

PBF ASSIGNMENT 4

Investing for Long-Term Goals

*Enter all answers to this assignment on the connected LMS test.
No documents need to be submitted.*

Question 1: Practice applying your knowledge of the Time Value of Money principle

How much money would you have to invest today, at an interest rate of 5% in order to reach your goal of \$1,000,000 in 30 years? Assume you don't put any additional money into this investment – it's only a one-time investment TODAY.

Hint: in Microsoft Excel, type the function =PV followed by open parentheses, and enter the variables, including interest rate, number of periods, enter "0" for pmt, and finally the future value. Close parentheses and hit enter.

Question 2: Practice applying your knowledge of the Time Value of Money principle

How much money would you need to invest every year, at the same interest rate of 5%, if you had no money up-front TODAY to invest? (\$0 is your PRESENT VALUE)

HINT: USE EXCEL's Payment Formula =PMT to answer this question instead of =PV. Type the function =PMT followed by open parentheses, and enter the variables, including interest rate, number of periods, present value, and future value. Close parentheses and hit enter.

Question 3: Research the return you can expect from savings accounts:

An important principle of managing money is maximizing the return you earn from your savings. Some banks pay more than others, and rates change over time, just like gas prices go up and down. Think about a time when you were driving by an intersection with gas stations on both sides of the road. Did you ever search for the gas station with the lower price and pull your car into that one? Managing your savings is the same. You can maximize your return by finding the best available rate. The only way to find out which banks offer the best rate today is to research it.

Visit the bank websites of two banks in your area and search for savings accounts. Find the current interest rate they pay on a savings account.

Question 4: Using a mutual fund (higher-risk) investment to reach a long-term savings goal

Stock Mutual funds are baskets of individual stocks. When you buy shares of a mutual fund, you are buying *a small percentage of every individual investment that is inside the basket*. For example, if you take \$1,000 and buy into a typical stock mutual fund, 1% of your \$1,000 might be invested into Apple stock, while another 1% is invested in to Cisco Systems, etc. all the way up to 100% of the fund. By investing into one mutual fund, you could end up owning small pieces of more than 100-500 stocks. It's a "package deal."

Every mutual fund has an annual return, *which you can think of as an interest rate*. If a mutual fund does well, it could earn 40% in a single year or it could also earn a negative return such as -10%. People use mutual funds to invest money for longer-term goals such as retirement.

A recent search of a well-known investment firm's website revealed that their "Classic Stock Fund" (class A shares) had a three-year average return of 7.17% per year over the previous three years. We could use this "average return" as an interest rate in our present value formula to help us become a millionaire in 30 years. **We can explore our savings goal again like we did in Question 1, only this time using a higher interest rate instead.**

- *Let's find out how much money it takes to reach a retirement goal when the interest rate (return on investment) is higher.*

How much money would you have to invest today, at an interest rate of ____% (use the 3-year average annual return from the Classic Stock Fund instead of the 5% rate you used in question 1) in order to reach your goal of \$1,000,000 in 30 years? Assume you don't put any additional money into this investment – it's only a one-time investment TODAY. This means remembering to enter 0 for the PMT variable in your excel formula.

- *HINT: Go back and follow what you did in Question 1, but use a different interest rate - the interest rate will be the 3-year average annual return on the stock fund.*

Remaining Questions - Review and Reflect (Knowledge Check) All the remaining questions will assess your understanding and interpretation of this topic.

