

1052-91-288

Kasper Larsen* (kasper1@andrew.cmu.edu), Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *Bond and Stock Market Equilibrium with Heterogeneous Agents Receiving Unspanned Income.*

We provide the first closed-form solution for the equilibrium risk-free rate and the equilibrium stock price in a continuous time economy where agents have heterogeneous preferences and unspanned labor income risk. We show that low correlations between the investors' income processes and the stock's dividend process produces a low correlation between the stock's dividends and the equilibrium aggregate consumption, i.e., a lower Sharpe ratio, whereas the risk-free rate is unaffected in economies with many individuals. If the aggregate consumption dynamics remain fixed, the Sharpe ratio also remains the same whereas the risk-free rate (and the expected stock return) is lower in our economy relative to the corresponding representative agent economy where all risks are spanned. The reduction in the risk-free rate depends on the magnitude of all individuals' unspanned income risk and their risk aversion: The reduction is highest when the most risk-averse individuals face the largest unspanned income uncertainty. In stylized numerical examples the reduction in the risk-free rate is several percentage points. (Received August 31, 2009)