Analysis of armed conflict using methods of the game theory and the graph theory – popular science description

Wars are irrational. Societies decide to start them counting for profit, despite the knowledge of enormous costs of fights. Who makes these decisions? And more importantly, who supports them? We shall look for the answers inside a structure of societies. Position of each individual, presence of leaders, coherence of sides of conflict - all of these aspects directly influence opinion in a group. In some conditions it transfers to escalation of violence.

Numerous research on the subject tells us how the size of competing groups influences conflict, what ethnic structures favor fights and why does ethnic conflict is more likely than class conflict. Meanwhile papers in game theory show that introduction of uncertainty regarding economic conditions may be enough for people to reach coordinated decisions, which also works on social networks.

These two theories were not combined so far. Using the methodology of game theory in search of causes of wars will allow to develop new approach to the theory of conflict. That is exactly what this research aims to do.

The goal of the project is to develop theory on construction of social networks and its' impact on decisions taken by societies. Looking at role of single connections between participants of conflict will give us insights about the role of leaders in making decisions that influence everyone. On the other hand, analysing a structure of connections in whole network will show relationship between divisions in society and chances of starting a war.

Results of the research will be a significant input into conflict theory, game theory as well as social network studies. They will be an effect of innovative use of global games in search of sources of conflict and may widen our understanding of formation of wars.