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Monetary Equilibria and Knightian Uncertainty

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Summary: This paper studies a pure-endowment stochastic overlapping generations model of monetary economy under uncertainty. One of finite number of shocks realizes in each single period and, at each date-event, one new agent is born and lives for two dates. There are a single physical good at each event and an infinitely lived outside asset, fiat money. We model uncertainty by so-called multiple priors, that is, uncertainty is represented by not a *single* probability measure but a *set* of probability measures. A consumption stream is evaluated by concave utility index functions, from which agents derive Gilboa-Schmeidler's maxmin expected utility preferences.

This paper achieves two objectives. First, we show that multiple stationary monetary equilibria exist and hence real indeterminacy arises when aggregate shocks of endowment exist. Second, we show that each of these stationary monetary equilibria is conditionally Pareto optimal, that is, no other stationary allocations strictly Pareto dominate the equilibrium allocations.

This paper also provides several numerical examples. Such examples indicate that an increase in uncertainty enlarges not only indeterminacy of prices and allocations but also the range of economy in which indeterminacy is observed.

Keywords: Money; Uncertainty; Maxmin expected utility; Indeterminacy; Optimality; Stochastic overlapping generations model.

JEL Classification Numbers: D50; D62; D81; E40.
