

*Reflection on the Progress and Benefits
of the 6th World Congress
of the Game Theory Society
Reflexe průběhu a přínosů
6. světového kongresu Game Theory Society*

ONDŘEJ ČERNÍK
RADIM VALENČÍK

DOI

<http://dx.doi.org/10.37355/acta-2021/2-05>

The 6th World Congress of the Game Theory Society, postponed by one year, took place in Budapest from 19 to 24 July 2021. The one-year postponement and the limitations resulting from the current Covid-19 epidemic were both present. Since we use game theory extensively, we formulate a view on the direction in which game theory could be further developed (in the following three strategic directions) to increase its practical applicability:

1. Examine not just individual games, but sets (conglomerates) of games.
Game theory is already beginning to realize this, and there is talk of the importance of externalities (external influences) of individual games. Here, a good theory must be homogeneous, in this case meaning that the externalities of individual games also take the form of games:
 - So far, the best studied and probably the simplest case are games with repetition. One completed game is followed by another, and so on.
 - One of the most common cases of related (contextual, follow-up) games are positional investing games. The winner is the one who can invest more in the next game (which is a trivial game, but changes the previous game in a non-trivial way), or increases the probability of winning in proportion to the difference or proportion of the amount that can be invested in the next game. Position investing type games are very common and it should not be a problem to work with the type of games resulting in position investing, and from there derive modified solutions to the previous games. This would bring game theory very close to reality.
 - Are there any other types of related games that would be standard extensions of non-contextual games? Presumably these are information and signalling games, i.e. games in which the original game involves a game associated with the delivery of information or signalling of something. If we follow the

homogeneity principle of the theory here as well, then the most significant information or signalling of something will be a message like “what game is being played” or “what game is dominant (and subordinates other games)”.

- Then it may be other games, for example, associated with the loss or gain of reputation (which will significantly affect the solution of games like the Prisoner's Dilemma and their ilk).

2. What is the basic game in this or that case, i.e. the problem of anchoring the model. Related to the preceding is the raising of the question in the case of solving any relevant practical problem, what is the basic game in this or that case? This is by no means a trivial question. The fact that the theory avoids it has the effect of moving its models away from reality, unable to approach, by way of analysis of the games involved, the discovery of what is at stake in this or that case. Instead of being oriented towards practical applicability, theory then just gleans, waiting for an opportunity to find a practical application somewhere. Such a position is unworthy of game theory.

3. From preferences to returns on investment opportunities, a different “ontology” of final effects.

Game theory is too beholden to neoclassical economics. It is based on “utility maximization”, but intelligently described in the form of an axiomatic theory of preferences already in the seminal work of J. Neumann and O. Mongerstern. But our experience mechanism (which is multidimensional and much more complex than we realize) is only a decision-making mechanism, not an objective-forming one. The goal-directedness of the actions of individuals and households was best captured by M. Friedman when he argued that households convert present income into future income so as to maximize the present value of future income by acquiring and operating assets, consisting of human and non-human capital, from present income. And the subjective experiences of individuals only better or worse orient them to this strategic orientation in the particular temporal and cultural conditions