

THE DINNER SPEECH ABOUT AUCTION THEORY APPLICATIONS

By Andrei Vavilov

First of all I am glad to say that I would like to express my sincere gratitude to the head(s) of the economic department of Pennstate University for excellent organization of this conference. I and my colleagues highly appreciate the quality and effectiveness of its planning and realization.

The conference demonstrated a variety of advances in auction theory and applications. It has shown that theoretical program in this field is very far from completion, and the number of applications is very wide. I would like to tell a few words on why this field of research is interesting to me.

First, the modern auction theory is equipped with highly technical and advanced mathematical tools. It is therefore an excellent field for application of intellectual talents and efforts of bright theoreticians that have taste to deep game-theoretic thinking. As I see it, the number of issues is still unresolved on the theoretical level.

Second, the auction theory is well related to empirical evidence in many countries and, most importantly, may be effectively tested. The evidence on auctions is normally of good quality in the sense that it relates to clearly quantifiable objects and variables like prices and amounts of money. Besides that, a large massive of observations may be available in the concrete research project. As an example, an extensive data base of Russian oil field auctions has been collected. Now it is in the process of building in the joint study by the Institute for Financial Studies and the Pennstate University.

Third, the results of the auction theory are, by its very nature, practically-oriented. To the extent a state has to participate in any market as a seller or a buyer, the authorities have to think about optimal auction design. The examples are well known: procurement, the sales of oil and gas fields, spectrum licenses and many others.

Regardless of the auction mechanism, the problem of collusion seems to be unavoidable and universal for any country. For instance, Russia has made a great progress during the last decade in shifting from tenders to auctions. The latter are applied now in allocation of licenses, procurement, privatization and many other spheres. The most widely used auctions are open English first-price, because of their transparency and efficiency properties. But these auctions create much broader opportunities for collusive behavior than tenders, as is widely observed now in the case of Russia. By this reason the oil and gas fields are sold very often too cheap. As a

result, the majority of fields have been used very inefficiently by the winners that, as a rule, do not begin exploration of the acquired stocks for many years.

The facts of collusive behavior are clear to everyone. But there is no idea how the state should cope with these facts. The authorities really need clear criteria to detect collusive behavior and be able to prove it in the trail. The auction theory could provide a good advice in this respect.

An important practical issue related to collusion is of strategic choice by the state. This is not only the problem of auction design selection. In many cases the design is fixed by the law, but the authorities have to decide about timing of auctions thus facing the problem “to sell the object now or later”. Another important case is using the option to abolish *ex post* an auction which is strongly suspected in collusion.

I faced the latter problem twelve years ago in my work as a deputy minister of finance. At that time monetary policy was tight in spite of very high budget deficits financed through the Treasury bills issues. They were supplied intensively to commercial banks through primary weekly auctions. The Ministry of Finance was extremely liquidity constrained and had very weak a bargaining position. The big banks were aware about this situation and implicitly colluded to set very low bids.

The Ministry of Finance had a potential strategic tool to punish this collusive behavior by cancellation at least one auction to demonstrate its power. The law allowed such a possibility in the case of too low a cutting price. The banks would incur losses (because they had to deposit money for several days) and the next time would presumably behave more carefully. The problem was that the Ministry of Finance was extremely politically constrained and had to fulfill current obligations that required liquidity supply at any cost. This idea was realized two years later, after I left the Ministry of Finance, not long before the August crisis of 1998. Alas, the situation with the state finance was so bad at the moment that the strategy of punishment could not help already.

Nevertheless, I have a feeling that the problem of optimal punishment by the state could be a subject of theoretical and empirical research.

Once again, I would like to congratulate the organizers with making such a remarkable conference which, without doubts, was very fruitful.