個體經濟研討會導讀

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On the Maximal Domain Theorem

What is the question?

there is a flaw in the proof of Gul-Stacchetti maximal domain theorem, so that the set of gross substitutable preferences is a largest set for which the existence of a competitive equilibrium is guaranteed may fail to be true.

Why is it important?

Because we should correct the proof and improve the result.

What is the answer?

If the preferences of one agent are not gross substitutable, then gross substitutable preferences can be found for another agent such that no competitive equilibrium exists.

In a weaker condition(WGS condition), which can guarantee the existence of a competitive equilibrium when the preferences of some agent are monotone.

How did the author get it?

Give an equivalent characterization of the GS condition and an alternative maximal domain result, construct GS preferences for another agent such that no competitive equilibrium exists in the two-agent market.

Prove that the IGS condition is weaker than the WGS condition, and yet is sufficient for the existence of a competitive equilibrium when there exists an agent with monotone preferences.

Notation

GS : gross substitutability

the demand of each agent for an object does not decrease when prices of some other objects increase.

WGS : weak gross substitutability

agents view objects as substitutes for each other when prices are non-negative.

IGS : implicit gross substitutability

allowing agents to dispose of undesirable objects for free will make objects become substitutes, and thus exhibits substitutability in an implicit way.

Section 2:
  ➢ recall the Gul-Stacchetti maximal domain theorem
  ➢ show that there is a flaw in the proof
Section 3:
  ➢ give an alternative proof
  ➢ prove new maximal domain results
Section 4:
  ➢ provide a new existence theorem based on the IGS condition