

Mathematical Department

Mathematical Economics



Marta Faias

Assistant Professor
FCT-UNL

Degree in Mathematics
FC/UL
PhD in Economics
FE/UNL

Objectives

Functioning of **competitive markets** in several contexts:

- Asset creation.
- Formation of bourses (asset trading platforms).
- Differential information.
- Private provision of public goods.

Methodology

1. Design the proper model using GAME THEORY: Strategic games or cooperative games.
2. Define the equilibrium concept: Competitive Equilibrium, Nash equilibrium, Core, Shapley value.
3. Prove existence of equilibrium (Fixed point theorems).
4. Characterize the equilibrium (found the properties of the equilibrium).

Expected Results

- Provide market game foundations for competitive markets.
- Explain the formation of prices in different markets.
- Publish the results in top level research journals.

The hypothesis and the results that we obtain will help the decisors in choosing the best policies.

General Equilibrium
Nash Equilibrium
Market Games
Shapley Value