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On the Maximal Domain Theorem

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Abstract

The maximal domain theorem by Gul and Stacchetti (1999. Walrasian equilibrium with gross substitutes. J. Econ. Theory 87, 95-124) shows that for markets with indivisible objects, the set of gross substitutable preferences is a largest set for which the existence of a competitive equilibrium is guaranteed. In this paper, we give an example to show that a claim in their proof is false, and provide an alternative proof based on a new characterization of gross substitutability.

JEL classification: C78; D51

Keywords: Maximal domain; Competitive equilibrium; Gross substitutability.

1 Introduction

Gul and Stacchetti (1999) study markets with heterogeneous indivisible objects, and prove that under monotone preferences, the gross substitutability (GS) condition by Kelso and Crawford (1982) is not only sufficient for the the existence of a competitive equilibrium, but also necessary in the maximal domain sense: if the preferences of some agent violate the GS condition, then GS preferences can be found for other agents such that no competitive equilibrium exists. In the proof of this result, Gul and Stacchetti (1999, pp. 122-123) claim that a market of a certain type has no equilibrium. In the present paper, we provide an example to indicate that

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