CURSOS DE INVERNO CMCD | 2018

Syllabus

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Course: Dynamic coordination

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PROGRAM

In a coordination game, the best action for a player is the action chosen by others. More generally, in environments with strategic complementarities, incentives for an agent to take an action increase when others take it as well. Strategic complementarities are important in many economic situations. For example, a consumer may withdraw his money from the bank simply because she fears a bank run. If other agents act in the same way, the bank might indeed be in trouble, so withdrawing might indeed be the best choice. In macroeconomics, a firm's desired level of output depend on its demand expectations, that is, on how much other companies plan to produce. When choosing between two social network platforms (say Facebook or Google+), more important than choosing the one with the best interface is to be in the network where most other people are. Likewise, participating in a political protest may be worthwhile only if many others participate; etc.

In their simplest versions, coordination games have multiple equilibria. For example, in many models of bank runs, there is an equilibrium where agents rush to withdraw their money and another equilibrium without bank runs (for the same parameter values).

Over the last two decades, models that seek to understand how agents coordinate in a given action have been developed. One important branch of this literature (the so called 'global games') uses informational frictions to study agents' expectations about the actions of others. Usually, a unique equilibrium arises. However, in general, these models are static.

Another branch of this literature studies the problem of coordination in a dynamic environment, with frictions that prevent agents from perfectly synchronizing their actions. This course focuses on these dynamic coordination models.

After a brief visit to the 'global games' literature, we present the basic framework of the dynamic coordination model with timing frictions, show theoretical results about equilibrium and welfare in this framework, and develop tools that are used in applications. After this theoretical part, we study applications such as the choice between products with network externalities (Facebook or Google+), the effect of coordination failures in macroeconomics, among others.

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GRADING

Research Project: 90%
Participation: 10%