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*Major Research Interests: **Game Theory, Probability theory and its application in Economics***

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## **From Large games to Non-large games**

A large game is a game which is endowed with an atomless probability space of players and where the interaction among different players is based on their action distributions. A non-large game refers to a Bayesian game or a normal-form game endowed with countably (finitely or countably infinitely) many players. In a large game, each individual player, being an atom of measure zero, has no influence on the final outcome of the game, while in a non-large game, each player has a say on the final outcome of the game. Previously, no relationship among them was established. Our research shall show that each non-large game can induce a large game and the former has a pure equilibrium if and if the latter has one.

## **Undominated (Bayesian) Nash equilibria**

An undominated (Bayesian) Nash equilibrium of a game is a (Bayesian) Nash equilibrium that is Pareto dominated by no other (Bayesian) Nash equilibrium. Simply speaking, a Pareto undominated equilibrium admits no other equilibrium that makes no player worse off but some players strictly better off. In reality, it is reasonable to anticipate that rational players prefer to choose Pareto undominated equilibria. Our research aims to show the existence of undominated equilibria in various game models.

## **Other projects**

I am currently also trying to work with my collaborators on continuous time game models, and option Greek estimation.

## **Selected Publications**

- Mixed-strategy equilibria and strong purification for games with private and public information, *Economic Theory* 37, 521-532 (2008)
- Pure-strategy equilibria in games with private and public information (with Yeneng Sun, Nicholas C. Yannellis and Zhixiang Zhang), *Journal of Mathematical Economics* 43, 523-531 (2007)
- The relationship between interest-rate and unemployment-rate: Theoretical analysis and empirical research, *Journal of World Economy (Chinese)* 25, 27-34 2002