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| NGPF_LG.png | *NGPF Case Study* *Savings/Investing* |

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| Case Study Summary **Description:** In this Case Study, a recent college graduate, Jocelyn, prepares for a meeting with her financial adviser. She has developed short, medium and long-term savings goals to purchase a car, a home and an early retirement. She has a choice to make after her adviser makes specific investment recommendations.  **Internet Usage:** Yes  **Spreadsheet Skills:** Basic |  | Alignment to Savings and Investing Learning Objectives: Students will be able to:   * Understand fundamentals of saving such as reasons for saving, how much to save, and strategies to enable saving (2.1) * Describe their own savings goals as well as big picture reasons to save, such as for college or retirement (2.2) * Estimate the cost of medium- and long-term goals and devise smaller, periodic savings goals to reach them (2.2) * Identify various rules of thumb and strategies to save money (2.3) * Compare different savings vehicles such as a savings account, CD, and money market account (2.4) * Explain how to use the Rule of 72 (2.3) * Understand the difference between saving and investing and when to use each strategy (2.1, 7.1) * Understand the three main classes of investments and the risk and return associated with each (7.1) * Recognize the value of young people investing early, regularly, and long-term to extract maximum earnings from their investments (7.5) * Explain why it’s important to start saving for retirement as early as possible (7.6) |

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Car, Home, Retirement: What’s My Plan?

Looking at her schedule, Jocelyn realized that she only had a few hours before her first meeting with her financial advisor. She had started her first job in September, earning $50,000 as an account executive at a high-tech firm, and one of the benefits of working at NewTech was a two hour meeting with a financial advisor. The advisor had sent along an email last week:

**Exhibit 1: Email**

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| Hi Jocelyn,  I am looking forward to our meeting next Thursday at 3pm. In order to prepare for our meeting, I would like for you to develop a list of short, medium and long-term savings goals. This will help us work together to figure out:   1. How much you will need to save 2. Where you should put your savings   In terms of point #2 above, I think that there are three options that you might consider for where to put your savings. I am listing them below as well as how much those investments have typically returned in a year. We want to make sure that you earn the highest returns for your money, so I will likely suggest all stocks but I wanted to make sure you saw that there were other options also.  Savings/Investment options:   1. Savings account (1% annual return) 2. Bonds (3-5% annual returns) 3. Stocks (7-9% annual returns)   Also, you should know that our firm has some of the best stock mutual funds around, and I look forward to sharing them with you soon.  Regards,  Tommy Stockman |

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| **Answer this**:   1. List any concerns you have after reading this email: |

“Ok, short, medium and long term goals. If that is what he wants, then that is what he will get,” Jocelyn thought aloud. “I want a new car in 3 years, a house in 10 and I want to retire in 30.” Jocelyn couldn’t wait for the meeting, so she decided to put her spreadsheet skills to the test to see if she could figure out how much she needed to save in order to accomplish these three goals.

She decided to tackle each of her goals from simplest to most challenging. First, she wanted to figure out how much she needed to save for the car down payment. Just to keep her mind focused on the goal ahead, she had this car advertisement set up as the screensaver on her laptop:

**Exhibit 2: Car Advertisement**

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| DRIVE AWAY IN THIS BEAUTY TODAY!  BRAND NEW FOR ONLY $20K!   |  |  | | --- | --- | | JUST $4000 DOWN PAYMENT!  LOW 7% INTEREST RATE!  5 YEARS TO REPAY YOUR LOAN!  YOU CAN’T AFFORD NOT TO! | images (36).jpeg | |

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| **Answer this**:  2. In order to afford the down payment, how much will Jocelyn need to save for each of the next three years? Does this seem like a reasonable amount, given her salary?  Year 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  TOTAL  3. Where should Jocelyn stash her money for the down payment?  4. What will be her car payment for each of the following five years (years 4-8)? Use this [auto loan calculator](http://www.autotrader.com/calculators/) with the assumptions listed above and remember to convert monthly figures to annual ones (note that sales tax where she lives is 5%, and because this is her first car she won’t benefit from trade in allowance).  Year 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 6: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 7: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Year 8: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

So far, so good. Now, it was on to her “dream house,” which Jocelyn thought would cost about $190,000 (the median price of homes in the United States at that time). Her goal was to buy the house in 10 years to give her enough time to save. She also been told that she would NOT need to pay the full cost of the house upfront, but that most home purchases required a down payment of 20% of the cost of the house. The remaining 80% she could borrow with a 30-year mortgage that currently had an interest rate of 5%. These rates would likely change when she was ready to borrow, but she needed an estimate.



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| **Answer this**:  5. What is the amount of the down payment that she will need to save for the home? How much will she need to borrow?  6. How much would she need to save for each of the first ten years to cover the down payment you calculated in #5? Does this seem reasonable given her salary? To be conservative, assume that she saves this money in a checking account not earning any interest.  7. Using this [mortgage payment calculator](http://www.bankrate.com/calculators.aspx?ic_id=rates-funnel_mortgage_calculators_globalnav), determine what her annual mortgage payment would be over the 30 year term assuming a 5% interest rate and using the amount she needs to borrow from Question #5. Be sure to convert monthly payments into annual costs.  8. Does this monthly payment seem reasonable for Jocelyn, using the standard rule of thumb that your mortgage payment shouldn’t exceed 30% of your gross salary? |

Now, it was on to retirement. Given her short-term (car down payment) and medium-term goals (home down payment), Jocelyn wasn’t sure she would have any money left over to save for retirement. She remembered back to her high school personal finance class, when the teacher had urged students to start saving for retirement while they were young, but it was hard to be motivated by a goal that would be thirty years or more into the future.



Having seen her grandparents continue working into their 60s and 70s, Jocelyn was determined to retire after 30 years with $1,000,000 in her retirement account. She hoped to get married at some point and thought if she and her spouse each had $1,000,000 saved then they she should be OK. She found this nifty “[Millionaire Calculator](http://www.investopedia.com/calculator/millionairecal.aspx)” to help her figure out how much she needed to save on a monthly basis to have $1 million saved in 30 years.

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| **Answer this**:  9. One of the key variables in the [Millionaire Calculator](http://www.investopedia.com/calculator/millionairecal.aspx) is the Investment Rate. What do you think is a good assumption for Jocelyn to make? Based on this assumption, what type of investment do you think she will need to choose (using the three assets described in the email from her financial adviser)?  10. What is the relationship between the Investment Rate and the Investment Amount per Month? Use combinations of the words “higher” and “lower” in the following sentence:  The \_\_\_\_\_\_\_\_\_\_\_\_ the investment rate, the \_\_\_\_\_\_\_\_ the amount that you will need to save to reach the $1,000,000 goal.    11. Using the assumption for Investment Rate in #9, how much will Jocelyn need to save on a monthly basis in order to have her $1,000,000 nest egg after 30 years? Assume that she starts saving at the age of 22.  12. Convert that monthly amount to an annual figure and compare to her annual salary. Does this seem like a reasonable amount for her to save? |

**Well, now it was the moment of truth.** Jocelyn needed to combine all of her saving goals into one overall financial plan. Complete the table below using the figures you calculated in the earlier questions for her car, house and retirement savings goals. If you prefer to work electronically, here is the [Jocelyn's Savings Plan spreadsheet](https://docs.google.com/spreadsheets/d/16jC42hztHF7QlgPa2r0k7FGqOHwTBd_tLQlTHL9ilD8/edit?usp=sharing)[[1]](#footnote-0) that aligns with the chart below.

For “Car Savings and Payments” and “House Savings and Payments,” be sure to include both the amounts saved annually PRIOR to purchase, as well as loan payments AFTER purchase. Add the Car + House + Retirement amounts to get the “Total Savings and Payments” and calculate it as a percentage of Jocelyn’s salary.

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| Year | Salary | Car Savings and Payments | House Savings and Payments | Retirement Savings | Total Savings and Payments | Total Savings and Payments as % of Salary |
| Cash flows | 3% increase annually | Save for 3, Pay for 5 | Save for 10, Pay for 30 | Save for 30 |  |  |
| 1 | $50,000 |  |  |  |  |  |
| 2 | $51,150 |  |  |  |  |  |
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| **Answer this**:  14. Does this seem like a reasonable financial plan that Jocelyn can achieve?   * If you think it is reasonable, explain why. * If not, explain how you might adjust her goals and saving priorities.   15. What assumption do you feel most concerned about as you think about why Jocelyn may fall short in achieving her goals?  16. Do you think the challenge that Jocelyn faces in years 13 to 30 will be more or less challenging than those she faces in the first twelve years? Why? |

With savings spreadsheet in hand, Jocelyn raced off to see her financial advisor, Tommy Stockman. She felt that she had a good handle on her savings goals and what would be required to get the car, the house and the retirement that she envisioned. Tommy greeted her in his office and took a few minutes looking over her documents:



When he was done reading, he slowly handed the documents back to Jocelyn and spoke confidently to her:

Jocelyn, this is some great work! You have clearly thought through what is required to achieve your goals, and I can see the thought and effort that went into your analysis. What if I told you that you could accomplish all of your goals (the car, the dream house and the retirement) by saving LESS? Yes, you heard that right, my plan would actually have you save LESS!

A bit taken aback at this point, Jocelyn only had one question….”How?” Tommy responded in a more rapid-fire fashion at this point:

It’s actually quite easy and low risk, too. Look at all this money that you are saving for your car and home down payments. Only a fool would stick that money in a checking or savings account when you can get a return on an investment in stocks of at least 12%-15% a year. I have this long list of awesome mutual funds that we offer that will get you a great return on your money and the best part about this...the more that I can earn you on those investments the less you will need to save! Just think -- when I deliver this 10% low risk return, you will be doubling your money like every four years! Stop thinking about that $200,000 house. With my advice, a $300,000 or even $400,000 house will be within reach! Why settle for the average house when you deserve better? You do realize, of course, that I am always acting in your best interest, so why do you seem so hesitant?

Jocelyn lobbed in a question at the moment when Tommy was catching his breath:

What about my retirement plan? I read this article that had this very simple approach of putting money into a Target Date Fund and watching it grow. This seemed like a great solution.

Tommy grimaced as he delivered his message:

Target Date Funds are for losers. Sorry that was a little strong. Why are you so willing to accept mediocre returns? I mean, we have a gold fund that was up 65% in a year; doesn’t that sound attractive? Or how about an Emerging Market Leveraged Floating Rate Bond fund that rose 35% a few years back, with incredibly low risk? I have so many better options to choose from than those Target Date Funds. You do want to retire early, don’t you?

Let me get the paperwork out so we can start putting your money to work NOW! OK?

Jocelyn saw Tommy’s passion and wondered how to proceed.

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| **Answer this**:  17. What are THREE questions that Jocelyn should ask Tommy regarding his investment advice?  18. Circle at least three of Tommy’s statements above that your believe are not entirely accurate. List below the corrections to those statements.  19. What would you do if you were Jocelyn? |

1. [How To: Entering & Editing Data](https://youtu.be/4jvD2hvihGA) [↑](#footnote-ref-0)