

Money and prices under uncertainty ^{*}

Tomoyuki Nakajima [†] Herakles Polemarchakis [‡]

Working Paper No. 01-31

Department of Economics, Brown University

September, 2001

Abstract

Monetary and fiscal policy do not determine the stochastic path of prices: in the absence of financial policy, there remains indeterminacy indexed by an arbitrary probability measure over the set of states of the world.

With an interest rate policy, and only if the asset market is complete, indeterminacy is nominal: it affects prices, but not the allocation of resources at equilibrium; with a money-supply policy, the indeterminacy is real.

Portfolio policy sets the portfolio of assets that the monetary authority employs in open market operations; it determines the equilibrium if the policy is non-Ricardian, but not otherwise; financial rate policy, which sets the rates of return of elementary securities, the contingent price of revenue at each date-event determines equilibrium allocations and prices.

long-lived nominally riskless assets can substitute for assets with contingent payoffs; financial policy, then, sets the maturity structure of debt or the yield curve.

Key words: monetary policy; fiscal policy; financial policy, uncertainty; indeterminacy.

JEL classification numbers: D50; D 52; E40; E50.

^{*}We want to thank Jayasri Dutta, Ronel Elul, John Geanakoplos, David Kelsey and Michael Woodford for very helpful conversations; the work of Polemarchakis would not have been possible without earlier joint work with Gaetano Bloise and Jacques Drèze.

[†]Department of Economics, Brown University; tomoyuki_nakajima@brown.edu

[‡]Department of Economics, Brown University; herakles.polemarchakis@brown.edu