Across the spectrum

The planned new auction of spectrum bands throws up several challenges

*by **Suzanne Rab****

The UK's communications regulator Ofcom has launched a consultation on the planned auction of spectrum in the 2.3 GHz and 3.4 GHz bands, but BT and EE will be excluded from bidding for the 2.3 GHz frequencies. Ofcom explains that if BT and EE were allowed to secure all of the 2.3 GHz spectrum available, this would increase its share of the immediately useable spectrum from 45% to 49% and would create "a significant risk to competition". Yet Ofcom has stopped short of mandating a cap on the amount of spectrum that any one mobile operator can own in the 3.4 GHz band. (Ofcom consultation, *Award of the 2.3 and 3.4 GHz spectrum bands, Competition issues and auction regulations*).

Promoting competition when allocating spectrum

Regulators are right to be cautious when allocating spectrum. They will want to ensure that the appropriate conditions exist for new entrants to thrive and also that there is efficient use of a valuable resource.

A number of regulatory models may be considered to promote efficient access to spectrum, as well as the promotion of new entry. Examples include:

- caps on the amount of spectrum that any one operator can hold, whether in aggregate or in specified bands;
- reservation of spectrum for newer entrants;
- different network coverage and deployment obligations for newer entrants;
- network sharing obligations on established operators, such as a requirement to provide access to infrastructure on fair, reasonable and non-discriminatory terms.

Caps on spectrum ownership first appeared in the 1990s and particularly in Latin America, with the aim of fostering competition in the mobile sector. Over the years, spectrum caps imposed worldwide have been amended or even removed completely, as increasing demand for mobile data services has driven the allocation of spectrum in new frequency bands.

The international comparative experience on the use of spectrum caps has been mixed. In Europe, spectrum caps on the absolute capacity that any one operator may hold do not tend to feature prominently. However, caps specific on a particular spectrum allocation have been used. For example, in October 2013, bidders in the Austrian multiband auction were not allowed to obtain more than 2x35 MHz of spectrum in the bands below 1 GHz, 2x20 MHz in the 800 MHz band and 2x30 MHz in the 900 MHz band. The aggregate amount of spectrum that any one operator was allowed to secure in the auction was capped at 2x70 MHz.

The Federal Communications Commission (FCC) has considered spectrum concentration in its competitive analysis of proposed transactions. In 2004 – and in a departure from strict spectrum caps – the FCC decided to implement a "spectrum screen" process. The FCC identifies a spectrum threshold that triggers an additional regulatory review. This is based on the total amount of spectrum available and the number of existing operators. Generally, the spectrum screen operates to limit the amount of spectrum that an operator can hold to a third of available spectrum, thereby ensuring at least three operators. However, unlike a spectrum cap, it is not an absolute limit, as the amount of spectrum that can be held can differ depending on the market and it can flex when new spectrum is allocated.

The reservation of spectrum for new entrants is also designed to ensure that new market participants have access to spectrum. For example, in the Austrian auction in 2013, 2x10 MHz of spectrum was set aside in the 800 MHz band for a new entrant.

Network deployment and coverage obligations are another tool that regulators have used to foster competition where failure to meet these obligations will typically result in penalties. Regulators have tended to be more tolerant where new entrants have failed to meet the stipulations, as seen in the spectrum auctions in Chile (2009), Columbia (2009) and Peru (2012). In Chile, the established players were virtually excluded from bidding in the auction. This led to two new entrants being awarded spectrum, yet they reached very modest penetration and took over two years to launch their services.

Ofcom's proposals

An auction of two bands of spectrum was first proposed under the previous coalition government but it was put on hold at the end of 2015. This was partly due to the market uncertainty presented by the acquisition of EE by BT and the proposed merger between Three and O2 which was ultimately blocked by the European Commission.

Now in November 2016, Ofcom has relaunched the consultation with the release of a 171-page consultation document setting out its plans for (and draft regulations that would underpin) a future auction of a total 190 MHz-worth of spectrum. This represents more than three-quarters of the spectrum that was made available for 4G in 2013 and will increase the amount of total mobile spectrum available by a third.

In view of the technical characteristics of the bands being made available, a closer examination is required of exactly what is on offer in order to understand the logic of Ofcom's proposals.

The spectrum being allocated is in two frequency bands:

- 40 MHz of spectrum will be made available in the 2.3 GHz band and this is expected to support 4G services. This spectrum is immediately useable and will be made available in England, Scotland and Wales but not in Northern Ireland.
- 150 MHz of spectrum will be made available in the 3.4 GHz band. This is not immediately useable and is expected to support 5G services in the future. This spectrum will be made available throughout the whole of the UK.

** Suzanne Rab is a barrister specialising in EU and competition law at Serle Court Chambers (London)*

Ofcom intends to impose a cap which would prevent any one operator from owning more than 42% of spectrum that is available for immediate use (ie in the 2.3 GHz band). Currently, BT/EE owns 45% of this spectrum and would see its share fall to 42% once the spectrum being made available in this band is auctioned to competitors. Ofcom believes that this measure "will prevent a worsening of the current extent of asymmetry in immediately useable spectrum". Currently, Vodafone owns 28% of immediately useable spectrum, while O2 and Three hold 15% and 12% respectively.

Ofcom is less troubled by the planned allocation of spectrum in the 3.4 GHz band as this is not immediately useable. It believes that "specifying limitations on spectrum holdings at this point might constrain an operator's ability to innovate". Accordingly, Ofcom does not propose to impose any caps on the amount of spectrum that any one operator may own in the 3.4 GHz band.

Coverage-based stipulations do not form part of Ofcom's proposals as it believes that the spectrum on offer is better suited to adding capacity rather than extending existing levels of coverage. However, it could be that coverage-based requirements appear when Ofcom comes to auction the 700 MHz band in 2018/19.

Ofcom has set reserve prices of £10m per 10 MHz block of the 2.3 GHz band and £1m for each 5 MHz block in the 3.4 GHz band. On this basis, it should realise at least £70m from the auction.

The consultation is open for responses until 30 January 2017.

Objections to Ofcom's proposals

Ofcom's proposals have left competing operator Three dissatisfied. It has argued that there should be a cap of 30% on the amount of spectrum that any one operator should be able to own. Had the merger between O2 and Three been approved, the merged entity would have owned just under 30% of available spectrum itself.

Three maintains that a 30% cap on spectrum ownership and a spectrum reservation for smaller operators are the only measures available that will preserve competition for the benefit of UK mobile customers. Three's CEO Dave Dyson has gone on public record to express concerns that "Ofcom has allowed BT and Vodafone to stockpile valuable mobile airwaves and put genuine choice for consumers at risk".

EE's CEO Mark Allera has claimed that the company is unique in its ambition to expand 4G coverage to 95% of the UK's landmass by 2020 and that EE "will continue to use our spectrum and network to ensure UK consumers benefit from being at mobile technology's leading edge".

How do Ofcom's proposals measure up?

Ofcom has acknowledged that "an uneven distribution of spectrum is not necessarily a barrier to strong competition among operators". The reason put forward is that operators may "add capacity through network investment rather than deploying additional spectrum". Ofcom states that operators do not need to have the same capacity as one another for competition to be strong.

Yet Ofcom believes that "a very asymmetric distribution" of useable spectrum may give rise to competition concerns. The examples cited by Ofcom where such concerns might arise are twofold. First, where having a relatively large spectrum portfolio may enable an operator to offer a range of services or a quality of service that cannot be matched by credible competitors with smaller holdings. Second, according to Ofcom, an operator that is a credible competitor but has a small spectrum holding relative to others may struggle to compete in some segments of the market or in the provision of some services.

Ofcom's cap on the 2.3 GHz band is motivated by its desire to avoid "strategic investment" that could weaken competition. On the other hand, it is "less concerned about the risks associated with the 3.4 GHz spectrum". Ofcom believes that by the time the latter band is useable, there will be a "variety of means by which operators will be able to adapt their strategies to meet consumer demand". Ofcom is therefore refraining from blanket caps on ownership in this band because it takes a dynamic view of how the market will develop over longer timescales. It expects that other spectrum will become available over the longer term and notes that "operators also have the option of adopting different approaches to network deployment, including those based on small cells".

Spectrum auctions: emerging themes

Spectrum allocation can be viewed as one of the regulatory tools to facilitate competition in a mobile market. However, simply reserving spectrum for newer entrants or imposing caps may not necessarily promote effective competition or sustainable market entry, and it may even result in an inefficient use of a valuable resource. A number of themes emerge from this analysis which will no doubt recur in responses to Ofcom's current consultation and probably in later licensing rounds.

First, regulators need to be careful to ensure that operators are allocated sufficient spectrum and combinations of spectrum at the appropriate bandwidth to meet quality of service expectations. Each new generation of technology uses wider bandwidth, offering the prospect of greater spectrum efficiency and faster connection speeds. This is especially important in the case of 4G spectrum allocations since these require a wider bandwidth. Faster connection speeds can be achieved by combining channels together.

Second, reservation of spectrum to less established players has not always led to an efficient use of spectrum.

Third, the existing market structure at the time spectrum is allocated is an important factor in determining the success of new entry, even with a generous spectrum allocation and more lenient deployment and coverage obligations.

Ofcom's proposals have not met with universal acclaim from either newer or more established players. Ofcom says that it has considered a range of options but if it were to go further and impose more restrictive competition measures, "this would be disproportionate". If, as some would argue, the mobile industry is failing customers, perhaps the debate on the spectrum allocation misses the mark in deflecting some of the attention away from other factors that drive competition in the sector and the lifespan and success of newer entrants. These factors do include access to sufficient spectrum with the appropriate mix between coverage and capacity bands. Other factors include the ability to invest in network deployment, incentives for infrastructure sharing and the financial wherewithal to sustain marketing.