

## Ireland's 5G Spectrum Assignment: nothing is more expensive than a missed opportunity

Gary Healy, Senior Associate | October 2020 | Download Insights at [regulatoryreform.com/insights](https://regulatoryreform.com/insights)

©2020 Jacobs, Cordova & Associates. The views presented in this document do not represent official positions of Jacobs, Cordova & Associates.

Ireland needs to ensure that the process of awarding spectrum for 5G services supports economic growth and national recovery especially in rural areas. Spectrum assignment should not be seen as a quick way to raise funds for the Exchequer but as part of an integrated approach to the use of a strategic asset.

Spectrum assignments can set heart rates racing for the CFOs of mobile operators but represent a great opportunity for policymakers and regulators to shape the kind of market they wish to see such as the extent of competition, the range of products and services, and the opportunity to allow further innovation in the mobile sector. In the run up to the launch of widespread commercial 5G services across Europe, the conditions, price and assignment of spectrum lots will have a major impact on the achievement of consumer benefit in the next mobile revolution. All across Europe radio spectrum associated with 5G, predominately 700 Mhz; 3.4-3.8 Ghz and 26Ghz higher frequency bands have been assigned and commercial 5G networks are starting to appear in most EU countries. In Ireland, following the release of spectrum in the 3.4-3.8 Ghz band in 2017, all three mobile operators have already launched 5G networks and devices.

Where 3G, with the smartphone, changed forever how we use data on our mobile devices, 5G will revolutionise data on machines and, along with Europe, Ireland has to be at the heart of that revolution. The multiband spectrum auction (MBSA) planned by ComReg for the first half of next year is an opportunity for the Government and ComReg to set the conditions which will dictate the kind of coverage and capacity we will see as consumers across the country for the next 20 years. Likewise, the capacity and reach of those 5G networks will assist enterprises across the country tap into the growing 5G ecosystem around Artificial Intelligence and the Internet of Things. With higher data rates and low latency 5G should transform our mobile behaviour and allow applications that will transform our lives. As with all spectrum releases however, the Government and ComReg in Ireland now need to set the agenda around the conditions under which these licenses will be offered and not look at this MBSA simply as a way to generate funds for the Exchequer.

### Who is JC&A?

JC&A has provided since 2001 the full toolbox of regulatory and "smart regulation" reforms to 130 countries. We design the world's largest and most innovative reforms to build smart regulators, strengthen the rule of law, and facilitate economic growth. We aim to transform the market incentives that drive business behavior in highly regulated environments.

More information available at: [regulatoryreform.com](https://regulatoryreform.com) [in /company/jacobs-cordova-and-associates-inc/](https://www.linkedin.com/company/jacobs-cordova-and-associates-inc/) [f /groups/regreform](https://www.facebook.com/groups/regreform) [t /regreform](https://twitter.com/regreform)

#### USA

The International Trade Center, STE 700  
1300 Pennsylvania Avenue, NW  
Washington, D.C. 20004  
T 1 202 204 3060  
F 1 202 789 7349

#### EUROPE

Blackrock  
Co. Dublin,  
Ireland  
T 353 86 2453 452

#### MEXICO

Sófocles 150, office 001  
Col. Polanco sección III  
México, D.F. C.P. 11540  
T 52 55 47441246

#### ASIA

c/o Professor Jong Seok Kim Mapo,  
Sangsoo-dong 72,  
B-207 Seoul, Korea  
T 822 320 1707  
F 822 6352 0032

The last major assignment of spectrum was awarded in 2012. At the time the Government was emerging from under the cloud of the IMF and was no doubt grateful to ComReg for the €850m in upfront and annual fees the mobile operators paid for 15-year licenses. The licenses came generally unencumbered with low coverage targets and a soft roll out timeframe. Since then mobile operators have been under constant criticism about poor rural coverage ironically from politicians and government who had the scope to set coverage conditions around the spectrum assignments. The upcoming 5G spectrum assignments should be seen as an opportunity to encourage investment in high tech services. The conditions attached by ComReg appear to have recognised, in a limited way, the need to address coverage with 95% population coverage targets and a recognition of the importance of coverage requirements on main transport arteries and essential locations. These conditions alone, however, appear to miss opportunities to shape the market in terms of coverage and capacity. Others in the EU appear to have grasped this opportunity. Germany, recognising that the challenge with 5G will be numbers of masts and capacity, has decided to invest €1.1 billion in a state-owned entity to erect up to 5,000 masts and included in the conditions in the recent 5G spectrum assignment an obligation that each winning bidder would build 1,400 masts in the more rural areas of Germany. France went further and sat down with the industry to agree new coverage targets specifically for rural areas in return for renewal of spectrum licenses.

Conditions placed on spectrum licenses reduce the fees governments are likely to raise from spectrum assignments. However, it has been shown in the economic literature that whereas high spectrum fees don't impact consumer prices in the long term they do impact the funds available for investing in new network infrastructure thereby potentially limiting both the pace and capacity of new 5G mobile networks. Governments can also incentivise investment in networks through fiscal measures like capital allowances for spectrum fees or reducing fees at a local level to erect and maintain masts which can be agreed to coincide with the cyclical investment in mobile networks. They can also incentivise investments in mobile networks through the effectiveness of the process of spectrum assignment. Awarding valuable spectrum rights has evolved from a system in most countries where governments assigned rights of use on the basis of beauty contests. In return for a fixed fee mobile operator would pitch how they would best meet Government objectives in terms of coverage and service provision. Assignments moved away from these 'command and control' approaches to auctions where regulators placed some obligations on licensees or set aside spectrum for new entrants and auctioned the licenses leaving the market to decide what they were prepared to pay for the spectrum. Auctions allow regulators to assign spectrum transparently to those who most value it. However, those critical of auctions argue that a badly thought through design can ultimately add to the cost of acquiring spectrum for mobile operators. Auctions have evolved from sealed bids to Simultaneous multiple round auctions to Combinatorial Clock Auctions (CCA). The CCA auction design favoured by a number of regulators including ComReg seeks to address the weaknesses of other auction designs in trying to allow bidders submit package bids for a number of spectrum bands in a multiple band auction by encouraging bidders to bid close to their valuations. The second price rule, which normally accompanies a CCA, prices the spectrum on the basis of what a losing bidder would have paid for the spectrum. Despite the good intentions in auction design the unintended consequences of a CCA are increased complexity. The recent 5G auction in Germany ran to 490 individual rounds over 52 days leading to much criticism from participants. Complex auctions such as CCA also lead to bidders not bidding honestly and engaging in predatory bidding. Studies have shown that predatory bidder strategies drive up the ultimate spectrum fee for all the winning bidders. The outcome of the 4G CCA auctions in Austria, Switzerland and UK all led to high prices and highly asymmetric outcomes. Predatory auction strategy is particularly prevalent when auctioning sub-1Ghz spectrum which is in high demand and where bidders must secure a competitive holding and it is in their interest to adopt strategies which increase the cost of this spectrum for their competitors.

France appear to be grasping the 5G opportunity with their approach to spectrum assignment. The French regulator, ARCEP, is using a mix of assignment methods and working with Government to engage with the mobile industry. They are returning to command and control techniques to award licenses for fixed fees in return for commitments on investment and coverage. Renewal of existing spectrum licenses in key bands gave an opportunity for the regulator and the mobile operators to agree to a process of reassignment of licenses and improved coverage specifically in rural areas. For new spectrum they still assign using auctions but their approach puts policy goals first, and raising fees is a secondary concern. In countries like Japan and Finland spectrum has been awarded without upfront fees in return for commitments on coverage and roll out of networks. The awarding of such a national resource requires a policy focus which does not view these licenses as just commercial services and therefore sold to the highest bidder but as strategic assets beneficial to economic growth and national recovery. If the latter is the approach

then licenses should come with rational conditions that reflect national policy objectives on coverage and capacity and the Government can trade spectrum fees today for economic growth tomorrow.

Regulators need to assign spectrum licenses in ways that reduce complexity and uncertainty specifically as the sentiment towards listed telecommunications companies in Europe shows investors are wary of investing in telecoms despite the growing importance of robust mobile networks since Covid-19. This is particularly an issue for the Irish market where the market fundamentals are worrying. There is a fiercely competitive mobile market with the launch of SIM-only unlimited plans from operators, the launch of the GoMo brand is a good example. The price of 1GB of data is reducing and is well below the EU average. A decline in telecommunications prices generally has been evident for a number of years and although this is reflective of a competitive market and great for consumers, the 5G business case for acquiring spectrum can only make assumptions on revenues and market share that reflect the existing trends and the current trends suggest low valuations of 5G spectrum.

The lack of any long-term premium associated with 5G will make the price of spectrum in the upcoming auction critical to the ability of operators to have sufficient funds available to roll out the coverage and capacity needed to exploit the benefits of 5G. We should use this opportunity before assigning spectrum to set out our policy goals, not only in terms of conditions around spectrum coverage but also on the 5G ecosystem through fiscal incentives in the tax regime and lowering the cost of rolling out masts. These initiatives combined with a spectrum assignment process which reduces the uncertainty and complexity of the upcoming auction may help mobile operators devote their attention to getting the best coverage and capacity in our 5G networks.