

**Spectrum Auctions and Regulation
in Telecommunications
A Policy View**

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Spectrum Auctions and Regulation in Telecommunications

A Policy View

By Klaus-Dieter Scheurle

Looking at the German auction, I think we should begin by recalling the circumstances surrounding it. First of all the stock market. The stock markets were at a high in March, April last year and then they fell significantly the following months. When we began the auction in Germany at the end of July, a whole month of market decline followed, reducing share prices. KPN, for example, had a market cap of more than € 80 billion in March/April. Its market cap decreased to € 45 billion during our auction and now it has dropped to roughly € 8 billion, which explains the problems currently facing some of the successful bidders. KPN has banked more than € 12 billion for licence fees, its current market cap is only two thirds of this. On the other side you have Vodafone paying the highest fees all European companies have ever spent with € 22 billion but its market cap is more than ten times higher than this amount.

Looking at the situation of the mobile market in Germany last year we had, as you know, 4 players. D1 and D2, who combined had a common market share of 80%. The rest was shared between E plus with about 15% and VIAG – the last company which entered the market – with about 4 - 5%. Simultaneously, we had very significant growth rates in terms of penetration. The market started with a penetration rate of less than 30% at the beginning of 2000 and ended with 60% i.e. the market penetration doubled last year. At the same time, the tariffs dropped very significantly.

Looking at the spectrum which was available, we had a 60 megahertz spectrum which could only be divided into 12 blocks only due to the minimum spectrum of 5 megahertz per each block. It was impossible to divide it into smaller parts as it was with a 2G spectrum. Exercising the 2G auction in October 1999 we had been able to divide the available spectrum into blocks of 1 megahertz. This was not possible with the 3G auction for technical reasons. So it was not possible for example, to say we would like to get 5 players and just divide the 60 available megahertz among 5, implying 12 megahertz could be allocated to each of them. If you wanted to allocate the spectrum to 5 bidders the fact is that 2 of them would get more spectrum than the remaining 3. The question was therefore, whether this was an appropriate solution or not? We said it was not since we had previous unfavourable experiences allocating different spectrums

to the market players in the 2G markets. D1 and D2 received a very low spectrum rate of 12 megahertz while E plus and VIAG received more spectrum. However, there was no indication that this helped the new entrants much.

The additional problem we had in the 2G market was the fact that the time of market entry was quite different due to the political decision taken in the late 80s to issue only 1 more licence in addition to the monopolist. Then a few years later in 1993 the decision was taken for further allocation (e-plus) and finally in 1997 VIAG got the 4th one and was the only bidder at that time due to market opinion that it would be very difficult for a fourth player to be successful in this market segment despite the high growth rates we saw even in 1996 and 1997.

This was the background when we prepared the auction. We endured a lot of public hearings beginning in early 1999 and consultants reports; the first outlining a possible business plan for one of the players. This was very important for us in making a decision on the minimum bid price.

The next question was what minimum spectrum should be allocated to each of the bidders. The outcome of the 2nd consultants report was that the minimum block should be 10 megahertz for a nationwide coverage, in other words 2 blocks. At that time we knew that the international process to allocate more spectrum to the 3G market internationally was slowing down due to various international problems and by procedures which required more time than expected. Previously we had expected that more spectrum would be available in 2005. Then the message was 'a 2 years delay'. Additionally, there was uncertainty in the room, whether 10 megahertz were enough to provide services nationwide. Some players doubted it was sufficient and not only them. This meant that allocation to six players would basically be possible but some uncertainty remained.

We wanted to get at least one newcomer into the process but the question still remained: "what is the right number of players?" It's a very difficult question as it is an important one. Was 4 or 6 or 5 the right number? Most of the EU member states thought one should allocate the spectrum to the number of the 2G operators plus 1. That means that France, for example, would have had got 4 players or Germany and UK 5. Therefore from my point of view, this question is still on the agenda. We have gained a lot of experience in the telecommunications financial markets field last year and what emerges is that companies have invested a lot, even having the possibility of infrastructure sharing which enables them to reduce the costs by some 40%. Looking at current agreements between 3G-operators one expects that the players can achieve such savings. However, a lot of experts are saying – and I am among these – that an additional consolidation process will be necessary reducing the number of players. On the other hand the regulator says 6 players is the optimum number from the customers' point of view and only this number guarantees that the marketplace will be shaken up. On this topic, I think it is in general highly risky for a regulator, who does not know more than the market itself to say whether 5 is the right number, 4 or even 6. This was the main reason we decided to leave this decision to the market – by doing so we had the possibility to give flexibility to the allocation process. This was the main reason for doing so although it may well be that it complicated the procedure a bit.

Before we made the final decision we thought about incentives for finding new entrants but we realised that there would be hardly any risk to the process if we did not attract new entrants because during the preparation process we had learned a lot about the bidders, which companies would attend the allocation process or not and it was clear that we would get at least 1 bidder which was a new entrant in the market. So the next question was, what is the appropriate support for such companies who have decided to enter the market for the first time? The decision our UK colleagues made was just to allocate more spectrum to such new entrants by reserving a big licence exclusively for new entrants. Reservation could be something that you should think about; we thought about the reservation of two blocks. But then we saw that it generated a lot of problems in the game which should be fair for all of the participants. It's very complicated to ensure fair play if you reserve, in such a design, two blocks.

We recognised that what the new entrants really need is support in the execution of deploying the new services. You can imagine that when 3G services commence they will not start nation-wide but will start in 'hot spots'. The companies will deploy the services further and further and at the end of the day they may have nation-wide coverage but this happens over the course of years. I guess that at the end of this decade we may have nation-wide coverage provided by all of the players but in the next few years we certainly will not. Therefore, in order to enter the market it is key for any new entrant to be able to provide bundled products of 2G and 3G services; as the providers can then offer their customers for example, a 3G service in Munich with the possibility of connection to GSM (GPRS) in rural areas outside Munich. If a new entrant is unable to offer such flexibility, insisting on a separate handset and band for areas outside the 3G hot spots, they will fail to succeed in the market. This was the reason we allocated a right for all the new entrants to roam on the 2G networks of the 4 providers which received a 3G licence. Important supplier like Nokia have announced that new handsets for 2G and 3G services will be available second half of 2002.

The feedback from the new entrants was positive. We were therefore very confident that some of the new entrants would be successful in the bidding process.

One last remark regarding having two stages of the auction. This reasoning behind this way to provide us with a safety net because we did not want to hoard any spectrum after the auction, which in theory could have happened if for example, one block had been left after the first stage. This one block have been allocated in the 2nd stage. It made sense establish a 2nd stage, in order to allocate the unpaired blocks, and for auctioning the remaining block of paired spectrum. It was a pragmatic approach to solve problems that could have risen in theory but which, finally, did not arise in practice.

Thank you very much for your attention and I look forward to the discussion.