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Price-Level Volatility and Welfare in Incomplete Markets with Sunspots

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Abstract

In an economy with incomplete financial markets as described by Cass (1989), there is typically a continuum of equilibria driven by sunspots. In some cases, there is no Pareto ranking among the different sunspot equilibria. However, this paper shows that a sunspot equilibrium with lower price-volatility is superior in economic welfare to one with higher price-volatility based on a compensation test of balanced tax-transfer plans. Specifically, I start with a non-singular benchmark equilibrium. For any nearby equilibrium prices with smaller volatility, there exists a small redistribution of first period endowments that achieves an equilibrium with the same price-volatility but is yet Pareto-superior to the benchmark equilibrium. Such a Pareto-improving redistribution does not exist for the nearby equilibrium with higher price-volatility.

1 Introduction

Sunspots provide explanations of excess volatility of both price levels and allocations.[1] Cass (1989, 1992) showed that when markets are incomplete,

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[1] See Cass and Shell (1983) and Shell (1987, 2008).