

The Equity Premium Puzzle

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From the past, the average return on equity has been significantly higher than the average return on short-term nearly default-free debt. The question mentioned in this study is whether this large difference in average yields can be explained by models that describe transaction costs, liquidity constraints, and other frictions that are absent in the Arrow-Debreu setup. As a result, it cannot be, at least not for the class of economies under consideration. The conclusion is that some equilibrium model with a friction will most likely account for the large average equity premium.

In this paper, the parameters defining preferences are α and β whereas the parameters defining technology are the elements of $[\phi_{ij}]$ and $[\lambda_i]$. Their strategy is to assume two states for the Markov chain and limit the process as follows :

$$\begin{aligned}\lambda_1 &= 1 + \mu + \delta, & \lambda_2 &= 1 + \mu - \delta, \\ \phi_{11} &= \phi_{22} = \phi, & \phi_{12} &= \phi_{21} = (1 - \phi).\end{aligned}$$

The parameters μ , ϕ , and δ define the technology. This parameterization was chosen because it allowed them to separately vary the average growth rate of output by changing μ , the variability of consumption by altering δ , and the serial correlation of growth rates by adjusting ϕ .

Given the estimated consumption process, it depicts the set of average risk-free rate and equity risk premium values that are both consistent with the model and result in average real risk-free rates ranging from 0% to 4%. These are the values that can be derived by varying preference parameters between 0 and 10 and β between 0 and 1. At the end, they discovered that the observed data is clearly inconsistent with the model's predictions.

There are some limitations that contribute to the robustness of the results. First, the potential issue is related to errors in measuring the inflation rate. Second, measurement issues arise as a result of tax considerations. The theory implicitly takes into account effective after-tax returns that vary across income classes. Tax rates were low in the previous period. The low real rate and sizable equity risk premium hold for after-tax returns for all income classes in the latter period.

In conclusion, the equity premium puzzle may not be why the average equity return was so high, but rather why the average risk-free rate was so low. If the Friend and Blume (1975) finding that the curvature parameter significantly exceeds one is accepted, this conclusion follows. If, on the other hand, α is close to zero and individuals are nearly risk-neutral, one might wonder why the average return on equity is so high.