

Auctioning off Public Goods

English Auction (Upward Auction)

Starting from a minimum price, the prospective buyers outbid each other until one bidder is no longer outbid by others. This person is then awarded the highest bid. Bids are placed openly and bidders can place multiple bids.

Dutch Auction (Downward Auction)

Starting from a highest price, the auctioneer calls continuously falling prices. This continues until there is only one bidder left. This person then wins the auction. This form of auction is also open.

First Auction of UMTS Mobile Radio Licences

On 31 July 2000, seven network operators entered an auction in Mainz at the Regulatory Authority for Telecommunications and Posts in order to secure one of the coveted UMTS mobile radio licences. One of them dropped out of the auction quite early and so in the end there were six auction winners. However, the billion-dollar poker for the UMTS mobile licences was only over when, after 14 auction days and 173 rounds, Deutsche Telekom refrained from acquiring a second licence. The result was the incredible sum of 98.8 billion Deutsche Marks for the six licences.

The bidders reacted with relief, but some were also noticeably annoyed. Hardly anyone watching had expected that the companies would have to raise almost 100 billion marks. Federal Finance Minister Eichel, on the other hand, called the outcome of the auction a good result. The head of the regulatory authority said that the result was the most favourable solution from the consumer's point of view, as it promised the most intensive competition.

(Author text, after <https://www.tagesspiegel.de/politik/umts-lizenzen-fast-100-milliarden-fur-eichel-704035.html> und <https://www.mpcservice.com/20-jahre-umts-auktion/>)

Second Auction of UMTS Mobile Radio Licences

Five years after the first UMTS auction, the disillusionment was great. In 2005, 79 million people in Germany owned a mobile terminal, but only two to three percent of them used UMTS. Two of the telecommunications companies had to give back their licences because they could not fulfil their expansion obligations. Some critics even claim that the excessive prices in the first auction set back the expansion of mobile telephony in Germany by years.

The second UMTS auction was over after only nine rounds and yielded only a fraction of the first auction proceeds. All five telecommunications providers were able to buy one frequency block each. The cheapest bid only had to raise 73.6 million marks, the most expensive bidders 121 and 123 million marks.

(Author text, after <https://www.zdnet.de/2053019/zweite-runde-der-umts-auktion-vorbei/amp/>)

The Auctioning of 5G Frequencies

The auction of 5G mobile frequencies in 2019 ended only after 497 rounds. It ran for several months, longer than any other mobile phone auction in Germany. The telecommunications companies will pay a total of 6.6 billion euros to the state - significantly more than expected.

(Author text, after <https://www.spiegel.de/netzwelt/netzpolitik/5g-mobilfunkfrequenzen-versteigert-firmen-bezahlen-6-6-milliarden-euro-a-1272131.html>)

Tasks

Read through the Nobel Poster "Auctions are everywhere" of the Lindau Nobel Laureate Meetings on a tablet or on a computer and complete the following tasks in groups of 3 to 5.



<https://www.mediatheque.lindau-nobel.org/files/38885>

1. The Nobel Prize winners Robert B. Wilson and Paul R. Milgrom have been particularly concerned with the enhancement of public goods such as fish stocks, marine zones for wind turbines or landing rights for aircraft.
 - a. Explain what Robert Wilson means when he says that these auction objects have a general value (common value/private value) that is uncertain in advance but the same for everyone in the end.
 - b. Discuss why Robert Wilson believes that private auctions differ from public auctions.
 - c. Discuss why companies usually bid less than their own assessed value in public auctions.
 - d. First read through the definitions of English and Dutch auctions on the first page of this worksheet (first box).

Paul Milgrom concludes that English auctions fetch a higher price than Dutch auctions. Discuss why he thinks this is so.
 - e. It is even more difficult for bidders when several objects are auctioned at the same time (e.g. the landing rights at five airports). Explain why Wilson and Milgrom propose multi-round auctions for this.

- f. Read the second, third and fourth information boxes on the UMTS mobile licences and the 5G frequencies.

The first auction of the UMTS licences in Germany shows that, despite all the caution and transparency in auctions, prices can also come out that make the finance minister happy, and yet in retrospect turn out to be completely inflated and unrealistic.

Describes how it can be explained that the first UMTS auction in Germany fetched almost 100 billion euros, but the auction of the perhaps even more valuable 5G licences only achieved six billion euros.

- g. Present your findings to the class and discuss them.

2. Your working group is employed by a planning office that wants to participate in a public tender for a state government. The local Ministry for the Environment, Energy and Nature Conservation expects a concrete proposal from applicants on how the Ministry could best auction the building permits for six solar parks next year.

Develop a proposal that includes at least the following points:

- Meaningful title
- Advantages and basic idea of an auction with reference to the latest research results from Paul Milgrom and Robert Wilson
- Measures to reduce bidders' fear of bidding too high ("winner's curse")
- Auction type, auction form and auction duration
- Advantages for the client
- Advantages for the bidders
- Possible problems and possible solutions
- Measures to ensure public acceptance of this form of tendering among the population

Present your results in the format of your choice (e.g. PowerPoint, poster or pinboard). Then present your concept to the other planning teams and put them up for discussion.

Finally, vote for the best presentation in the class.