approach to any review that is triggered by an application for renewal. This is because our statutory task is comparable whether we are required to determine financial terms following an application to renew the licences or whether we are reviewing the financial terms for an extension of the licence term. Below we set out our methodology and identify those areas where there are changes from the approach taken in the last review.

3.10 The objectives of the methodology are to set fair and reasonable terms such that they recover, as far as possible, the combined value of the rights and obligations to the licence holder over the duration of the licence, based on a methodology which is consistent with our statutory duties. The methodology should ensure that the taxpayer gets a proper return for the use of the scarce analogue spectrum, and the process should enable Ofcom to set terms that are reasonable within the context of the market environment and continue to be reasonable for the renewed period of the licence.

3.11 Our relevant statutory duties are:

3.11.1 our duties in section 3(1) of the 2003 Act to further the interests of citizens and consumers;

3.11.2 our duties in sections 3(2) of the 2003 Act and 85(2) of the 1990 Act relating to securing the provision of a range and diversity of radio services; and

[10] The consultation and statement on the methodology and the associated determinations of the 2006 review are available here: http://stakeholders.ofcom.org.uk/consultations/methodology/?a=0.

3.11.3 the purposes of the provisions of the 1990 Act relating to the auctioning of INR licences.[11]

3.12 These provisions, and the duties they create, have not changed since 2010, and those duties are met by the services currently provided by the INR licensees. They would continue to be met were their licences further renewed. On those bases, the objectives appear to us to remain appropriate.

Overarching principles

3.13 We will apply certain overarching principles in order to secure the objectives of our valuation methodology. We consider that each licence should be valued as a whole, although for the purposes of explanation and analysis we will separately consider the rights and obligations associated with holding the licence. Although rights and obligations are considered separately, where possible the valuation will also seek to take into account any significant consequential effect that the presence of one right or obligation has on another.

3.14 In principle, it is our view that the value of a licence to any potential bidder will equal the additional profits that could be made as a result of the net effect of having all of the rights and obligations associated with holding the licence, over and above the profits that could be made via the next best alternative (i.e. if they did not hold the licence).

3.15 The identity of the potential bidder will have a bearing on the value of the licence to that bidder, as it determines the counterfactual to be considered when estimating the additional profits that bidder could make as a result of holding the licence. Ofcom considers that alternative bidders with the highest valuations are likely to be existing media companies, either from the UK or abroad, that wish to have a presence in the UK national radio market. We consider that other media companies, and in particular other radio companies, would be likely to have lower costs of entry and greater cost and revenue synergies with the new services than companies without prior media interests which would allow them to extract more value from the licence, making it more likely that existing media companies would be the second highest bidder[12] (see below for a description of the relevance of the second highest bidder).

3.16 Our approach to valuing the rights and obligations associated with the licence is as follows:

3.16.1 In general, if a right similar to one associated with the licence could be acquired through another source, the market value of the right would be equal to the cost savings to the licence holder from not having to obtain the right elsewhere. However, if the right could not be replicated elsewhere then the value would equal the total financial benefit to the licensee of having the right.

[11] The purpose of the statutory provisions relating to the auction of INR licences can be seen from the following statement made to the House of Commons in 1989 during the passage of the Bill that became the 1990 Act, by the then Home Secretary, David Waddington MP. He said the purpose is to "ensure that the tax payer gets a proper return for the use of the valuable and scarce national resources constituted by broadcasting rights and, in particular, the use of the frequency spectrum." See Hansard: http://hansard.millbanksystems.com/commons/1989/dec/18/broadcasting-bill

[12] A discussion of the identity of the new entrant is set out in paragraphs 4.14 to 4.21 of Ofcom's February 2006 Statement on the methodology, http://stakeholders.ofcom.org.uk/binaries/consultations/methodology/statement/statement.pdf.

3.16.2 Similarly, the cost of an obligation would be equal to the extra cost associated with meeting the obligation, net of any benefit to the licensee.

Circumstances of the hypothetical auction

3.17 The hypothetical auction will assess the overall value of the licence by replicating the circumstances set out below:

- The auction would be designed, within the framework of the legislation, to recover the maximum possible value consistent with the requirement that the successful bidder is also able to fulfil programming and other obligations associated with the licence.

- Each licence would be offered individually on a non-contingent standalone basis in a single round, sealed bid auction.

- The amount the incumbent would bid in a competitive auction would be the minimum required to beat the second-highest bidder, and as such would not necessarily represent the maximum amount the incumbent would be willing to pay.

3.18 In order to determine the amount of the second-highest bid in an auction, Ofcom will estimate the net present value of the rights and obligations associated with the licence from the point of view of a new entrant. In order to win the auction, the incumbent would need to bid slightly more than the new entrant.

3.19 Both relevant respondents to the consultation agreed with the overall valuation methodology set out above.

Valuing the rights associated with the licences

3.20 In general, rights will be valued at the lower of the value of those rights in use and the cost of acquiring those rights in the market. This reflects the view that a licensee would not pay more for the rights via a licence payment than it would need to pay for equivalent rights elsewhere.

3.21 The principal rights associated with the INR licences are i) the right to broadcast radio using analogue spectrum with national coverage (FM for Classic and AM for Absolute Radio and Talksport) and ii) the right to reserved capacity on the Digital One multiplex.

Right to broadcast on analogue spectrum

3.22 We will estimate the value of the right to broadcast on analogue spectrum by reference to the cash flows that can only be achieved by acquiring the licence, since there is no other way of acquiring rights to broadcast on national analogue spectrum.

3.23 The underlying approach to this review is to assess the incremental value of a licence to a new entrant which does not currently own the national analogue licence. We cannot directly observe the additional cashflows that would be available to an operator as a result of owning the analogue licence, so we need to find a means of estimating the value of the national analogue licence to a new entrant. We consider that such an approach should be objective, transparent and practicable. In order to forecast cashflows for the analogue service, we will allocate forecast revenues and costs of the incumbent licence holder that are common to simulcasts across multiple platforms across services on the basis of the hours of listening expected to be achieved on each platform. This approach will reflect the changing importance of the platform mix over time and is based on observable data on listening hours. Where revenues and costs relate wholly to the analogue licence (e.g. analogue transmission costs) they will be directly allocated to the analogue service. We consider this approach is objective, transparent and practicable.

3.24 A new entrant bidding for the analogue licence is also likely to take account of the costs of entry in its valuation. We consider that these entry costs will include i) pre-launch costs such as capital expenditure, marketing and 'dry-running' costs and ii) post-launch revenue effects which may mean the new entrant is not able to generate the same revenue as the incumbent from launch. We will include an allowance in the valuation for the reasonable cost of entry of a new entrant. As with other cash flows, start-up costs that would be common across different platforms will be apportioned across those platforms to reflect their relative value to each.

3.25 In relation to capital expenditure, we do not consider that a new entrant would necessarily replicate all existing assets owned by the incumbent licensee and may consider that leasing an asset for the five-year duration of the licence would be preferable to purchasing it. One respondent did not consider that a new entrant would be likely to lease studio and equipment since it was not aware of any existing large-scale radio broadcaster leasing such equipment. As with our approach to other costs facing a new entrant, we will place weight on evidence provided by applicants. Where the applicant provides evidence of purchasing rather than leasing studio equipment for new station launches we will take account of this in the valuation. However, there may be other assets, for example transmission equipment, where it may make sense for the applicant to lease rather than buy the equipment, or vice versa. Again, we will place weight on evidence provided by the applicants of previous station launches when considering the treatment of assets in the valuation.

Right to reserved capacity on the Digital One multiplex

3.26 INR licence holders have the right to reserved capacity on the Digital One multiplex, as well as an obligation to take up this right and deliver a DAB simulcast. The licence holder must agree a commercial fee for the capacity with the multiplex owner.

3.27 In our consultation we considered that the right to reserved capacity can provide benefits to the contracting parties in the form of reduced transaction costs from not having to go to the market (to either sell capacity in the case of the multiplex owner or acquiring capacity in the case of the licence holder).[13] We therefore proposed to include in the valuation the benefit to the licence holder of its reserved capacity, based on an estimate of the reduced contracting costs to the licence holder.

3.28 Both relevant respondents to the consultation disagreed and considered that we should not include any value associated with the right to reserved capacity on Digital

[13] This is consistent with the approach taken in the review of financial terms for the Channel 5 licence where Channel 5 has reserved capacity on two DTT multiplexes. See paragraphs 3.45 and 3.46 of the document *Methodology for determining the financial terms of the Channel 3 and Channel 5 licences,* 23 July 2013: http://stakeholders.ofcom.org.uk/binaries/consultations/c3-c5-finance/statement/statement.pdf.

One since i) any reduced contracting costs would not be material and ii) it was not clear what evidence or estimates these reductions in costs could be based upon.

3.29 Given these responses we have reconsidered our proposal. In principle, we consider that the right to reserved capacity on Digital One could confer benefits to the licence holder. This could include reduced contracting costs, but it could also include benefits such as guaranteed access to capacity where that capacity was difficult to secure in the market. We recognise, however, that the benefit of reserved capacity for INR licences relates to a single service[14] and this differs from, for example, Channel 5, which has reserved capacity for around five services on DTT multiplexes.[15] Carriage fees on Digital One are also lower than on DTT multiplexes. Therefore, the benefit of reserved capacity to an INR licence holder is likely to be limited, and materially less than to a Channel 5 licence holder. We also recognise one of the respondents' comments that estimating the benefit of reserved capacity is not straightforward and there is little available evidence on which to base the counterfactual – i.e. the cost savings from potentially lower contracting costs and access to capacity that may otherwise be difficult to secure.

3.30 Therefore, given the value of the benefit is likely to be limited and the counterfactual is uncertain, we consider that is it reasonable, for the purpose of valuing the INR licences in this determination of financial terms, not to attach a value to the right to reserved capacity on Digital One.

Cost of meeting obligations associated with the licences

3.31 The principal obligation is the requirement to simulcast the analogue service nationally on DAB. We intend to treat that as follows.

3.32 Where the proportion of revenues associated with the DAB simulcast, as determined through apportionment based on listening hours, is such that it exceeds the costs of providing the DAB service (where costs comprise costs specific to DAB broadcasting plus a share of common costs determined through apportionment based on listening hours), then this amount will be excluded from the valuation of the analogue licence since it will be assumed to indicate that the decision to simulcast on DAB can be justified on a commercial basis, distinct from ownership of the analogue licence. That is, in the counterfactual, the new entrant would choose to provide a DAB service whether or not it also owned the analogue licence.

3.33 However, if the revenues associated with the DAB simulcast are less than the costs associated with providing the DAB service (calculated in the same way as set out above) then it will be assumed that the decision to simulcast on DAB cannot be justified on a commercial basis and that the decision to simulcast is due to the obligations which result from ownership of the INR licence. That is, in the counterfactual, the new entrant would not choose to provide a DAB service and is only required to do so as a result of holding the analogue licence. In such circumstances, the net cost associated with the DAB simulcast will be taken into account in the valuation.

3.34 In the case of start-up costs apportioned to DAB, these will be taken account of in the valuation to the extent that they are higher than, or occur sooner than would

[14] Digital One's licence requires that: "The Licensee shall ensure that the amount of digital capacity reserved for each of the Independent National Broadcasters on the Frequencies by Ofcom under Section 48(1A) of the 1996 Act is available for the broadcasting of a simulcast radio service."
[15] Capacity is reserved for Channel 5 on Multiplex 2 and on Multiplex A.

have otherwise have been the case. That is, if the decision to simulcast during the licence period was being made on a commercial basis. One respondent agreed with our approach to assessing the cost of the obligation to simulcast on DAB. The other relevant respondent did not comment on this issue.

3.35 Simulcasts of the service on other platforms (e.g. satellite, digital TV or internet) are not part of the licensed service. They are therefore not included in the valuation except to the extent that there is a causal link to profitability. Where costs and revenues for such simulcasts are shared with the licensed service, they will be apportioned on the basis of listening hours.

Dealing with uncertainties for the purposes of the review

3.36 Valuation of licences on a forward looking basis involves taking account of a number of uncertainties. These uncertainties include:

- future trends in listening to the INR services;
- future trends in the proportion of listening that is digital;
- future trends in revenue and costs of the INR licences;
- start-up costs of the new entrant; and
- the duration of the licence period.

3.37 The requirement for us to consider the outcome of a hypothetical single round sealed bid auction adds a further layer of complexity. Neither the exact circumstances of the auction, the identity of bidders, their business plans nor their bidding strategies can be predicted with certainty. We are unable to eliminate these uncertainties. Therefore, in order to fulfil its statutory duty to determine the financial terms, it is necessary for us to make a series of assumptions on these issues to achieve a fair and reasonable outcome for the licence valuation.

3.38 In general, our view will be informed by a number of sources, including:

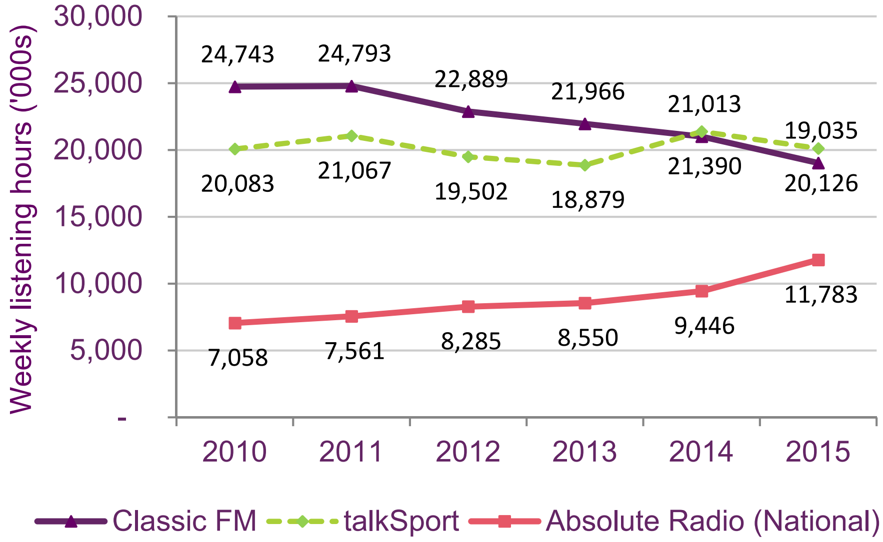
- evidence presented by stakeholders, such as forward looking financial projections;
- evidence required to be provided by stakeholders to Ofcom, including consideration of pre-existing business plans and forward looking financial projections;
- market reports and externally generated analyses of cost, revenue and technological trends;
- public policy developments and statements; and
- findings from Ofcom’s work and research in relevant and related fields.

3.39 Below we discuss our approach to dealing with the specific uncertainties identified above.

Future trends in listening to the INR services

3.40 Figure 3.1 shows that weekly listening hours to Classic FM have fallen by 23% since the last review of financial terms in 2010, listening to Talksport has remained steady while listening to Absolute Radio has increased by two-thirds.

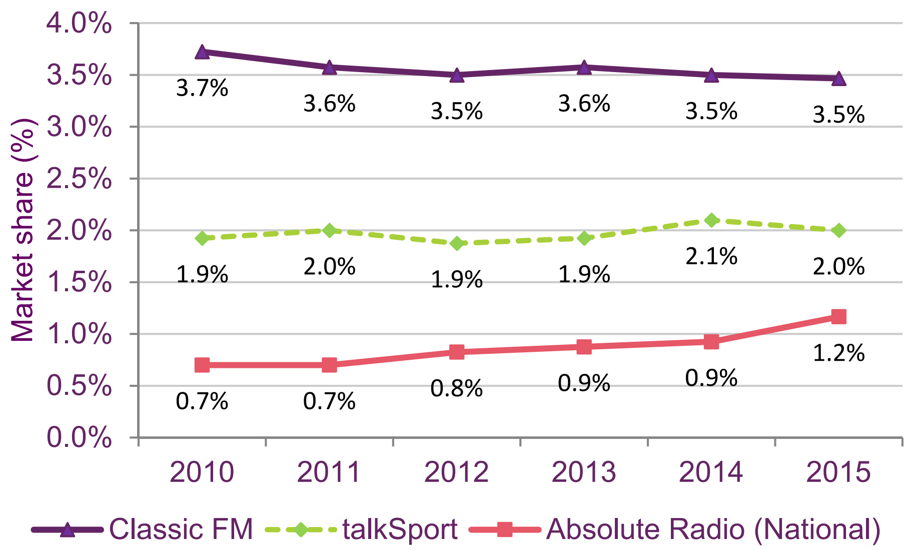
Figure 3.1: Total listening hours (analogue and digital) by INR



Source: Rajar

3.41 Figure 3.2 shows that Classic FM's share of listening hours has fallen slightly since 2010 from around 3.7% to 3.5%; Talksport's share of listening has been steady at around 2% while Absolute Radio's share has increased from 0.7% to 1.2%.

Figure 3.2: Market share by INR (analogue and digital)



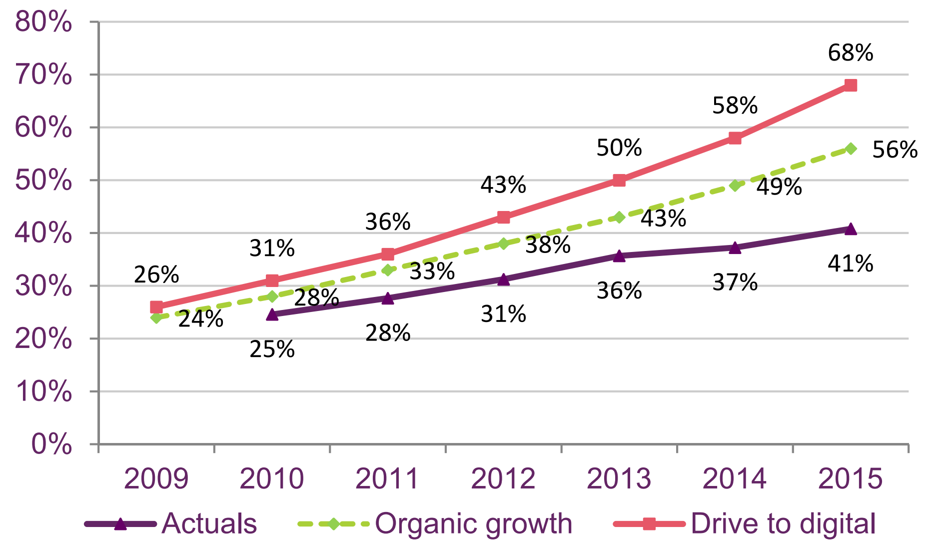
Source: Rajar

3.42 In the consultation we proposed to use listening forecasts from applicants in determining the licence valuation and place particular emphasis on forecasts that have been prepared and utilised for business planning purposes. To the extent these are not available we proposed to consider projecting historic listening trends forward, taking account of factors that could affect this; for example, the launch of a second national digital multiplex on 1 March 2016 could reduce the proportion of total listening to INR services in future. One respondent broadly agreed with this approach, suggesting that competition for listening in future will be affected by growing digital listening and the launch of additional digital services. The other relevant respondent did not comment on this issue. We will therefore proceed as set out in the consultation, using listening forecasts from applicants and placing particular emphasis on forecasts that have been prepared and utilised for business planning purposes. Where these are not available, we will place weight on forecasts based on projecting forward historical listening trends, taking account of developments that could impact on the level of listening such as the launch of the second national digital multiplex.

Future trends in the proportion of listening that is digital

3.43 The proportion of total listening that relates to digital has increased since 2010, although at a slower pace than forecast in the government's 2010 'Digital Britain' report.[16] This is illustrated in Figure 3.3. The Quarter 1 2016 RAJAR survey shows that around 44% of all radio listening hours were to services delivered over a digital distribution system. DAB is still the most widely used digital platform, accounting for 70% of all digital listener hours, with the remaining digital listening accounted for by digital television, online streaming and apps.[17]

Figure 3.3: Digital listening: actuals versus Digital Britain forecasts



Source: RAJAR, Digital Britain, Value Partners analysis[18]

3.44 Digital listening to the INRs has also increased since 2010 as illustrated in Figure 3.4. Digital listening to Classic FM and Talksport is in line with the national average

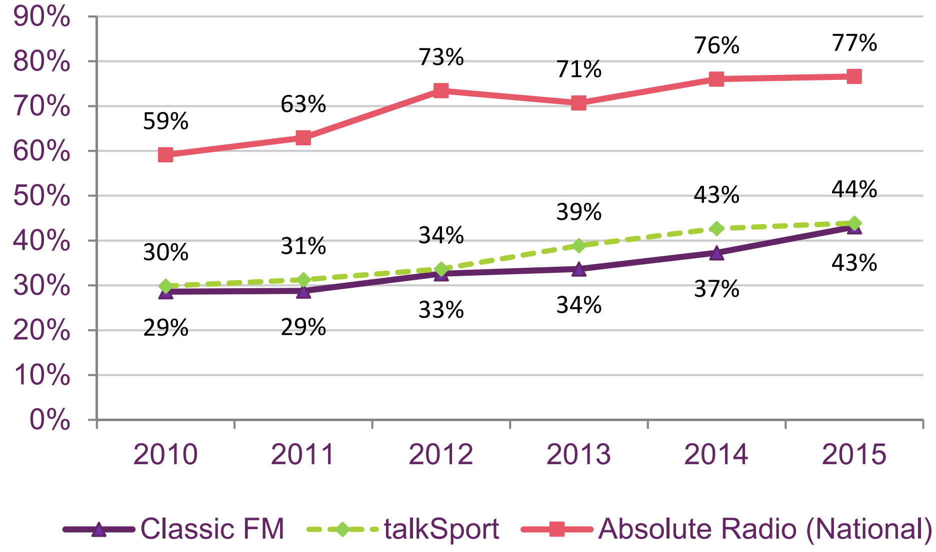
[16] Available at; http://webarchive.nationalarchives.gov.uk/20100511084737/http:/interactive.bis.gov.uk/digitalbritain/final-report/

[17] RAJAR Q1 2016 data release: http://www.rajar.co.uk/docs/2016_03/DARTS%20Q1%202016%20Charts%201-5%20Clean.pdf

[18] Information in this document taken from the Government's "Digital Britain Final Report" (or any other Crown source) is subject to Crown Copyright.

where around 40% of listening is currently to digital platforms. Digital listening to Absolute Radio is significantly higher, at around 75% of listening.

Figure 3.4: Trends in INR digital listenership



Source: RAJAR

3.45 We are not aware of any current forecasts of future digital listening, either for the radio industry as a whole or for the INRs specifically. In the consultation we therefore proposed to use forecasts of digital listening from applicants in determining the licence valuation. However, in the absence of specific evidence, such as independent forecasts or forecasts prepared for business planning purposes, we said we would place particular emphasis on average growth rates in digital listening since 2010.

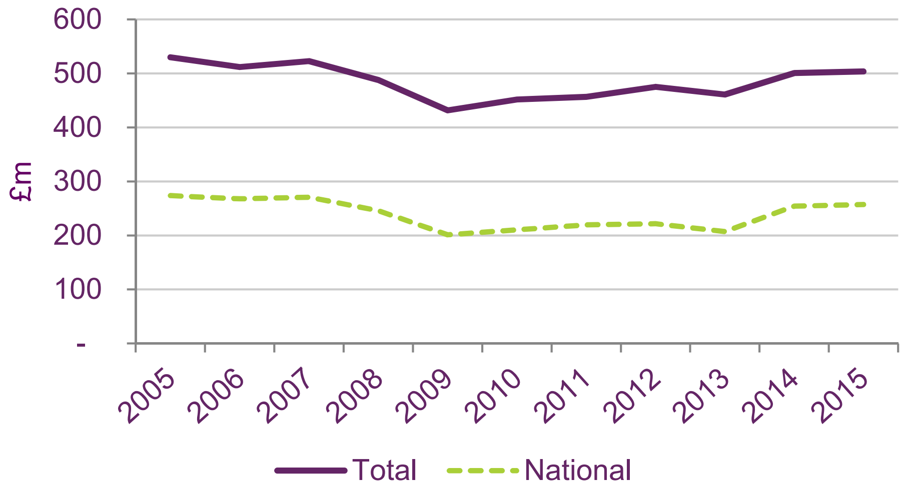
3.46 Respondents said that this approach would be backward-looking, since it would fail to take into account the recent increase in the number of new cars fitted with DAB as standard; the recent launch of the second national multiplex; the coverage enhancement of the local DAB layer and the geographical expansion of both Digital One and the BBC national multiplex. One respondent also added that, if there was a digital switchover in 2021, this would need to be announced by government two years in advance, which would be likely to stimulate a significant increase in DAB listening.

3.47 We agree that the future growth in digital listening could be affected by the factors identified above. We consider that these factors would be reflected in independent forecasts or forecasts used by the applicants for business planning purposes, and we will continue to put weight on these sources of evidence where they are available. In the absence of such evidence, we consider it reasonable to use average growth rates in digital listening since 2010 since, as well as being transparent, this will reflect how digital listening has responded in recent years to events such as the launch of additional digital services and the increasing availability of digital devices. However, we will also take into account forecasts made by the applicants that depart from historic trends where these are supported by evidence or where they reasonably take into account the possible impact of the factors identified above.

Future trends in revenue and costs of the INR licences

3.48 Over the past ten years total commercial advertising radio revenues have trended downwards as advertisers shifted their focus to other platforms. However, in recent years, radio revenues have seen marginal annual increases. Over the same ten-year period, national revenues (across all commercial radio stations) have shown a similar trend, as shown in Figure 3.5.

Figure 3.5: Annual Commercial Radio Revenues, £m



Source: Submissions to Ofcom from radio operators

3.49 We will use revenue and cost forecasts from applicants in determining the licence valuation and place particular emphasis on forecasts that are prepared and utilised for business planning purposes.

3.50 Where these are not available, we will have regard to short-term Advertising Association forecasts in relation to revenue, although we recognise that these only extend to two years.[19] Applicants will be asked to submit top down and bottom up revenue forecasts over the duration of the licence period. We will seek to cross check these against available external forecasts in order to take a reasonable view of the amount of advertising revenue a bidder could expect to generate from the licensed service. In relation to costs, we will have regard to external forecasts of inflation and any contractual price increases (e.g. transmission arrangements). One respondent agreed with our general approach, but noted that given the outcome of the EU referendum result and the potential impact on advertising revenue, weight should be placed on forecasts made after 23 June 2016. We agree and will take account of the most recent forecasts where available. The other relevant respondent did not comment on our approach to future trends in revenues and costs.

Start-up costs of the new entrant

3.51 We said we would include an allowance in the valuation for the reasonable cost of entry of a new entrant, such as i) pre-launch costs like capital expenditure,

[19] The Radiocentre website includes details of the most recent Advertising Association forecasts, currently extending to Q4 2017. See http://www.radiocentre.org/advertising/factsandfigures/industry-revenue-forecasts/.

marketing and 'dry-running' costs and ii) post launch revenue effects which may mean the new entrant is not able to generate the same revenue as the incumbent from launch. As with other cash flows, start-up costs common to different platforms will be apportioned across those platforms to reflect their relative value to each.

3.52 In the consultation we proposed to use start-up cost estimates from applicants in determining the licence valuation and said we would place particular emphasis on costs that are based on evidence from the applicants' own experiences in launching stations. We said we would also consider evidence from other stakeholders on their experience of the start-up costs associated with a station launch.

3.53 One respondent said that a new entrant would incur substantial additional costs, including not only pre-launch and dry running costs but also significant marketing expenditure both in the launch phase and early years. The respondent highlighted the following possible start-up costs that a new entrant would have to take into account:

i. Listening effects. The respondent said that the new entrant would not simply inherit the audience of the incumbent. The new entrant could face competition from the outgoing incumbent where they continue to broadcast digitally, which would depress listening figures.

ii. Revenue effects. Lower audiences would depress revenues compared to the incumbent. This effect would be exacerbated by the lack of trading history and delays in obtaining audience figures from RAJAR which could affect the establishment of national revenue share deals, particularly in the first year on air. The respondent considered that this 'revenue dampener' effect would be an important part of the valuation.

iii. Cost effects. As well as pre-launch, dry-running and marketing costs the respondent considered that the new entrant would need to establish its own national sales team or persuade another INR licensee to undertake national sales on its behalf. It also considered that the new entrant would need to establish back-office infrastructure to support a national radio station and may not enjoy the same cost synergies as the incumbents.

3.54 The other relevant respondent did not comment on this issue. Having considered the respondent's comments set out directly above, we agree that cost of entry could include factors affecting the listening and revenue performance of the new entrant compared to the incumbent and these could be important elements of the valuation. As with other costs of entry, we will use estimates of listening and revenue effects from the applicants, placing particular emphasis on estimates that are based on evidence from the applicants' own experiences in launching or relaunching stations. For example, the applicants may provide evidence on how the listening and revenues at relaunched stations compare to the experience of the previous station. Where available, we will also consider evidence from station launches made by other operators.

3.55 Regarding the cost effects, we agree that a new entrant would face some additional costs compared to the incumbent, including a period of dry-running and launch marketing expenditure. In determining the valuation, we will use cost estimates from the applicants, placing particular emphasis on estimates that are based on evidence from the applicants' own experiences in launching or relaunching stations.

3.56 However, we are not persuaded that the second-highest bidder would assume that the costs of its sales team (or sales house) would be significantly higher than those of the incumbent. As explained above, we consider that the second highest bidder is likely to be another radio company (or at least another media company) as they would be likely to have lower costs of entry and greater cost and revenue synergies. Consistent with this approach, we would not expect the cost to the new entrant of running its own sales team (or the commercial terms that it would be required to pay an external sales house) to be significantly different from those facing the incumbent. Similarly, we would expect the new entrant's national sales commissions (or group recharges where these services are provided centrally) to be similar to the incumbents and will therefore base these figures on forecasts provided by the applicants.

3.57 For similar reasons, we do not agree that a new entrant would need to establish its own standalone back-office infrastructure since we would expect an existing media company to already have these functions. We will however include a reasonable allowance for the costs of central and back-office functions and we consider these could be based on the group recharges currently made to incumbent operators from their parent companies.

3.58 However, where applicants provide evidence that national sales costs or back-office costs would be higher for a new entrant compared to the incumbent we will consider if and how this should be reflected in the valuation.

Duration of the licence period

3.59 Section 103B of the 1990 Act enables the further renewal of the three INR licences for a period of five years. However, the 1990 Act also makes statutory provision for a possible future digital switchover, whereby the Secretary of State can nominate a date on which specified analogue services must cease being provided in analogue form. The legislation further provides that, if a digital switchover date is so nominated, Ofcom must amend the duration of all relevant analogue licences, which would otherwise run beyond the nominated switchover date, so that they do not run beyond that date, provided the licensee is given two years' notice. [20]

3.60 The effect of this statutory provision is to make the duration of a renewed INR licence uncertain, in that it may be terminated with two years' notice. This means that a bidder may not expect the licences to run to their full five-year duration. There are a variety of different durations which might be possible depending upon the actions of the Secretary of State, which in turn would likely be influenced by external events. It might be desirable for a bidder to consider the likelihood of a range of different end dates, assign an appropriate percentage probability to each possible outcome and weight them accordingly. However, there is relatively little evidence available to Ofcom to determine what the reasonable weightings should be.

3.61 The government's Digital Britain report set out a number of preconditions for digital switchover. This set out that a digital switchover date would require the achievement of certain migration criteria such as:

- 50% of radio listening to be digital

[20] The Digital Economy Act 2010 inserts these provisions into the 1990 Act as sections 97A and 97B

- National DAB coverage to be comparable to FM coverage and local DAB to reach 90% of the population and all major roads

3.62 These conditions have not been met at the present time, but local DAB coverage is expected to reach 90% of the population by the end of 2016 as a result of the Local DAB Expansion Plan being completed.[21] In addition, extrapolating the digital listening percentages from Figure 3.3, it is possible that the 50% digital listening threshold could be met by the end of 2017.

3.63 The most recent statements by Government on the potential for digital switchover were made in the 2015 consultation on the BBC Charter Review and its subsequent White Paper in May 2016. In the consultation, the Government stated that "digital radio listening has reached 40 per cent of all radio listening and nearly 55 per cent of adults listen to digital radio services at least weekly. Supported by the growth of new commercial digital services, the radio industry expects digital listening to overtake analogue listening at some point in 2017. At that point, Government will need to consider the timetable for a future switch-off of analogue radio services at a date likely to start after 2020".[22] In the White Paper, the Government stated that "a decision about whether or not to proceed with a radio switchover is likely to be taken by the government at some point during the next Charter period".[23]

3.64 These statements from Government indicate that the earliest date for digital switchover could be sometime in 2021, around a year before the renewed INR licences expire.[24] In the consultation we acknowledged that there are a number of different possible views that a bidder could take about the likely duration of the licence in practice, but it is difficult to assign weightings and probabilities to these views in an objective way. Even so, we considered that a potential bidder for an INR licence would attach a relatively low weight to the possibility of switchover prior to the expiry date of the renewed licences because i) the Order[25] allowing a further renewal of the licences for five years was made relatively recently, in December 2015 and ii) the expiry dates of the renewed licences (various dates in 2022) and the potential earliest date for switchover based on the government's most recent statement (sometime in 2021) are relatively close together such that it would be reasonable for a potential bidder to anticipate that the government would be unlikely to announce a date for switchover which is just before the INR licences are in any case due to expire.

3.65 We therefore proposed that the valuation of each INR licence for the purposes of determining financial terms will be based on the valuation obtained by assuming a renewed licence endures for the full five-year term.

3.66 One respondent said that if switchover were to occur in 2021 a renewed Classic FM licence, for example, would have only been in place for three years. The respondent noted that, in the consultation, Ofcom said that a "low" weight would be attached by auction bidders to the possibility of a switchover prior to the expiry date of the renewed licence, yet it ascribed it a zero – rather than low – weighting to this. The

[21] An agreement between Government, the BBC and local radio multiplex operators to extend the coverage of local DAB.
[22] BBC Charter Review, 16 July 2015, Page 54. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449830/DCMS_BBC_Consultation_A4__1_.pdf
[23] https://www.gov.uk/government/publications/a-bbc-for-the-future-a-broadcaster-of-distinction, p.75
[24] If each INR licence was renewed for five years from its relevant date (as set out in Table 2.1) they would expire between February 2022 (Classic FM) and December 2022 (Talksport).
[25] The Legislative Reform (Further Renewal of Radio Licences) Order 2015/2052

respondent believed that a rational bidder would undertake a scenario analysis and value the licence on the basis of three, four and five years' duration, and attach probabilities to each scenario. Ofcom's base valuation, it contended, should be on the weighted average of these three scenarios. The respondent suggested an 80% probability the licence would last for the full five years, 15% for four years and 5% for three years. The other relevant respondent did not comment on this issue.

3.67 We note that the respondent has made an error in the dates; by February 2021, the renewed Classic FM licence will have been in place for four (not three) years, since licence renewal begins from the date of renewal and not the current licence expiry date. In our consultation we said that it might be desirable for a bidder to consider the likelihood of a range of different end dates, assign an appropriate percentage probability to each possible outcome and then weight them accordingly, along the lines suggested by the respondent. This is not a straightforward exercise because there is little evidence available to determine what the reasonable weightings should be. We recognise, however, that there is some uncertainty about digital switchover in the final year of the licence term – broadly 2022 –which a bidder might take into account in its valuation, although we consider it would attach a relatively low weighting to this possibility for the reasons given in the consultation and summarised above. Therefore, in a small change to our proposals, we will consider the sensitivity of the valuation to low probabilities that switchover could occur in the final year of the renewed five-year licence term.

Discount rate

3.68 As set out above, our view is that the value of the winning bid in a hypothetical auction can be approximated by the valuation of the second highest bidder and that the second-highest bidder is likely to be an existing media company. In order to be consistent with the proposed circumstances of the hypothetical auction, Ofcom's proposed discount rate is intended to reflect the opportunity cost of investment faced by a hypothetical entrant that is assumed to be an existing media company.

3.69 In the consultation, we calculated a nominal, pre-tax rate of 11.0%, which was meant to reflect the weighted average cost of capital (WACC) of a hypothetical entrant. The calculation was based on a consideration of data and estimates relating to UK and European broadcasters.

3.70 One respondent agreed that a discount rate of 11.0% was reasonable. Talksport considered that it was too low, saying that the proposed rate of 11.0% does not reflect the cost of equity that would be required by any rational investor in such an undertaking. It argued that, while the mathematics and theory used to generate the WACC were sound, the figure did not reflect the investment hurdle rate that a strategic investor would require to commit to such a project. Talksport considered that these licences were high risk due to cyclical exposure and high operating leverage and considered that the discount rate should be closer to 20%.

3.71 We note that the estimated pre-tax nominal cost of equity in our WACC calculation is closer to 12%. When combined with the lower pre-tax cost of debt (around 6%) and our gearing assumption (15%) the overall WACC, and our assumed discount rate, is lower than the cost of equity. Talksport has not provided an objective reason why the cost of equity should be closer to 20% than the 12% we proposed to use in our WACC calculation.

3.72 Ofcom and other UK regulators usually estimate the cost of equity element of the WACC using the Capital Asset Pricing Model (CAPM).[26] The CAPM estimates the systematic risk associated with a particular project or operation by the inclusion of a beta term. The beta reflects the systematic risk associated with the undertaking and this will include, for example, the cyclical exposure and operating leverage which the respondent identified. We therefore consider that our approach adequately reflects the risks associated with the broadcasting and radio operations that a new entrant could face bidding for an INR licence.[27] However, in this case we would wish to avoid setting a discount rate that is unduly low since this could result in higher payments that could adversely affect the commercial viability of the licences. Therefore, we have tended to round up where there is particular uncertainty – for example, as explained below, we have adopted an asset beta towards the upper end of our range, uplifted the debt premium and rounded up our overall estimated WACC to set a discount rate of 11%. We consider that this is a reasonable estimate of the cost of capital facing a hypothetical new entrant.

3.73 Full details of how we have calculated our discount rate are provided in Annex 1.

Cut-off date

3.74 We consider that it is necessary for us to be able to take into account any information relevant to deciding the revised licence payments that is, or becomes, available up to the date of determination.

Setting financial terms

3.75 Ofcom will calculate financial terms that will allow for the recovery of the combined net present value of the rights and obligations associated with the licence. However, as explained above, no guidance is given in the Act as to how Ofcom should set the PQR or indeed the relative sizes of the PQR and Cash Bid.

3.76 Qualifying revenue is defined in section 102 (2) of the 1990 Act as "all payments received or to be received by [the licence holder] or by any connected person in consideration of the inclusion in the licensed service in that period of advertisements or other programmes, or in respect of charges made in that period for the reception of programmes included in that service". For the purposes of setting the PQR, we proposed to use the guidance relating to qualifying revenue set out in our 2006 statement of principles document.[28] In that document, qualifying revenue for INR services is defined by reference to the advertising and sponsorship amounts received in connection with the licensed analogue service. It appears to us that these remain the principal sources of revenue of the services consistent with the definition in the 1990 Act. Where advertising and sponsorship revenue relates to programmes broadcast on multiple platforms, this revenue is apportioned to

[26] The UK Regulators Network (UKRN) for example notes that the CAPM is used as the primary approach in estimating the cost of equity in its March 2016 Information Paper available here: http://www.ukrn.org.uk/wp-content/uploads/2016/07/2016MarCoCAnnulUpdateReport.pdf.
[27] We note that our discount rate is similar to the pre-tax WACC reported in Wireless Group plc's 2015 Annual report used for impairment purposes (9.7% in 2015). See https://www.wirelessgroupplc.com/investors/results-reporting/annual-report/
[28] Computation of qualifying revenue and multiplex revenue for radio licensees, 26 October 2006, http://stakeholders.ofcom.org.uk/binaries/broadcast/other-codes/qualifying-revenue-radio-inr.pdf

analogue on the basis of listener hours for the purpose of deriving qualifying revenue.

3.77 In terms of the relative sizes of any PQR payments and Cash Bid, we proposed that the PQR should be calculated to recover as close to 95% of the value of the licence as possible, without exceeding this proportion and consistent with setting the PQR as an integer. The Cash Bid would then be set to recover the balance of the value of the licence.[29] We proposed to take this approach because a higher proportion of PQR would align the payments with the licensees' revenues and offer some protection against the risk of revenue downturns and mitigate some of the risk of forecasting error. However, we recognised that setting relatively higher cash bids would give licensees more certainty about future payments. Where our review indicates that a new entrant would assign a relatively small value to the licence, we may, for administrative convenience, recover the value of the licence solely through the Cash Bid, with the PQR set to zero.

3.78 If our review indicates that a hypothetical new entrant would not be prepared to bid for the licence based on our assessment of the value of the rights and obligations associated with the licence, we proposed to conclude that the incumbent licence holders could retain their licences in a hypothetical auction for a nominal amount.

3.79 Both respondents agreed with our approach to setting financial terms and we will therefore calculate financial terms following the approach set out in the consultation and summarised above.

Outcomes of previous reviews

3.80 Table 3.1 sets out the financial terms previously determined by Ofcom.

Table 3.1: Financial terms determined for each INR licence[30]

	1991-94 auctions		**1999-01 reviews**		**2006 review**		**2010 review**	
	PQR	Cash bid	PQR	Cash bid	PQR	Cash bid	PQR	Cash bid
Classic FM	4%	£670k	14%	£1000k	6%	£50k	0%	£10k
Absolute Radio	4%	£1,883k	12%	£1000k	0%	£100k	0%	£10k
Talksport	4%	£3,820k	6%	£500k	0%	£100k	0%	£10k

Note: The cash bid increases by RPI each year. The PQR in these periods applied to analogue revenues only

3.81 The table shows that over time the PQR and Cash Bid associated with the INR licences have reduced, and that each licensee is currently making nominal financial payments. This reflects the fact that the profits associated with the right to broadcast

[29] This is consistent with previous reviews of financial terms for INR licences and Channel 3 and Channel 5 television licences. See for example paragraphs 3.123 to 3.126 of our 23 July 2013 statement *Methodology for determining the financial terms for the Channel 3 and Channel 5 licences*: http://stakeholders.ofcom.org.uk/consultations/c3-c5-finance/?a=0.

[30] Source: 1991-94 auctions and 1999-01 reviews: http://webarchive.nationalarchives.gov.uk/20040104233440/http:/www.ofcom.org.uk/static/archive/rau/newsroom/news-release/99/pr129.htm (Classic FM), http://webarchive.nationalarchives.gov.uk/20040104233440/http:/www.ofcom.org.uk/static/archive/rau/newsroom/news-release/00/pr052.htm (Absolute), http://webarchive.nationalarchives.gov.uk/20040104233440/http:/www.ofcom.org.uk/static/archive/rau/newsroom/news-release/00/pr185.htm (Talksport)
2006 review: http://stakeholders.ofcom.org.uk/binaries/consultations/methodology/summary/financialterms.pdf.
2010 review: http://stakeholders.ofcom.org.uk/consultations/renewal-national-licences/?a=0

nationally on analogue have reduced over time as digital listening has increased and, in more recent reviews, the uncertainty surrounding a date for digital switchover.[31]

[31] The outcome of previous reviews also reflects the length of the licence period. For example, the financial terms determined as part of the 2010 reviews related to licence periods of 4-5 years.

Annex 1

Discount rate

Summary

A1.1 We consider that the value of the winning bid in a hypothetical auction can be approximated by the valuation of the second highest bidder and that the second-highest bidder would be an existing media company, in particular other radio companies. In order to be consistent with the proposed circumstances of the hypothetical auction, Ofcom's discount rate is intended to reflect the opportunity cost of investment faced by a hypothetical entrant that is assumed to be an existing media company with radio operations.

A1.2 Ofcom has previously considered calculating discount rates on a licence-by-licence basis. However, consistent with the approach taken in the 2006 and 2010 reviews, we consider that to the extent that there are material differences between licences that may impact the discount rate (e.g. some licensees may have a higher proportion of fixed costs), they would be prohibitively difficult to estimate in a robust manner.

A1.3 Ofcom has calculated a pre-tax nominal discount rate of 11.0%, which is meant to reflect the weighted average cost of capital (WACC) of a hypothetical entrant.

A1.4 We are also mindful that the period of the licence is five years from the renewal date. As such, the discount rate will not play as significant a factor as in previous reviews (which had longer licence periods) when assessing the value of the licence award.

Introduction

A1.5 The discount rate applied to the forecast cash flows in an NPV analysis should reflect the opportunity cost to the relevant capital providers, weighted to their relative contribution to the company's total capital base. This is approximated by calculating the firm's WACC. The opportunity cost that is borne by a class of investor is equal to the rate of return that investors could expect to earn on other investments of equivalent risk.

A1.6 The WACC combines the cost of funding from debt and equity according to the gearing, i.e. the value of outstanding debt relative to total financing (i.e. value of debt and equity combined). For gearing, g, and corporate tax rate, t, the pre-tax nominal WACC is defined as follows:

$$WACC = \frac{Ke * (1 - g)}{1 - t} + Kd * g$$

A1.7 In this formula, we calculate the cost of equity, Ke, using the Capital Asset Pricing Model (CAPM), such that the cost of equity is a function of the risk-free rate (RFR), the expected return on the equity market as a whole above the risk-free rate (i.e. the equity risk premium, or ERP) and the systematic risk of the company (i.e. equity beta, βequity): $Ke = RFR + ERP * \beta equity$.

A1.8 Our approach to calculating the cost of debt combines the same RFR assumption as used to estimate the cost of equity and adds to the RFR a debt premium (dp, i.e. the firm's corporate debt rate above benchmark risk-free assets), such that: $Kd = RFR + dp$.

Estimating discount rates

A1.9 There are a number of parameters that we have to estimate in order to calculate a WACC for a hypothetical entrant. Some of these parameters reflect economy-wide factors that affect all firms. We recently considered these economy-wide factors when setting the BT WACC as part of the April 2016 Business Connectivity Market Review Statement (2016 BCMR Statement).[32] We have adopted the same values for these economy-wide parameters given that the BCMR Statement was published very recently. Specifically, we assume a:

- **Real risk free rate (RFR) of 1.0%.** In the 2016 BCMR Statement we said that in setting the real RFR we try to strike a balance between longer term average yields on index-linked gilts and current yields on those gilts. We placed more weight on longer term average yields than on spot rates. We also had regard to other recent regulatory decisions.[33] Combined with our RPI inflation forecast of 3.1% (see below), the nominal RFR is 4.1% using the Fisher equation.[34]

- **Real equity risk premium (ERP) of 5.1%.** In the 2016 BCMR Statement we estimated the real ERP by considering i) estimates of the real total market return (TMR) and ii) cross checking the implied real ERP against other evidence.[35] We considered that evidence from historical returns would support a real TMR of 6.1%, which implied a real ERP of 5.1% after subtracting our estimate of the real RFR (1.0%).[36] We considered that a real ERP of 5.1% was supported by evidence on the ERP including i) historical premiums of equities over gilts, ii) forward looking surveys, iii) dividend growth model forecasts from the Bank of England and iv) recent regulatory decisions.[37] Combined with our RPI inflation forecast of 3.1% (see below), the nominal ERP is 5.3%.

A1.10 Other parameters that influence the WACC calculation are firm-specific, such as gearing ratios, equity and asset betas, and debt premiums. As in previous reviews, we will apply a single discount rate in our NPV analysis for each of the licences. In theory, it may be desirable to make assumptions regarding the financial/operational leverage and debt premiums of generic bidders for each relevant licence. However, in practice, any such assumptions are likely to be difficult to calculate.

A1.11 The Wireless Group plc is the only UK listed company with significant radio assets. Where possible, we have used data on existing broadcasters to support our calculations, but the lack of UK listed companies with radio operations makes this harder in some areas, for example in the estimation of an equity beta. Our approach in this area is outlined below.

[32] http://stakeholders.ofcom.org.uk/consultations/bcmr-2015/final-statement/
[33] See paragraphs A30.33 to A30.44 of Annex 30 to the 2016 BCMR Statement.
[34] Nominal RFR = ((1+real RFR) x (1+RPI))-1
[35] See paragraphs A30.45 to A30.72 of Annex 30 to the 2016 BCMR Statement.
[36] See paragraph A30.58 of Annex 30 to the 2016 BCMR Statement.
[37] See paragraphs A30.59 to A30.68 of Annex 30 to the 2016 BCMR Statement.

Inflation

A1.12 Our inflation assumption to be used in the WACC has been informed by RPI forecasts from HM Treasury[38] (HMT) and the Office of Budget Responsibility[39] (OBR) over the renewed licence period of broadly 2017-2022. We consider that it is appropriate to calculate the nominal RFR by reference to RPI because index-linked gilts, which are used to inform our estimate of the real RFR, are linked to RPI. Forecasts from HMT and OBR currently only run to 2020 as shown in Table A1.1.

Table A1.1: RPI inflation forecasts

	2017	2018	2019	2020	Average
OBR	2.4%	3.2%	3.2%	3.2%	3.0%
HMT	2.8%	3.1%	3.1%	3.3%	3.1%

Source: OBR and HMT.

A1.13 Based on these forecasts, RPI is expected to average around 3% to 3.1% over the period to 2020. We have used an RPI assumption of 3.1% in the WACC.

Tax rate

A1.14 HMRC's website states that "at Summer Budget 2015, the government announced legislation setting the Corporation Tax main rate (for all profits except ring fenced profits) at 19% for the years starting the 1 April 2017, 2018 and 2019 and at 18% for the year starting 1 April 2020". At Budget 2016, the government announced a further reduction to the Corporation Tax main rate (for all profits except ring fence profits) for the year starting 1 April 2020, setting the rate at 17%.[40] As the renewed period of each licence will run from 2017 to 2022 we have used an average tax rate of 18.5% in the WACC calculation, representing approximately three years of tax at 19% and two years of tax at 17%.[41]

Asset beta, equity beta and gearing

A1.15 The value of a company's equity beta measures the movements in returns (as measured by the sum of dividends and capital appreciation) from its shares relative to the movement in the return from the equity market as a whole.

A1.16 The Wireless Group Plc ('WLG', formerly UTV Plc) is currently the only UK listed company with significant radio assets.[42] However, its shares are relatively thinly

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[38] Table M3, https://www.gov.uk/government/statistics/forecasts-for-the-uk-economy-may-2016
[39] Page 90, Economic and fiscal outlook - March 2016, available here: http://cdn.budgetresponsibility.org.uk/March2016EFO.pdf
[40] https://www.gov.uk/government/publications/rates-and-allowances-corporation-tax/rates-and-allowances-corporation-tax.
[41] At the time of the consultation the reduction in the corporation tax rate to 17% had not yet been announced. However, this has not changed our assumed corporation tax rate of 18.5% used in the WACC.
[42] UTV sold its television assets to ITV on 29 February 2016. UTV then changed its name to WLG. According to WLG's 2015 annual report, over 90% of its revenue and almost all of its operating profit related to its radio operations, with the remainder from digital services (web services and a digital

traded so we have considered a number of equity and asset beta estimates from UK and European broadcasters. These beta estimates are shown in Table A1.2 below and are based on one-year and two-year daily and five-year monthly estimation periods against a home index. Table A1.2 also indicates which companies we understand have radio operations.

A1.17 The equity beta includes the effect of the capital structure on the systematic risk of a company. Therefore, when comparing the betas of different companies, it is important to unlever the equity beta to calculate an asset beta which removes the financial effects from leverage.[43] We have de-levered the observed equity betas using an average gearing ratio consistent with the time period for estimating the equity beta. For example, a two-year equity beta was de-levered to an asset beta using the average two-year gearing in the same period. We have assumed a debt beta of 0.1 in our calculations[44]; however, we note that using a debt beta of zero does not materially affect the WACC calculation.

Table A1.2: Comparator information from UK and European broadcasters

	Radio	Country	1 Year			2 Year			5 Year		
			β_E	G	β_A	β_E	G	β_A	β_E	G	β_A
Antena 3	✓	Spain	1.10	5.7%	1.04	1.14	6.0%	1.08	1.14	7.9%	1.06
CEME		Czech	0.93	10.4%	0.85	0.85	10.0%	0.78	1.43	10.0%	1.30
ITV		UK	0.96	6.1%	0.91	0.99	5.3%	0.95	1.27	8.9%	1.16
Lagardere	✓	France	0.89	37.1%	0.60	0.90	35.6%	0.61	1.23	37.8%	0.81
Mediaset[45]	✓	Italy	1.29	19.9%	1.05	1.36	21.8%	1.09	1.60	31.3%	1.13
Mediaset[46]	✓	Spain	0.91	0.4%	0.90	0.95	0.4%	0.95	1.11	1.4%	1.10
M6		France	0.66	0.1%	0.66	0.64	0.1%	0.64	1.10	0.1%	1.10
MTG	✓	Sweden	1.07	13.6%	0.94	1.02	10.7%	0.92	1.45	8.2%	1.34
NRJ	✓	France	0.30	2.8%	0.29	0.29	3.3%	0.29	0.35	1.6%	0.35
RTL	✓	Lux	0.70	9.1%	0.65	0.65	8.2%	0.61	0.56	4.7%	0.54
Sky		UK	0.83	30.4%	0.61	0.81	28.5%	0.60	0.66	22.7%	0.53
TF1		France	0.77	0.1%	0.77	0.81	0.1%	0.81	1.38	1.3%	1.36
WLG	✓	UK	0.11	26.4%	0.11	0.21	24.6%	0.18	1.02	28.1%	0.76
Average – all			**0.81**	**12.5%**	**0.72**	**0.82**	**11.9%**	**0.73**	**1.10**	**12.6%**	**0.96**
Average - radio			**0.80**	**14.4%**	**0.70**	**0.82**	**13.8%**	**0.72**	**1.06**	**15.1%**	**0.89**

Note: G = gearing. 1 year and 2 year betas use daily data and 5 year betas use monthly data. Source: Bloomberg, betas calculated as at 31 March 2016. For UK companies, betas have been estimated against the FTSE All Share index; for other European companies the FTSE All Europe has been used.

A1.18 We also note that the one, two and five-year equity betas for the FTSE 350 Media Index against the FTSE All share index were 0.93 (one and two year) and 0.90 (five year) respectively as at 31 March 2016.

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agency). https://www.wirelessgroupplc.com/getmedia/62be70e3-033f-4977-a2d2-00edcd285794/Wireless-Annual-Report-2015.pdf?ext=.pdf

[43] Asset betas are calculated using the following formula:

$$\beta\ asset = Gearing * \beta\ debt + (1 - Gearing) * \beta\ equity$$

[44] This is consistent with the debt beta we assumed for BT in the 2016 BCMR Statement.

[45] Mediaset, S.p.A

[46] Mediaset España Comunicación, S.A.

A1.19 We are inclined to give most weight to those companies involved in operating radio stations and whose shares are relatively liquid. This could mean excluding the one and two year daily beta estimates for WLG, NRJ, RTL and Central European Media Enterprises on liquidity grounds[47] and the betas for Metropole Television M6, Sky, TF1 and ITV since they do not operate radio stations. Given that none of the remaining companies (Antena 3, Lagardere, Mediaset, S.p.A, Mediaset España Comunicación, S.A.and Modern Times Group) are UK based, and the uncertainty around what a UK radio asset beta might be, we are left with few, if any, reliable indicators as to the asset beta of a new entrant in the UK radio market.

A1.20 However, the average data presented in Table A1.2 for one, two and five-year betas indicates that an asset beta for a hypothetical entrant would be broadly in the range 0.7 to 1.0, with the lower end of the range associated with one and two-year betas, and the upper end of the range associated with five-year betas.

A1.21 In the 2010 review we placed particular weight on asset beta for WLG since this is the only listed UK-based radio operator. Since WLG is relatively thinly traded, we put weight on the five-year monthly asset beta rather than lower frequency daily betas.[48] Based on the data presented in Table A1.2 this would suggest an asset beta of around 0.8. However, given the fact that the average five-year monthly asset beta for other comparators tends to be higher than 0.8[49], we have used an asset beta assumption of 0.9, which is slightly above the midpoint of our 0.7-1.0 range but is similar to the average five-year monthly asset beta for those comparators that have radio operations (0.89).

A1.22 In order to estimate an equity beta, we need to consider the forward-looking gearing associated with the hypothetical entrant.

A1.23 In the 2016 BCMR Statement we assumed BT's forward looking gearing was 30%. Companies with lower levels of systematic risk can usually support higher levels of gearing than companies with higher levels of systematic risk. Given that the asset beta associated with the new entrant (0.9) is higher than that associated with BT (around 0.7 in the 2016 BCMR Statement), we would expect the forward-looking gearing of the new entrant to be lower than BT's.

A1.24 This expectation is borne out by the data in Table A1.2 where, with a couple of exceptions, gearing rates of media comparators are below 30% and average around 10%-15%, with companies with radio operations tending to have gearing rates towards the higher end of this range.

A1.25 In the 2010 review we assumed a forward looking gearing assumption of 25%. We consider that the evidence presented in Table A1.2 would support a lower gearing level than this. We have therefore used a forward looking gearing assumption of 15%. This is close to the average gearing levels of the media companies presented in Table A1.2 which have radio operations. While we consider a case could be

[47] These companies have relatively high bid-ask spreads (greater than 1%) which indicates the shares are relatively illiquid.
[48] Paragraphs A1.22 to A1.24, 2010 Methodology Statement. For thinly traded shares it may be some time before the impact of a general market movement shows up in the stock price, and monthly betas may therefore be preferred to more frequent daily betas. See for example the 2003 Smithers and Co report called *A study into certain aspects of the cost of capital for regulated utilities in the UK*: http://www.bbk.ac.uk/ems/faculty/wright/pdf/mason%20miles%20wright
[49] Of the remaining 12 comparator companies, nine have an asset beta greater than 0.80.

made for a gearing level slightly lower or higher than this, we note that this does not have a significant impact on the WACC calculation.

A1.26 An asset beta of 0.9 is equivalent to an equity beta of around 1.0 at our assumed forward-looking gearing rate of 15%.[50] An equity beta of 1.0 is consistent with the equity beta for the FTSE 350 Media Index reported above. We consider that this provides further support that our asset beta and forward looking gearing assumptions provide a reasonable estimate of the equity beta of a hypothetical entrant.

Debt premium

A1.27 The cost of debt is made up of a risk free component and a company specific risk premium. Of the comparator firms listed in Table A1.2, only ITV and Sky have issued rated corporate bonds. The debt of both these companies is rated BBB-.

A1.28 On this basis, we consider it is reasonable to assume that a hypothetical new entrant would be BBB- rated.

A1.29 Of the comparators above, five have listed debt (although only Sky and ITV's debt is rated): ITV, Sky, Modern Times Group, Mediaset Spa, Lagardere. The listed debt of these companies typically has a maturity of between five and ten years. We have therefore considered the debt premium of BBB- debt maturing in five to ten years.

A1.30 We have calculated the difference between yields on a five and ten-year BBB index and a five and ten-year government gilt.[51] The spread for the five and ten year BBB index over the last five years is shown in Figure A1.1. The spread for both five and ten-year indexes during this five-year period ranged from 0.7% to 2.7% and averaged 1.7%. As we assume that a hypothetical entrant would be BBB- rated, its debt premium is likely to be slightly higher than the average of a BBB index.[52] We have therefore assumed a debt premium of 2.0%, slightly higher than the average debt premium of 1.7% for a BBB index.

[50] Using the formula (β asset - β debt * g)/1-g gives (0.90 – 0.10*15%)/85% = 1.04.
[51] Yields on a composite BBB- index are not available in Bloomberg: therefore, we have used the Bloomberg composite BBB index in our analysis.
[52] A BBB index includes bonds that are rated BBB+, BBB and BBB-. A BBB- bond is likely to have a higher cost of debt than a BBB or a BBB+ bond.

Figure A1.1: Debt premium for an index of BBB bonds

Source: Bloomberg (period from 1 April 2011 to 31 March 2016)

Conclusion

A1.31 Applying the parameters discussed above, we have estimated a pre-tax nominal WACC of 10.9%. For the purposes of estimating a discount rate to be used in the licence valuations, we have rounded this up to 11.0%. A summary of the WACC calculation and related assumptions is shown below in Table A1.3.

Table A1.3: WACC parameters

WACC component	Statement estimate	Source
Real RFR	1.0%	Ofcom estimate - BCMR 2016
Real ERP	5.1%	Ofcom estimate - BCMR 2016
RPI inflation	3.1%	Ofcom estimate
Nominal RFR	4.1%	= (1+ real RFR)*(1 + inflation) - 1
Nominal ERP	5.3%	= real ERP*(1 + inflation) - 1
Debt beta (β debt)	0.1	Ofcom estimate
Asset beta (β asset)	0.9	Ofcom estimate
Gearing (forward looking) (g)	15%	Ofcom estimate
Equity Beta (β equity)	1.0	=(β asset - β debt * g)/1-g
Cost of equity (post-tax) (Ke)	9.6%	= Nominal RFR + ERP * βequity
Cost of equity (pre-tax)	11.8%	= Ke / (1-t)
Debt premium (dp)	2.0%	Ofcom estimate
Corporate tax rate (t)	18.5%	Ofcom estimate based on HMRC
Cost of debt (pre-tax)	6.1%	= RFR + dp

WACC (pre-tax nominal)	10.9%	$= \frac{Ke * (1-g)}{1-t} + Kd * g$
Discount rate	11.0%	Ofcom estimate

Source: Ofcom. Note that the cost of equity has been estimated using the unrounded equity beta of 1.04 (see footnote 50) rather than the rounded equity beta of 1.0 shown in the table.