FINM3093 Investments

Lecture 2 Exercises

1. Use the following figure to analyze the effect of the following on the level of real interest rates:

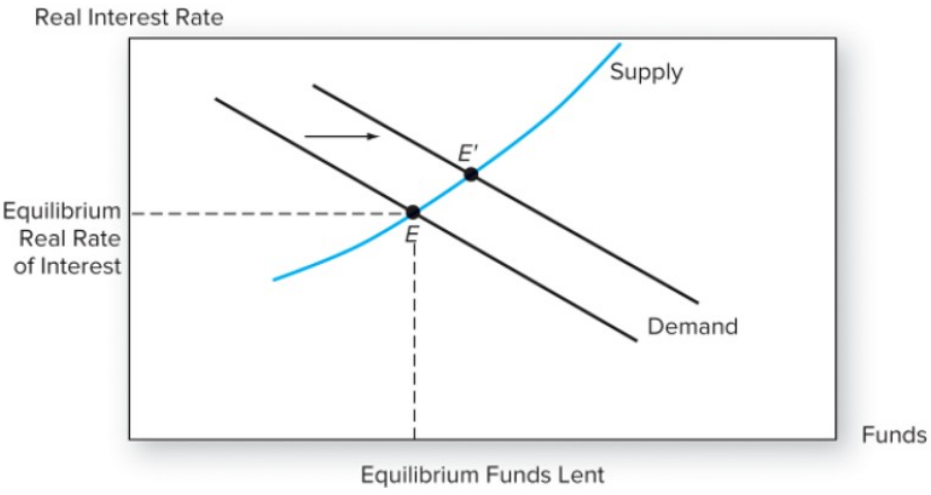

Figure 5.1 Determination of the equilibrium real rate of interest

   a. Businesses become more pessimistic about future demand for their products and decide to reduce their capital spending.
   b. Households are induced to save more because of increased uncertainty about their future Social Security benefits.
   c. The federal Reserve Board undertakes open-market purchases of U.S. Treasury securities in order to increase the supply of money.

2. You are considering the choice between investing $50,000 in a conventional 1-year bank CD offering an interest rate of 5% and a 1-year "Inflation-Plus" CD offering 1.5% per year plus the rate of inflation.
   a. What is the safer investment?
   b. Can you tell which offers the higher expected return?
   c. If you expect the rate of inflation to be 3% over the next year, which is the better investment? Why?
   d. If we observe a risk-free nominal interest rate of 5% per year and a risk-free real rate of 1.5% on inflation-indexed bonds, can we infer that the market's expected rate of

inflation is 3.5% per year?

3. During a period of severe inflation, a bond offered a nominal HPR of 80% per year. The inflation rate was 70% per year.
    a. What was the real HPR on the bond over the year?
    b. Compare this real HPR to the approximation $r_{real} \approx r_{nom} - i$.

4. Suppose the risk-free interest rate is 6% per year. You are contemplating investing $107.55 in a 1-year CD and simultaneously buying a call option on the stock market index fund with an exercise price of $110 and expiration of 1 year. Using the scenario analysis of Spreadsheet 5.1, what is the probability distribution of your dollar return at the end of the year?