Europe Economics Report to DCMS

Independent Review: Government Cost Benefit Analysis of Digital Radio Switchover

Summary

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SUMMARY OF MODEL REVIEW

1 Europe Economics (working in conjunction with Accent) was commissioned by DCMS to carry out a review of its cost-benefit model for digital radio switchover.

2 The model considers the following scenarios:

(a) A base case in which there is no digital radio switchover;

(b) UK-wide digital radio switchover in 2015;

(c) UK-wide digital radio switchover in 2019; and

(d) A phased digital radio switchover, in which switchover happens in England in 2017, in Wales in 2018, and in Scotland and Northern Ireland in 2019.

3 In each of the switchover scenarios, it is assumed that switchover is announced two years before it is implemented (with a separate announcement for different parts of the UK assumed in the phased scenario).

4 The model calculates the following impacts:[1]

(a) Consumer benefits from digital radio;

(b) Consumer costs incurred purchasing digital radios in-home and in-car;

(c) Producer costs from build-out of DAB transmitters;

(d) Savings in dual transmission costs;

(e) Switchover marketing costs;

(f) Costs of disposing of analogue radios; and

(g) Benefits from freed spectrum.

5 In the outputs sheet of the model, the incremental impact of each switchover scenario is calculated by netting off impacts which are experienced under the base case.

6 The model focuses on DAB radio, and does not take account of alternative platforms over which digital radio can be accessed (e.g. satellite, the internet).

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[1] In addition, DCMS intend to add in calculations of the energy and carbon costs arising from the higher energy usage associated with DAB radios.

7 The estimated consumer benefits are driven by estimates of consumer willingness to pay (WTP) for the attributes of digital radio, derived from a recent study by London Economics[2] and a previous study by PricewaterhouseCoopers.[3]

8 PricewaterhouseCoopers based its estimate of consumer WTP for digital radio on a review of the literature, but noted that new primary research was required. DCMS state that its mid-point figure of £35 per year is based on a BBC WTP study referenced by PricewaterhouseCoopers, but we have been unable to find the £35 figure either in the PricewaterhouseCoopers report or the BBC report that they reference.[4]

9 While the London Economics research was commissioned to address the need for primary research, a number of problems arise when attempting to apply its results in the cost-benefit analysis. Among other things, the following issues need to be taken into consideration.

10 The London Economics report does not separately identify the WTP of those consumers who have already purchased a digital radio and those who have not. It is the latter group which is most relevant when thinking about the impact of switchover, and one would expect consumers in this group to have a lower WTP. We advise that DCMS revisits the London Economics dataset to calculate WTP separately for these groups, taking account of coverage issues as well if possible.

11 London Economics compute the WTP for each digital radio attribute separately and then calculate the sum of these values as £42. However, it acknowledges that this figure should be treated as an upper-bound estimate, since consumers tend to value a bundle of attributes at less than the sum of the value of each attribute due to interaction and budgetary constraint effects. London Economics suggest a further contingent valuation survey should be undertaken, which we would also recommend. In the absence of this, DCMS might apply a scaling factor of 0.25 (i.e. a 75% reduction) to 1, with a central value of around 0.4 to 0.5, based on Accent's previous experience with WTP studies.[5]

12 Respondents to London Economics survey were given little context when responding to the choice experiment, which makes it difficult to interpret the results. In particular, it was not made clear to respondents whether:

(a) The cost they would incur was one-off or annual;

(b) The attributes of digital radio would be available in-home, in-car or both;

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2 London Economics, "Digital radio switchover: Consumer research to inform the cost benefit analysis", April 2011

3 PricewaterhouseCoopers, "Cost Benefit Analysis of Digital Radio Migration", 6 February 2009.

4 BBC & Human Capital, Measuring the Value of the BBC, 2004

5 It should be noted, however, that the design of London Economics' choice experiment was non-standard, in that respondents were never asked to trade off attributes of the new product against each other. Unfortunately, this raises a question mark as to how applicable scaling factors from other studies really are in this context.

(c) The attributes of digital radio would be available on just one radio set, or on all radio sets owned by the household;

(d) They should be responding as an individual or on behalf of their household.

13 All of these factors give rise to ambiguities as to how the WTP estimates should be used in the cost-benefit model. Ideally, the choice experiment would be redone, perhaps in combination with the contingent valuation survey recommended by London Economics, to obtain a WTP estimate which can be interpreted more precisely. If this is not possible, then DCMS will need to discuss with London Economics how best to interpret its results (e.g. based on what consumers said in focus groups). If necessary, DCMS could commission a cognitive testing exercise to understand how consumers interpreted the London Economics questionnaire.

14 The WTP to pay figure used for those who have not yet purchased a digital radio[6] should logically be lower than the cost of purchasing a digital radio (or bringing forward the purchase of a digital radio) in the base scenario in the years in which switchover happens in the other scenarios.

15 Moving on to the costs associated with purchasing DAB radio sets, we would make the following suggestions for improving the cost-benefit modelling:

(a) DCMS should consider valuing the consumer time associated with purchasing and tuning a DAB radio.

(b) It could be argued that consumers who are "forced" to buy a DAB radio set due to switchover are likely to choose a DAB radio towards the lower end of the price range. (That said, for consistency with the WTP estimate, the assumed price of a DAB radio must be sufficient to purchase a DAB radio with all the attributes that have been included in the WTP estimate.)

(c) For DAB radios in new cars, it is only the incremental cost of installing a DAB radio in place of an analogue radio which is relevant (rather than the full cost of installing a DAB radio).

(d) The way in which the price of DAB radios may fall through time could be modelled using the concept of "learning curves".

16 We also consider that that the relevant economic cost is the cost of bringing forward replacement of radio sets at the switchover date, rather than the full cost of a new DAB radio. For consumers who would eventually have purchased a digital radio, the model takes account of the DAB radio purchase cost that they would have incurred at a later

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[6] excluding those consumers who have been prevented from doing so due to being out-of-coverage.

date in the base scenario, but does not take account of the fact that by buying the radio set sooner under switchover they incur more years of depreciation on the new asset. For consumers who would have chosen to replace their existing analogue radio with another analogue one under the base case, the model does not take account of the fact that switchover leads to consumers avoiding this analogue replacement cost.

17 DCMS use an estimate of the additional advertising revenues that may accrue to community radio stations as a proxy for the social benefits of released spectrum. We consider that this proxy has a number of weaknesses, since it does not take account of the producer costs or wider social benefits associated with community radio, and neither does it take account of other potential uses of the spectrum (i.e. apart from community radio). We understand that Ofcom will be consulting on potential uses of this spectrum, which may yield information that allows this part of the cost-benefit model to be improved.

18 In the phased switchover scenario, we consider that switchover in England is likely to accelerate take-up of digital radio in other parts of the UK. There are various mechanisms by which this might occur, including reductions in the price of DAB radios due to switchover in England, manufacturers fitting DAB radios into new cars throughout the UK, and the potential for the marketing of digital radio switchover in England to influence consumers in other parts of the UK. DCMS may wish to address this through the take-up assumptions that it uses for other parts of the UK in this scenario.

19 Currently, the model only includes scenario testing for different WTP assumptions. Sensitivity and scenario analysis need to be carried out on a much wider range of input variables, focusing particularly on those variables which have a significant effect on the overall result and which are subject to most uncertainty. We understand that DCMS plans to carry out sensitivity and scenario analysis along these lines.

20 The model currently calculates incremental impacts only at the very end, when the net present value (NPV) of the base case is netted off the NPV of each of the switchover scenarios. In our view, it would be advantageous to calculate incremental impacts earlier in the modelling process, to allow the composition of incremental impacts to be identified more easily.