

Summary of the equity premium a puzzle by R. Mehra and E.C. Prescott

The main question in this study is whether model specifications that are abstracted from transaction costs, liquidity constraints, and other frictions lacking in the Arrow-Debreu setup could explain the huge difference in average yields of long-term stocks and short-term equities. Moreover, the authors found that the significant average equity premium will likely be explained by certain equilibrium models with friction.

The authors focus on economies where the elasticity of goods substitution between the year t and year $t + 1$ is consistent with micro, macro, and international economic data. Additionally, the economies are designed to have the same mean, variance, and serial correlation as the equilibrium consumption growth rates. The reason why the low or high average return on equity cannot be rationalized in a perfect market is that with real per capita consumption expanding at about 2% per year, the substitution elasticities between the year t and year $t + 1$ are small enough to yield the 6% average equity premium, which is exceeding the real return rates.

The authors assume that the growth rate of the asset matches a Markov process as per capita consumption has increased over the period. Thus, the assumption allows them to capture the non-stationarity in the consumption series that accompanied the substantial growth in per capita consumption. Also, the chosen economy ensures that a joint process aggregated per capita spending and asset values will be stationary and predictable. Moreover, the parameters, such as α , are chosen such that the average per capita consumption growth rate, the standard deviation of per capita consumption growth rate match the sample values for the US economy. Furthermore, the α measures peoples' willingness to substitute consumption between yearly time periods. Importantly, they also assume that relative risk aversion is nearly constant in relation to wealth.

To sum up, the equity premium puzzle might not be about why the average return on equity is high, but why the average risk-free rate of return was is low. This statement is true when agreeing that the α parameter is greater than one. However, if the α is close to zero, the investors would question why the average return on stocks is high.