

Introduction to Game Theory

Game Theory analyzes the *interaction* among a *group* of *rational* agents who *behave strategically*.

- A group consists of at least two individuals who are free to make decisions.
- An interaction means that the decisions of at least one member of the group must affect at least one other member of the group.
- In strategic behavior, members of the group account for the interaction in their decision making process.
- Rational agents act in their best decisions based on their knowledge.

Keynes's Beauty Contest: Choose the face that is the most chosen in a newspaper contest.

In many games, we are not asked to pick *our* favorite, we are asked to pick *everyone else's* favorite.

Applications of Game Theory

- Labor Economics (compensation interactions, promotions)
- Industrial Organization (pricing, entry, exit, etc.)
- Public Finance (public goods games)
- Political Economy (strategic voting)
- Trade (tariff wars)
- Biology (hunting and mating)
- Linguistics

It's important to remember that game theory is a subfield of *mathematics*, not economics.