Hello Bridgett,

We were thinking about our conversation over dinner the other night and we are a little worried about your retirement plan. Starting to invest at age 40 seems a little risky, and we aren’t sure that you will have the funds to live the kind of life you would like to after retirement. To show you what we mean, we have come up with a couple of different scenarios to show you what your retirement account could look like if you were to start investing now compared to if you were to start investing at the age of 40.

* **Scenario 1:** Let’s assume you began investing $250 a month at age 22, and continued until you are 40, in an account that has 7% interest compounded monthly. After you turn 40, you would stop investing and allow your account to earn compound interest until you retire at 65. We have calculated the future value of your account, and at age 40, your account would be worth $107,680.25. When you retire at age 65, your account will be worth $616,514.40. If, however, you wait until age 40 to start investing, you will need to invest $761.06 a month to reach this same end balance.
* **Scenario 2:** Now let’s assume you start investing at age 22. You invest $250 a month in an account where interest is compounded at 7% monthly until age 40. After age 40, you start investing $500 a month into a different account where interest is compounded at 7% monthly until you retire at age 65. Keep in mind that the original account is still earning interest while you are making these new payments. At age 65, you will have made $616,514.40 from the original account and $405,035.80 from the second account for a grand retirement fund of $1,021,550.20. If, however, you wait until age 40 to start, you would have to invest $1,261.06 every month for 25 years to reach the same amount.
* **Scenario 3:** If you decide to invest at age 40, at $500 in an account where interest is compounded monthly at 5.5%, your account would only be worth $321,018.67 upon retirement.
* **Scenario 4:** But we all know know that retirement is not the only thing for which we must account. Let us assume you also want to take expensive vacations; three vacations worth $20,000 each, each vacation taken every 5 years after age 50. At age 22, you invest $250 a month into an account that is compounded monthly at a rate of 5.5% until age 40. After age 40, you begin investing $500 a month into a separate account at the same rate of 5.5% interest compounded monthly until you turn 50. Keep in mind that the original account is still earning interest while you are making these new payments. The original account’s end balance will be $91,917.49, but with the interest it will earn, at age 50 the first account will be worth $159,116.20. Your second account will have earned you $79,753.78. Between the two accounts, you will have a total of $238,869.98 saved away. If you take your first vacation at age 50, worth $20,000, the remaining account would have $218,869.98. Allowing that amount to compound for the next 5 years would give you a total of $287,968.05 when you go to take your next vacation. After your second vacation, your account would have, in total, $267,968.05. Allowing that amount to compound again for 5 years would give you $352,566.57. After your last vacation, you would still have $332,566.57 left for retirement.

Now, if you tried to do the same thing starting at age 40, and put $500 away a month into an account where interest is compounded monthly at 5.5%, by the time you are 50 and go to take your first vacation, your account will be worth $79,753.78 which will then be worth $59,753.78 after your trip. Allow that amount to compound for the next 5 years and you will have $104,932.33, $20,000 of which will be taken out for your second vacation which leaves you with $84,932.35. Allow that amount to compound again for another 5 years until your last vacation and you will have $111,745.81 in your account until you take out that final $20,000 to take a trip. That leaves you with $91,745.80 to live off for the rest of your life.

We have created a table to show, in comparison, how both of our plans differ. It includes how much money you would have to personally invest in each scenario if you started at both ages 22 and 40, as well as how much the account would earn in interest.

|  |  |  |
| --- | --- | --- |
|  | **Start at Age 22** | **Start at Age 40** |
| **Personal Investment** |  |  |
| Scenario 1 | $54,000 | $228,315 |
| Scenario 2 | $204,000 | $378,318 |
| Scenario 4 | $114,000 | $60,000 |
| **Interest Earned** |  |  |
| Scenario 1 | $562,514.40 | $388,196.40 |
| Scenario 2 | $871,550.20 | $643,232.20 |
| Scenario 4 | $218,566.57 | $31,745.80 |

Another important thing to keep in mind is the amount of money you’ll be able to withdraw from each of these accounts over your retirement. Obviously, you won’t be withdrawing the entire sum in one transaction and the money will need to be spread out over the remainder of your life so let’s say you live until the age of 95 and you want to make monthly withdrawals. Since we figured out what your retirement funds should be for all the above scenarios, we can use present value to figure out how much each account will let you take out monthly over your 30 years of retirement.

* Scenario 1: A retirement balance of $616,514.40 will allow you to take out $4,101.69 every month for 30 years.
* Scenario 2: A retirement balance of $1,021,550.20 will allow you to take out $6,796.40 every month for 30 years.
* Scenario 3: A retirement balance of $321,018.67 will only allow you to take out $1,822.71 every month for 30 years (think about extra money for the holidays and grandkids!)
* Scenario 4: For this scenario, you had two ending balances, one if you started saving at 22 and one if you started saving at age 40. After three lavish vacations, your first balance came to $332,566.57 left for retirement which would allow you to live off $1,888.28 a month. But your second balance, which came to $91,745.80, only has you living off $520.92, which frankly Bridgett, is impossible.

We hope that this letter has helped you realize how important it is to start saving for retirement when you’re young, especially if you’re planning to take some lavish trips or account for unforeseen finances (this is life, after all). Even with generous interest rates you can’t make up for lost time.

Sincerely,

Dylan Campbell and Madison Cutten