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“Computing DSGE Models with Recursive Preferences”

by

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# Computing DSGE Models with Recursive Preferences\*

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## Abstract

This paper compares different solution methods for computing the equilibrium of dynamic stochastic general equilibrium (DSGE) models with recursive preferences such as those in Epstein and Zin (1989 and 1991). Models with these preferences have recently become popular, but we know little about the best ways to implement them numerically. To fill this gap, we solve the stochastic neoclassical growth model with recursive preferences using four different approaches: second- and third-order perturbation, Chebyshev polynomials, and value function iteration. We document the performance of the methods in terms of computing time, implementation complexity, and accuracy. Our main finding is that a third-order perturbation is competitive in terms of accuracy with Chebyshev polynomials and value function iteration, while being an order of magnitude faster to run. Therefore, we conclude that perturbation methods are an attractive approach for computing this class of problems.

*Keywords:* DSGE Models, Recursive Preferences, Perturbation.

*JEL classification Numbers:* C63, C68, E37.

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