

**The British UMTS Auction**  
**A Response to Klemperer and Schmidt**

**by Tilman Börgers and Christian Dustmann**

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# The British UMTS Auction

## A Response to Klemperer and Schmidt

By *Tilman Börgers* and *Christian Dustmann*

We are very grateful for Paul Klemperer and Klaus Schmidt's insightful comments. Klemperer and Schmidt both discuss the ex-post efficiency of the outcome of the UK auction. Klemperer also comments on possible explanations of BT3G's bidding behaviour. We begin with the latter point because the focus of our paper is on bidders' behaviour. Assessing the ex-post efficiency of the UK auction was not our main purpose.

Klemperer suggests that BT3G's bids for license B were not really meant to win license B, but that their purpose was to drive up the price that Vodafone had to pay. According to Klemperer's hypothesis, BT3G thought that it did not run any risk of getting stuck with license B provided that it bid for license B if B's price was not more than 50% higher than the price of the smaller licenses. However, at a larger percentage difference in prices, there was, according to Klemperer's hypothesis, a risk that Vodafone would switch to bidding for a small license.

Although this theory has the merit of explaining the data, the strategy that BT3G pursued according to this theory is surprisingly risky. How could BT3G be sure that its assessment of Vodafone's strategy was correct? Throughout the auction Vodafone only bid for license B. Therefore, there was no evidence from the auction to support the belief in a 50% threshold. In the early stages of the auction, Vodafone was actually willing to bid for license B even at price ratios far larger than 1.5.<sup>1</sup> BT3G might have held hard information from inside Vodafone. But overall we feel that the risk that Vodafone would switch to a small license, or quit the auction, must have appeared substantial to BT3G. It would be surprising if a bidder such as BT3G were willing to take on such a risk. *Klemperer's* explanation of BT3G's behaviour is a very interesting speculation, but, to us, not compelling. Of course, it may be true nonetheless.

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<sup>1</sup> BT3G might not have regarded this as a falsification of their hypothesis about Vodafone because in the early rounds of the auction license prices were perhaps known to be below bidders' actual values, as *Klemperer* suggests.

Klemperer emphasizes the importance of information from outside of the auction for the study of bidding in the auction, and we agree. There is a methodological difference between Klemperer's comment and our paper, though. Our paper deliberately relies on publicly available information only. By contrast, Klemperer cites industry sources and analysts without always documenting these quotes.

Turning to the ex-post efficiency of the auction outcome we note first that the strategy that *Klemperer* hypothesizes potentially undermines the ex-post efficiency of ascending auctions. A bidder who drives up prices without any intention of winning might win nonetheless, namely when his beliefs about others' willingness to pay are incorrect. Such a bidder may thus inefficiently win licenses. This does not seem to have happened in the UK auction, but it might easily happen elsewhere.

Klaus Schmidt's argument in favour of the ex-post efficiency of the UK auction assumes implicitly that each bidder's final decisions in the auction were rational decisions based on well-specified valuations of the licenses. Our paper casts doubt on the assumption that bidding behaviour over the whole duration of the auction was rational behaviour driven by valuations. We therefore believe that there are also reasonable doubts that the final decisions can be rationalized in this way.<sup>2</sup>

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<sup>2</sup> Note also that *Klemperer's* hypothesis regarding BT3G's strategy, if correct, contradicts *Schmidt's* assumption, although, as mentioned earlier, this does not seem to have caused any inefficiency in this particular auction.