

Opening presentation from Robin Foster

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Context

Ofcom's new spectrum management strategy (published today) and associated consultation is to be welcomed as a great opportunity to take stock of spectrum management progress in the UK so far, and what changes, if any, are needed to address the challenges ahead. The document is thoughtful and comprehensive, and rightly points out that much has been accomplished over the 10 years since Ofcom was set up.

In my opening remarks, I would like to make some observations about where Ofcom seems to be heading, suggest that, despite all the difficulties, there is still more work to be done in using market mechanisms to get good outcomes, and in passing say a few words about Digital Terrestrial Television (DTT) – one of the key priority areas identified by Ofcom.

Markets versus planning: tricky balance

As Ofcom acknowledges, effective spectrum management requires a mix of market mechanisms, planning, and occasional direct intervention.

Spectrum markets were originally proposed to address the huge problems associated with pure command and control systems – which were typically bureaucratic, slow to respond to market needs, and unsuitable for dealing with fast changing markets and rapid growth in new spectrum uses.

But there are also many reasons – some good, some less so – for doubting that spectrum markets will always work in the way in which their original proponents once hoped they would. Notable market failures include potentially high transactions costs (for example if contracts have to be agreed with large numbers of users), scope for anti-competitive hoarding and significant externalities.

This is my take on where Ofcom has got to, and how it intends to move forward:

Significant progress has been made in the UK to date in using market based approaches, including:

- Extension of spectrum trading, most recently to the mobile blocks, for example (although critics point to relatively thin markets, so far)
- Some liberalisation of spectrum use (21% of relevant spectrum, according to Ofcom)

- Some high profile auctions of new spectrum (most recently the 4G auctions)
- Spectrum pricing (although I think even Ofcom's own assessment has found it difficult to provide much persuasive empirical evidence that AIP has led to major efficiency gains).

And in the new Ofcom strategy, it is suggested that more can be done, including an interesting reference to the prospect of introducing economic incentives into the auction process to help clearance and re-allocation in future.

Ofcom also sets out a very helpful attempt to spell out when more direct intervention might be needed, including:

- For reasons of international harmonisation
- To achieve major spectrum clearance and re-allocation
- To promote competition
- To address social and policy priorities.

The last is especially welcome, as it has been arguably under-played in spectrum thinking to date. Here there is a real challenge for Ofcom to develop tools and approaches to assessing the importance of social benefits in a way which will allow them to be better assessed and compared with economic benefits, which tend to lend themselves to easier quantification. Often, while much work is done by respected experts and consultants on estimating the economic value of spectrum use, the non-economic benefits (and costs) are given only cursory mention.

We need Ofcom to take the lead in work on valuing non-economic benefits – through more use of consumer research and willingness to pay surveys and the like.

A word of caution

There is however a risk in adopting what can perhaps best be described as a pragmatic approach to spectrum management. That is the risk that the regulator returns by default to a command and control mindset. Too often in the debate about markets v regulatory intervention, we risk falling into what has been called by some the “nirvana trap” -the mistake of comparing imperfect market outcomes with ideal outcomes produced by an all knowing regulator. Notwithstanding its technical expertise and evidence based approach, Ofcom cannot always predict the future with certainty, and has only imperfect tools and information when it comes to deciding between competing spectrum uses.

This is important, because if anything, the challenges in making such decisions will become harder.

- The demand pressures - at least for spectrum sweet spots - will get greater
- But forecasts (for example for mobile data demand or the future of terrestrial TV) get harder to make, and have widely different outcomes depending on key assumptions used
- And a more interventionist approach inevitably exposes the regulator to intensive stakeholder lobbying, which often only the bigger and richer organisations can afford.

So where does this leave us at the start of a new strategy for the next decade and beyond ? And how should Ofcom strike the right balance of approaches?

Continuing to develop market approaches

My conclusion is that Ofcom needs to keep its foot on the markets accelerator pedal where feasible, even though it may often appear tempting to pursue a more interventionist course.

In practice what does this mean?

First: more work on spectrum liberalisation and in particular flexibility of use. To date there has been an understandable practical focus on Ofcom-led spectrum clearance and re-allocation via auctions – but eventually we will run out of spectrum that can be easily cleared or is available for auction – so it is vital to keep working on the design and roll-out of flexible property rights which allow changes of use as well as changes of user in the market, without the need for a regulator-led process.

Recent academic work in this field suggests that this can best be done by keeping the rights definitions relatively simple and allowing rights owners then to negotiate the detail around the edges. Importantly, the initial allocation of bandwidths and auction design can have a big impact on reducing the costs and increasing the effectiveness of this subsequent negotiation process.

Second: where – as will sometimes still be the case- there is a need for more of an interventionist approach to spectrum clearance, Ofcom should look hard at the range of economic mechanisms that might be deployed to make the process work more quickly and effectively. Options include:

- Reverse auctions – in which incumbents are asked to bid the minimum they would accept to move, and in which the regulator then pays off those with the lowest bids, and re-plans the band for subsequent auction.
- Incentive auctions – in which payments from the auction proceeds are made to incumbents, via the regulator, to cover a (sometimes pre-agreed) cost of moving to alternative spectrum (or relinquishing spectrum altogether).
- Overlay auctions – in which the spectrum band is auctioned with incumbents in situ, and the new owner must then negotiate with incumbents to arrange any move.

There are pros and cons associated with each approach, and they can be combined. But used sensibly they could help Ofcom avoid having to work out the benefits and costs of spectrum to different users. The self interest of the users themselves should allow an economically efficient outcome to emerge from negotiations in the market.

Third, there may be scope for exploring a range of other approaches to market mechanisms, in conjunction with technical developments in spectrum sharing. Sharing, as Ofcom point out, will become more important in future as scarcity increases. Markets mechanisms such as spectrum leasing and commercial band management could help make sharing happen more easily.

Digital Terrestrial TV

A priority area for the forthcoming decade is the future availability of spectrum for DTT, faced with possible rising demand from mobile data for spectrum currently allocated to broadcast TV.

A key argument for retaining DTT is the wider social benefits associated with it rather than just the economic value derived from its spectrum use. The ongoing debate about DTT would be helped by a clear analysis of the scale and scope of those benefits, and in particular consumer/citizen perceptions of the importance to them and to society as a whole of the DTT platform. This is not just about universally available PSB, but also about DTT's impact on wider competition and choice.

If DTT has to move spectrum, however, can Ofcom use economic incentives or market mechanisms to help make it happen, and to ensure the costs of so doing are fairly shared?

Ofcom has persuasively made the point that, for a number of good reasons, DTT clearance is an issue requiring a significant interventionist approach – partly because of the importance of DTT for the time being to consumers and citizens, and overall competition in the distribution of broadcast services, partly because of the complex nature of transactions that would be needed if left to the market alone to sort out.

But even here there may be scope to use market mechanisms to expedite the process.

To clear the 700 MHz band in the timescale desired by Ofcom, for example, it is possible to imagine some form of overlay or incentive auction which could help speed the process, especially if some of the proceeds of such an auction could be used to support those consumers who will have to absorb additional costs in replacing receivers and aerials. Precedents exist with clearance of the TV bands in the US, for example.

And the move of DTT to 600 MHz may not be the end of the story, for there is a chance that that spectrum too will be of value for mobile uses at some stage in the future. Perhaps one way of avoiding going through the whole administered clearance process again would be to take the opportunity of the move to 600 MHz to confer proper spectrum property rights on the current owners of the broadcast multiplex licences. At a later date, they would then have the incentive to and be in a position to make a commercial decision about the relative value of that spectrum for TV or for other uses when the need arises.

In conclusion

We are part of the way along a journey from complete command and control to a primarily market-based spectrum ecology. At present, Ofcom has reached a good balance of markets and planning, but the pressures ahead suggest that we may need to travel further along this road. Scope exists for many different imaginative approaches to helping spectrum markets work, even in the most unlikely cases, such as DTT, and Ofcom has the opportunity to continue to be a world leader in developing these approaches.

Slides used in the presentation

A tricky balancing act



Ofcom's approach

- Significant progress made to date in market mechanisms
 - Extended scope of trading
 - Auctions
 - Pricing
- Prospect of new developments
 - Use of economic incentives in clearance
- And clear rationale for when intervention might be needed
 - Changes in international environment
 - Major programme to clear users out of existing bands
 - Social as well as economic benefit

Scope for pushing markets further

- Spectrum trading
 - Continue to review impact of recent changes
 - Extend to remaining areas
 - Scope for more flexible property rights?
- Economic incentives in spectrum clearance
 - Reverse auctions
 - Overlay auctions
 - Incentive auctions
- Shared spectrum

Spectrum markets: a trajectory of change

