Neoclassical Growth with Long-Term One-Sided Commitment Contracts

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This paper characterizes the stationary equilibrium of a continuous-time neoclassical production economy with capital accumulation in which households can insure against idiosyncratic income risk through long-term insurance contracts. Insurance companies operating in perfectly competitive markets can commit to future contractual obligations, whereas households cannot. For the case in which household labor productivity takes two values, one of which is zero, and where households have log-utility we provide a complete analytical characterization of the optimal consumption insurance contract, the stationary consumption distribution and the equilibrium aggregate capital stock and interest rate. Under parameter restrictions, there is a unique stationary equilibrium with partial consumption insurance and a stationary consumption distribution that takes a truncated Pareto form. The unique equilibrium interest rate (capital stock) is strictly decreasing (increasing) in income risk. The paper provides an analytically tractable alternative to the standard incomplete markets general equilibrium model developed in Aiyagari (1994) by retaining its physical structure, but substituting the assumed incomplete asset markets structure with one in which limits to consumption insurance emerge endogenously, as in Krueger and Uhlig (2006).