

Equity premium puzzle

From the data nowadays, we always see that the average return on equity is always higher or exceeds the average return on short-term debt. From the ninety year period 1889 - 1978 the average real annual yield on short term debt was less than one percent. The author studies the class of competitive pure exchange and keeps growth rate on consumption, equilibrium assets return constant. The economies are constructed to display equilibrium consumption growth rates with the same mean, variance and serial correlation. Found out that the average real annual yield on equity is a maximum of four-tenths higher than on short term debt. The reason that the low average return and high average return equity cannot be rationalized in a perfect market is because real per capita consumption grows at a 2% rate, the elasticities of substitution between 2 years of consumption goods are small to yield the equity premium.

The data that he used in this research are I.) Annual average of S&P 500 by consumption deflator II.) Real annual dividends of S&P 500. III.) Per capita real consumption on non durable goods. IV.) Consumption deflator series and V.) Nominal yield on riskless short term securities.

The series data is used to generate the series actually utilized. 2 series used to determine the average annual real return on the S&P 500 composite index over a ninety year period of study. Series C is used to determine the process of the growth rate of consumption. The parameters were restricted to be consistent with this process.

The result of this research matched with the sample values for the US economy between 1889 - 1978 as researchers selected the parameter of average growth, standard deviation and first-order serial correlation of growth rate. The parameter alpha plays a significant role as it measures people's willingness to substitute consumption between successive yearly time periods and alpha can be varied among the research. The average real return on relatively riskless, short term securities over the 1889-1978 was 0.8 percent which does not correspond perfectly with T-bill. At that time the average return is 6.98 % so the average equity premium is 6.18 %.

The equity puzzle stated about why the average risk-free is low. The conclusion is that the alpha. For alpha more than 2, the risk free rate is at least 3.7 % which is larger than the sample average of 0.8%. On the other hand, if the alpha is nearly 0 and individual nearly risk-neutral and some might be curious as to why the average return of equity was so high. There is another example that receives a lower return than implied. Currency is dominated by treasury bills with positive nominal yields.

To clarify the doubt about the non-time-additively separable preferences will resolve the puzzle. The introduction of certain types of intertemporal trades among agents infeasible will resolve the puzzle.

The limitation of this research is to have the data of necessary consumption data by income or age group.