Requirements:

1. The submission must be Word file. The file name must be in the format like group-number-term-project.docx.

2. Each group only submit one final report of the project online;

3. Have a cover page to list the course name, term and your group members.

4. Maximum length: 10 pages; double spaced;

5. Please provide references you used in the term paper;

6. Use tables or figures to show your results;

7. Consult with a real estate agent about the purchase (optional); if this is applicable, discuss your experience in the

report;

8. Each member completes the peer evaluation form and submits online.

Today’s low interest rates offer an opportunity to get low-cost mortgage. This explains why U.S. housing prices have

not declined but increased during the global pandemic – see the price move inside the circle of the S&P/Case-Shiller

U.S. National Home Price Index in 2020.

Your group is deciding to purchase an investment property in an ideal location you prefer. The price range is

between $200k and 400k. You would address the following issues before buying the property:

1) Decide the location and the specific real estate property you would like to buy (e.g., a single-family house or a condo). Please provide justification why the property is chosen,

e.g., affordability, potential of price appreciation. Use some data to justify your selection, e.g., the housing price

growth rate in the region. You could use the resource like zillow.com, etc.

2) Find out the mortgage rates for different properties and make a choice between 30/15-year mortgages and

between FRM and ARM. You could use bankrate.com, etc. Please justify your decision.

3) Calculate monthly mortgage payment given the down payment you will make. Please consider prepayment in the

analysis, and provide information on closing expenses1 and subsequent maintenance costs as well. This will be a

fixed 80% payment mortgage loan with 20% down payment. It means you will pay 20% down payment and finance

80% with mortgage. Please show your calculations.

4) In the meantime, predict the amount of monthly rental you will be able to collect when you lease the property out

(zillow.com also provides rental price information). The rental period is the same as your mortgage period. In other

words, you will pay off your mortgage and end the rental at the same year. Provide justification for your rental

projection.

5) Project the resale value of the property at the end of mortgage payment period. Please use some statistics to back

up your numbers.

6) Once you have the projected monthly mortgage payment, monthly rent income and the resale value of the

property at the end of mortgage payment period and your down payment, you could discount them to the present

value in Excel or using a financial calculator. The discount rate is the mortgage rate. The return on your investment

property is calculated as (the sum of present value of inflow cash flow) / (the sum of present value of outflow cash

flow) -1.

7) Next, assume you don’t purchase an investment property, instead, you invest the same amount of money as your

total investment in the house in stocks (for example, investing in the S&P500 index or other indexes). You could use

historical data of S&P500 index to calculate the index return, a.k.a. use the yearly S&P 500 before this year to

calculate the yearly returns and average them within the sample period. The period of the expected index return is

the same as your mortgage period but the index data is backward. For example, if the mortgage period is 30 years,

use the last 30 years of the index data to calculate the average stock return.

8) Then assume you buy long term treasury bonds with the same amount of money of your investment in the house.

The period of the expected bond return is the same as your mortgage period. (e.g., if the mortgage is 30-year

mortgage, buy 30-year Treasury bond). Find the YTM of the Treasury bond. You could use the resource like wsj.com,

etc.

9) Compare the return of the investment on real estate, stock index and Treasury bond. Please explain the under- or

out-performance of your real estate investment comparing to other two investments. Justify your conclusion.

Hope you will enjoy the experience