EE433: Paper Summary 03

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Many economics theories have been charmingly derived and thoroughly proved. The results of those models seem to be true. Though, it might not be the case. The document captures the overall idea of ***"The Equity Premium A Puzzle", MEHRA and PRESCOTT, 1985*** which shows the inconsistency between the result of the economic model and the real-world data.

In this study, the data from the United States in the period 1889 to 1978 has been employed to compute the growth rate of per capita real consumption, the real return on relatively riskless security, the real return on S&P500, and the risk premium. All are in percentage terms. It reveals that the risk premium in this period is equal to 6.18%, on average. Next, for the economics model, *Lucas' (1978)* pure exchange model has been used along with the assumption that the growth rate of the endowment follows a Markov process. The parameters in the model were selected such that the average growth rate of per capita consumption, its standard deviation, and its serial correlation math with the sample values for the U.S. economy from 1889 to 1978. Given those parameters, the researchers utilize these values to compute the risk premium. The largest premium that is obtained from the model is 0.35 percent which is far from the risk premium (around 6 percent) observed from the data. Some might argue that there must be some flaws in the model such as measurement problems that could lead to errors. Hence, to reconcile, the researchers test the sensitivity of their result to model misspecification. By doing so, the maximal equity premium rises to 0.39 percent only which leads to the conclusion that the result of this study is insensitive to the specification problem. Next, some say that it might be because of the firm leverage since the stockholders can get only the residual claims that are left after paying for the leverage. The researchers, nonetheless, demonstrate that this is also not the case. They show that the large fixed payment of the firm does not reverse the test's outcome. Finally, it must be noted that the endowment, in the model, is assumed to be exogenous without accumulation nor production. The researchers say that this might be another possibility of that inconsistency, and they plan to relax this assumption in their future work.

Lastly, the researchers point out that the question to be asked is why the average risk-free rate was so low instead of why the equity premium was so high. They have left some ideas for them to solve this equity premium puzzle. That is, the heterogeneity of the agents might lead to a different conclusion. Plus, the assumptions about the time-separable utility function and Arrow-Debreu competitive equilibrium might be too strong, they should be relaxed so that the puzzle can be resolved.