

Macroeconomic Implications of Term Structures of Interest Rates under Stochastic Differential Utility with Non-Unitary IES

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Abstract: This paper proposes a continuous-time term-structure model under stochastic differential utility with non-unitary intertemporal elasticity of substitution (IES, henceforth) in a representative-agent endowment economy with mean-reverting expectations on real output growth and inflation. Using this model, we make clear structural relationships among a term structure of real and nominal interest rates, utility form and underlying economic factors, in particular, inflation expectation. For example, we show that, if (1) the IES is less than one, (2) the agent is comparatively more risk-averse relative to time-separable utility, and (3) the rate of expected inflation is negatively correlated with the rate of real output growth and its expected rate, then a nominal yield curve can slope up.

Key Words: Stochastic differential utility, Non-unitary IES, Term structure of interest rates, Inflation expectation

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