

# QUESTIONNAIRE

**Students, please complete this questionnaire before reading *Beyond Greed and Fear*.**

Some of the questions in this questionnaire concern your attitude toward risk, saving, and investment. Some questions involve stylized lotteries. Others are more situational and specific. Please do your best to imagine that you actually face each situation described by the questionnaire, and then answer accordingly.

Do not think of these questions as a test. For the most part, there are no *right* answers. What is absolutely critical is that you respond to each question in a way that reflects your normal problem solving style, whatever that may be. By doing so, you will gain insight into investor and market behavior by starting with your own mindset.

It is *imperative* that you take this questionnaire very seriously. The core elements that drive many of the important themes in behavioral finance are contained in these questions.

Please record your answers on the hard copy of the questionnaire, and then enter your responses in the accompanying Excel answer template *Questionnaire Responses.xls*. Before beginning the questionnaire, save the file under a new name by adding your first and last name after the word "Responses." For example, if your name is John Doe, save the file as *Questionnaire Responses John Doe.xls*. After you have completed the questionnaire, please make a copy of the template for yourself, and print it so that you have a record.

**Students, please remember to complete this questionnaire before reading *Beyond Greed and Fear*.**

1. Imagine that you are in a contest. As your contest entry, choose a whole number between 0 and 100. The winner will be the person whose choice comes closest to two-thirds of the average entry.
  
- 2a. Which is the more frequent cause of death in the United States, homicide or stroke? In your answer file, record homicide = 1, stroke = 2.
  
- 2b. In respect to homicide and stroke, how much more frequent would you guess is the more frequent of these two causes of death? (For example, if you answered stroke to 2a, and you feel that three times as many people die per year from stroke than homicide, your answer would be 3).
  
3. Suppose that a university is attempting to predict the grade point average (GPA) of some graduating students based upon their high school GPA levels. In the U.S., a student's GPA lies in the interval  $[0, 4]$ . Below you will find some data, for undergraduates at Santa Clara University, based on students who entered the university in the years 1990, 1991, and 1992. During this period, the mean high school GPA of students who entered as freshmen and subsequently graduated was 3.44 (standard deviation was 0.36). The mean college GPA of those same students was 3.08 (standard deviation 0.40). Suppose that it is your task to predict the graduating college GPA of 3 undergraduate students, based solely on their high school GPA scores. The 3 high school GPAs are 2.2, 3.0, and 3.8. Write down your prediction below for the college GPAs of these students upon graduation.

Prediction of Graduation GPA of student with high school GPA of 2.2 = \_\_\_\_\_

Prediction of Graduation GPA of student with high school GPA of 3.0 = \_\_\_\_\_

Prediction of Graduation GPA of student with high school GPA of 3.8 = \_\_\_\_\_

4. The Dow Jones Industrial Average closed 1999 at 11,497. As a price index, the Dow does not include reinvested dividends. If the Dow were redefined to reflect the reinvestment of all dividends since May 1896, when it commenced at a value of 40, what would its value have been at the end of 1999? In addition to writing down your best guess, also write down a low guess and a high guess so that you feel 90% confident that the true answer will lie between your low guess and your high guess.

Best = \_\_\_\_\_ Low = \_\_\_\_\_ High = \_\_\_\_\_

5. In this question, deducing exact odds from the information provided may require special skills. Most people are unsure about how to solve the problem exactly, so just you do your best.

Imagine 100 book bags, each of which contains 1,000 poker chips. 45 bags contain 700 black chips and 300 red chips. The other 55 bags contain 300 black chips and 700 red chips. You cannot see inside any of the bags. One of the bags is selected at random by means of a coin toss.

Consider the following three questions about the book bag.

- 5a. What probability would you assign to the event that the selected bag contains predominantly black chips?

Probability = \_\_\_\_\_%

- 5b. Now imagine that 12 chips are drawn, with replacement, from the selected bag. These twelve draws produce 8 blacks and 4 reds. Would you use the new information about the drawing of chips to revise your probability that the selected bag contains predominantly black chips? If so, what new probability would you assign?

Probability = \_\_\_\_\_%

- 5c. In addition to giving your best probability estimate, consider a range: a low estimate and a high estimate so that you feel 90% confident that the right answer will lie between your low estimate and your high estimate. Try not to make the range between your low estimate and high estimate too narrow. Otherwise, you will appear overconfident. At the same time, try not to make the range between your low estimate and high estimate too wide. This will make you appear underconfident. If you are well-calibrated, you should expect the true probability to lie outside the range between your low estimate and your high estimate one time in ten.

Low estimate = \_\_\_\_\_%

High estimate = \_\_\_\_\_%

6. Imagine that there is a bag containing 100 poker chips, 50 black chips and 50 red chips. Suppose that you are offered the choice between accepting a sure \$1,000 or playing a 50-50 gamble in which you either win \$0 or \$2,000. Specifically, you win \$2,000 if a black chip is drawn at random from the bag, but \$0 if a red chip is drawn. Which would you choose, (1) the sure \$1,000; or (2) the gamble?
7. Consider the following variation of the last question. Imagine a bag containing 100 colored chips that are either red or black, but the proportions are unknown to you. Suppose that you are offered the choice between accepting 1) a sure \$1,000; 2) a lottery ticket that entitles you to win \$2,000 if a red chip is randomly selected from the bag, but \$0 otherwise; or 3) a lottery ticket that entitles you to win \$2,000 if a black chip is randomly selected from the bag, but \$0 otherwise. Which would you choose, 1) the sure \$1,000; 2) the lottery ticket where red is the winning color; or 3) the lottery ticket where black is the winning color? Answer 1, 2, or 3.
8. Suppose you face a choice between

- A = a guaranteed loss of \$745
- B = a 25% chance to lose nothing, 75% chance to lose \$1000

Which would you choose, the sure loss or the gamble?

9. Sometimes people have to make a series of *concurrent* choices about sources of risk to which they will be simultaneously exposed. For example, they may use a single insurance agent for their homeowners' policy, automobile insurance, life insurance, and personal liability coverage. This question simulates exposure to multiple sources of risk. Your first choice is between 9A and 9B, to be followed by a choice between 9C and 9D. Choose between 9A and 9B (circle your choice on the hard copy, use 1 or 0 in the spreadsheet), where:

- A = a guaranteed gain of \$240
- B = 25% chance to win \$1000, 75% chance to win nothing

and choose between 9C and 9D (circle your choice on the hard copy, use 1 or 0 in the spreadsheet), where

- C = a guaranteed loss of \$750
- D = 25% chance to lose nothing, 75% chance to lose \$1000

10. Imagine that you face the following choice. You can accept a guaranteed \$1,500 or play a stylized lottery. The outcome of the stylized lottery is determined by the toss of a fair coin. If heads comes up, you win \$1,950. If tails comes up, you win \$1,050.

Which would you choose? 1) the guaranteed \$1,500 or 2) the lottery?

\_\_\_\_\_

11. Imagine that you face the following choice. You can accept a guaranteed loss of \$750 or play a stylized lottery. The outcome of the stylized lottery is determined by the toss of a fair coin. If heads comes up, you lose \$525. If tails comes up, you lose \$975.

Which would you choose? 1) the guaranteed loss of \$750 or 2) the lottery?

\_\_\_\_\_

12. Imagine that you are in a situation where 75% of the time you lose \$760. And 25% of the time you win \$240. It's a risk you have to take. Now I give you a choice.

1. Face the risk I just described and I'll give you \$10, or
2. Face the risk I just described and I'll give you \$0.

Which would you choose, 1 or 2?

13. This question concerns how your attitude to risk depends on other aspects of your financial situation. Imagine that you have just won \$1,500 in one stylized lottery, and have the opportunity to participate in a second stylized lottery. The outcome of the second lottery is determined by the toss of a fair coin. If heads comes up, you win \$450 in the second lottery. If tails comes up, you lose \$450.

Would you choose to participate in the second lottery? Yes (1) or no (2)?

14. Imagine that you have just lost \$750 in one stylized lottery, but have the opportunity to participate in a second stylized lottery. The outcome of the second lottery is determined by the toss of a fair coin. If heads comes up, you win \$225 in the second lottery. If tails comes up, you lose \$225.

Would you choose to participate in the second lottery? Yes (1) or no (2)?

15. Imagine two business people who leave the same hotel at the exact time, to catch different flights at the same airport. By coincidence, their flights are scheduled to depart at the exact same time. Both take taxis and get caught in traffic. They both arrive at the airport at the same time, thirty minutes after the scheduled departure time. Both rush to their gates. Mr. A finds that his flight left at the scheduled time. Ms. B finds that her flight left the gate late, two minutes ago in fact, and is just heading down the runway.

Who feels worse, Mr. A (1) or Ms. B (2)?

Circle your choice.

16. Consider two individuals, Ann and Barbara, who graduated from the same college a year apart. Upon graduation, both took similar jobs with publishing firms. Ann started with a yearly salary of \$30,000. During her first year on the job there was no inflation, and in her second year Ann received a 2% (\$600) raise in salary. Barbara also started with a yearly salary of \$30,000. During her first year on the job there was 4% inflation, and in her second year Barbara received a 5% (\$1,500) raise in salary.

- 16a. As they entered their second year on the job, who was doing better in economic terms? Circle one.

(1) Ann

(2) Barbara

- 16b. As they entered their second year on the job, who do you think was happier? Circle one.

(1) Ann

(2) Barbara

16c. As they entered their second year on the job, each received a job offer from another firm. Who do you think was more likely to leave her present position for another job? Circle one.

(1) Ann

(2) Barbara

17a. Suppose that you are the only income earner in your family, and you have a good job guaranteed to give you your current (family) income every year for life. You are given the opportunity to take a new and equally good job, with a 50-50 chance it will double your (family) income thereafter and a 50-50 chance that it will cut your (family) income by a third. Would you take the new job? Yes (1) or no (2)? Circle your response below.

YES

NO

17b. If you answered NO to question 17a, please skip this question and continue with question 17c. You answered YES to question 17a. Suppose the chances were 50-50 that it would cut it in half. Would you still take the new job? Yes (1) or no (2)? Continue with question 17d.

YES

NO

17c. You answered NO to question 6. Suppose the chances were 50-50 that it would double your (family) income and 50-50 that it would cut it by 20%. Would you take the new job? Yes (1) or no (2)?

YES

NO

17d. Questions 17a, 17b, and 17c are based on the same data, with one exception: the size of the cut to your (family) income if you take the new job and are unlucky. Having answered these questions, please indicate exactly what the percentage cut  $x$  would be that would leave you indifferent between keeping your current job or taking the new job and facing a 50-50 chance of thereafter doubling your income or cutting it by  $x\%$ .

$x = \underline{\hspace{2cm}}\%$

18. How good a driver are you? Relative to the drivers you encounter on the road, are you (1) above average, (2) average, or (3) below average?
- 

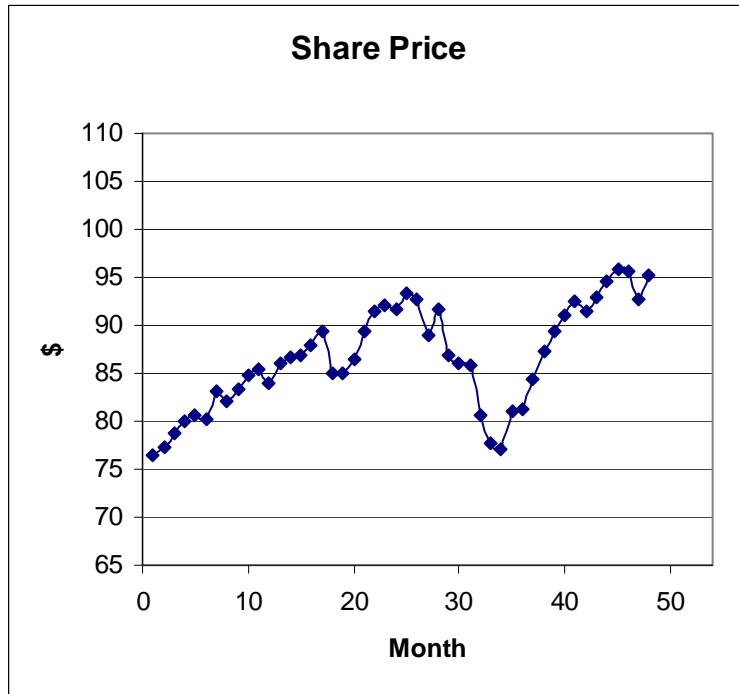
19. Below you will find a trivia test consisting of ten questions. In addition to giving your best guess, consider a range: a low guess and a high guess so that you feel 90% confident that the right answer will lie between your low guess and your high guess. Try not to make the range between your low guess and high guess too narrow. Otherwise, you will appear overconfident. At the same time, try not to make the range between your low guess and high guess too wide. This will make you appear underconfident. If you are well-calibrated, you should expect that only one out of the ten correct answers does not lie between your low guess and your high guess. (For students who normally use the metric system, note that there are 2.2 pounds in a kilo, 5,280 feet in a mile, and that 1 km corresponds to  $5/8$  (0.625) of a mile.)

After each question, write down three numbers, your best guess, low guess, and high guess.

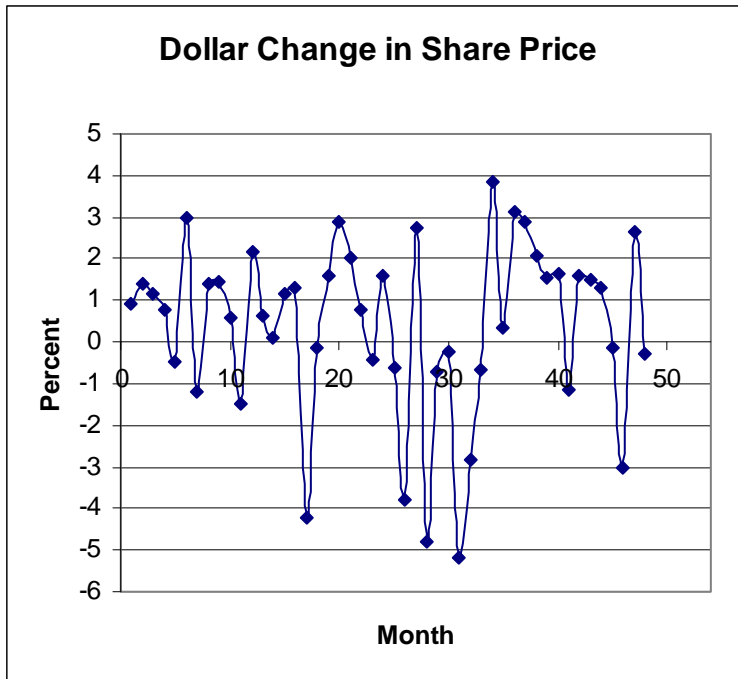
- 19.1 How old was Martin Luther King when he died?  
19.2 How long, in miles, is the Nile River?  
19.3 How many countries were members of OPEC in 1989?  
19.4 According to the conventional canon, how many books are there in the Hebrew Bible?  
19.5 What is the diameter, in miles, of the moon?  
19.6 What is the weight, in pounds, of an empty Boeing 747?  
19.7 In what year was Wolfgang Amadeus Mozart born?  
19.8 How long, in days, is the gestation period of an Asian elephant?  
19.9 What is the air distance, in miles, from London to Tokyo?  
19.10 How deep, in feet, is the deepest known point in the ocean?
20. In this question you will be given charts pertaining to 3 stock price time series. These are real historical series, with no additional information pertaining to dates or identities. Each chart displays the price movement over 48 consecutive months. Month 54 refers to the date occurring 6 months after month 48, the end of the



series. For each chart, you are to develop your best point estimate (prediction) for the value of the series at month 54, along with your 90 percent confidence range (low and high estimate).



21. This question concerns the prediction of (dollar) changes, rather than levels. It depicts the month-to-month stock price change for a particular series over a 48-month period. You are to give a prediction and 90% confidence prediction change for the *change* in the stock price from the end of month 48 through the end of month 54.



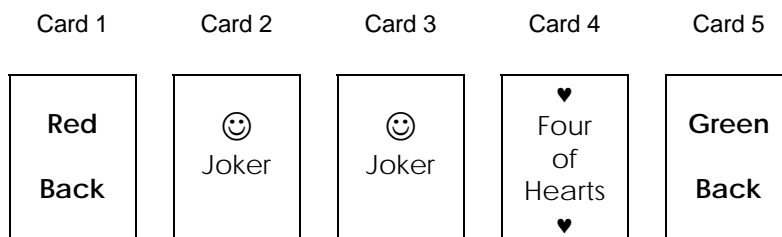
22. Imagine that you have a fair coin in your hand. Now imagine flipping the coin. If you imagine that the coin flip comes out as a head, write an H in the line under this paragraph, at the left edge. If you imagine that the coin flip comes out as a tail, write a T instead of an H. Then repeat the exercise 15 times, recording your answers along the line below, from left to right. (H=1, T=0)
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23. Now pull out a real coin, that you believe to be fair, and actually flip the coin 15 times. After each flip record whether it was an H or a T, thereby generating a sequence of heads and tails as H's and T's on the line below. (H=1, T=0)
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24. Suppose that you will be rewarded on the basis of how well you can predict a sequence of 15 coin flips in advance. The reward system is such that you receive \$1 for every correct prediction, and \$0 for every incorrect prediction. Enter your prediction sequence for the 15 coin flips.
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25. Imagine that you learn that the coin to be flipped in the previous question is unfair. Specifically, the probability of a head (1) is actually 60%, not 50%. However, the reward structure will stay the same. Enter your prediction sequence for the 15 coin flips.
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26. Five cards are placed in front of you as shown. All cards are either green-backed or red-backed. Cards 1 and 5 are face down; the other three are face up. Suppose that someone tells you that each card that has a green back on one side has a joker on the other side. However, you are not certain that you are being told the truth.



Your task is to verify whether or not the statement is true, by asking that cards be turned over. One way to do this is to ask that all five cards be turned over. But there is a cost of \$10 per card, and you also want to minimize the cost. Your full task is to choose the *minimum* number of cards you need to turn over in order to verify the hypothesis.

Which cards would you ask be turned over? Place a 1 beside a card you would ask to be turned over, and a 0 if you would leave the card as is. In the Excel answer file, enter 1 or 0 in the appropriate cell.

27. In this question, you are to rate 8 companies on a scale from 0 (poor) to 10 (excellent) on eight attributes, along with your assessment about the company's future stock return, level of risk, and future earnings. To answer this question you should read information about the companies, as indicated by your professor. See the links to Yahoo below. The 8 companies are:

- Dell Computer (DELL)
- Novell (NOVL)
- Hewlett-Packard (HPQ)
- Unisys (UIS)
- Microsoft (MSFT)
- Oracle (ORCL)
- Intel (INTC)
- Sun Microsystems (SUNW)

Links to Yahoo that contain financial information about these companies are:

<http://www.dailystocks.com/frame.htm?http://finance.yahoo.com/q/pr?s=dell>  
<http://www.dailystocks.com/frame.htm?http://finance.yahoo.com/q/pr?s=novl>  
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<http://www.dailystocks.com/frame.htm?http://finance.yahoo.com/q/pr?s=sunw>

The 8 attributes are:

- quality of management;
- quality of products or services;
- innovativeness;
- value as a long-term investment;
- financial soundness;
- ability to attract, develop, and keep talented people;
- responsibility to the community and the environment;
- wise use of corporate assets;

In addition to your assessment of these attributes, record:

- your expectation about the total return on the company's stock over the next 12 months. **NOTE:** your answer to this question should be in the form of a **percent** rather than a score on the 0-10 scale, so type a %-sign in association with this number;
- your perception of how risky the stock would be to hold for the next twelve months (on a scale of 0 to 10 with 0 being risk-free and 10 being extremely speculative);
- your expectation about the total return on the company's stock over the next 6 months. **NOTE:** your answer to this question should be in the form of an annual **percent** rather than a score on the 0-10 scale, so type a %-sign in association with this number;
- your expectation about the total return on the company's stock over the next 3 years. **NOTE:** your answer to this question should be in the form of an annual **percent** rather than a score on the 0-10 scale, so type a %-sign in association with this number;
- your expectation about the company's earnings (EPS) over the next 12 months;
- your expectation about the company's average earnings (EPS/yr) over the next 24 months;
- your expectation about the annual average growth rate in the company's earnings over the next 5 years, expressed as a percentage, and typed with a %-sign.

28. Consider the following real life story about a real estate investment.

Bill and his wife are in their early 30s, and have just had their first child. A good friend of theirs named James has been actively investing in real estate for the last several years. James has displayed a knack for finding undeveloped property that looks like a mess, but has great potential.

After purchasing a property, James' formula has been to clean it up, divide it into parcels, and resell it at a substantial profit (without adding any structures to the land). In the last three years, James has been able to resell most of his properties for between one and two times what he paid for them. Since his initial purchases were made with borrowed funds, a common practice in real estate investment, James has been earning an extremely high rate of return.

Several years ago, James had encountered some personal problems and Bill had been very helpful and supportive during that time. Since then, James has always tried to repay Bill for his kindness in whatever way he could. Last year James recommended that Bill join James by investing in a small rural tract, which Bill did. This year James had been able to sell the tract for 75% more than their initial investment. Bill and his wife bumped into James one evening, and James was quite enthusiastic about another deal, predicting: "You'll want to go in with us on this."

With the birth of their child, Bill and his wife have begun to think about setting aside more money for the future, particularly in respect to funding their child's college

education. One of the things that they know is that even when the returns on an investment look attractive, those returns can turn out to be quite modest once inflation and taxes are taken into account. They are wondering whether the deal mentioned by James might be a suitable investment for funding their child's future college education.

Later when they meet with James, he tells them about the details. A development company that has just declared bankruptcy purchased Clear Lake Development. They are eager to sell. James believes that the property has great potential for retirees. It lies in a rural area, on the shore of a lovely lake.

The price tag for Clear Lake would be \$205,000, and James suggests that they go in jointly, as equal partners. Therefore, they would each invest \$102,500. James plans to follow his usual formula: clean up, subdivide, and sell. After subdivision, he would sell all the lots within a year or so, for a total of \$459,000. As it happens, Bill and his wife currently have \$17,500 in savings, and James assures them that he can arrange for them to borrow the remaining \$85,000 at an attractive interest rate. James says that he is a great believer in leverage, because it can offset inflation and taxes that really eat into initial returns.

Consider the following question:

- 28a. On a scale of 1 to 10, how would you rank Clear Lake as an investment whose purpose is to fund college education in 15 years? Here 10 means *extremely suitable* and 1 means *entirely unsuitable*.

Continuing with the case as it actually occurred: During the first few months, Bill has been making payments on his \$85,000 loan. In addition, he is no longer earning a return on the \$17,500, which was the amount of his own money that he invested. When he sees James a few months later, Bill asks him how Clear Lake is doing. James replies that a small glitch has come up.

Apparently, the property had never been surveyed properly, and he has now commissioned a survey. However, no lots can be sold until the survey was complete, and the survey is taking more time than he anticipated. Moreover, the original \$85,000 loan has come due, and must be renewed. Renewal is not a problem, but the bank only wants to renew the loan for \$75,000. Consequently, Bill will have to come up with the additional \$10,000 himself. James is clearly embarrassed, but also remains upbeat about the ultimate success of the project. Fortunately, Bill and his wife have been able to save exactly \$10,000 in recent months, and so have the necessary funds.

- 28b. If you were in Bill's situation at this point, how would you react emotionally? Would you be *worried*, or *anxious*? Or would you tend to be *patient*, in the belief that most investments incur some glitch here and there and that you are better off having minor problems than major ones? How might you feel, if you found yourself in this situation? (1) Worried, (2) anxious, or (3) patient?

If you were Bill or his wife, would you beginning to experience any feelings of regret? Specifically,

- 28c. Would you feel that anyone should be blamed? (1) Yes or (2) No?

- 28d. If you answered yes, whom would you blame most? (1) Yourself, (2) James, or (3) the situation?
- 28e. This story may be far from over. But think about how the scenario has unfolded so far. At the outset, how obvious does it seem to you that it would have gone this way? Were any telltale indications present? How would you answer this question on a scale of 1 to 10, where 10 is very obvious, and 1 is impossible to predict?

Time passes. In fact, a full year has passed since Bill made his initial investment in Clear Lake. In a conversation, James apologizes that it has taken a year for things to get moving, but says that they **now are on the move**. He realizes that this has been a negative cash flow period for Bill. However, to speed up sales, he will put up a model home on one of the lots. However, he thinks he can take care of the associated costs without asking Bill to contribute additional funds.

The next time Bill sees James, James tells Bill that he has good news and bad news. The good news is that the model home has been built and sold. The bad news is that the sale has not stimulated additional interest in Clear Lake. He says that he feels just terrible that he brought Bill into this venture, and is concerned that it will turn into a cash drain for Bill before too long. Therefore, he proposes taking over Bill's interest in Clear Lake, including all further interest payments, and asks Bill if he would like to sign his interest over to James. If Bill does so, he basically pulls out of this investment. In the event of a further cash drain, Bill would avoid the *extra loss*. But if the investment turns profitable, *Bill loses out on the chance to lower his loss, recover his investment, or make a positive return*.

- 28f. Put yourself in Bill's shoes. How would you react to James' proposal? You are aware that James is more knowledgeable about the real estate market than you are, but don't think that he would take advantage of you. He is too good of a friend. But you have now invested \$27,500 in Clear Lake. If you sign over your interest to him, you will have to *come to terms* with a \$27,500 *loss*. If you keep your interest, you risk losing more money. But by keeping your interest you might also recoup your investment if lot sales pick up. What would you do you at this stage?

(1) Tell James you understand that he is trying to help you and come to terms with a loss by **signing** your interest over to him; or

(2) Remind James that he said that this was going to pay for your child's college education, and you still expect it to do that; meaning you want to **keep** your interest.

- 28g. In the previous question, you indicated whether or not, as someone in Bill's shoes, you would sign over your interest in Clear Lake to James. Here is the same question, but in a somewhat different situation. Imagine that *six* years have passed from the time Bill made his initial investment. As in question 28f, James proposes

that you sign your interest over to him. In this connection, James also tells you that one of the real estate agents selling Clear Lake lots has offered to purchase **all** the remaining unsold lots for \$35,000. James mentions that along with the \$8,900 received from the sale of the lot with the model home, the total amount received for *all* the lots would amount to \$43,900. Imagine that James informed you that he had decided to accept the real estate agent's offer, and then offered you the opportunity to sign your interest over to him. As in question 28f, this offer includes James taking full responsibility for all future interest payments associated with the loans Bill took out in entering the deal. Would this additional information change your answer to question 28f? Specifically, in this case, would you:

- (1) Tell James you understand that he is trying to help you and **sign** over your interest; or
- (2) Remind James that he said that this was going to pay for your child's college education, and you still expect it to do that; meaning you want to **keep** your interest.

29. Consider the following financial example. Imagine that the time is late July 1998. There are jitters about Asia. The market drops 20% over the next month. At the end of August, a conversation took place between you and 2 of your friends, George and Paul. George had a lot of his portfolio in stocks. At the time he fretted about a severe market decline. In the end, he decided to sell his stocks and buy safe Certificate of Deposits, CDs. Paul had been holding CDs which had just matured. He thought that the market would rebound and considered buying mutual fund shares. Instead of buying stocks, he decided to renew his CDs. Thereafter the market appreciated by over 25%. Both investors held CD portfolios during this period. Both would have been better off by holding stocks.

Who feels more regret?

1. George who switched into CDs?

or

2. Paul who renewed his CDs?

30. Now consider a third investor, John. John made the same decision as George, but did so on the advice of his financial adviser.

Who do you think felt more regret?

1. George, who made the wrong decision on his own?



or

2. John, who made the wrong decision based on the advice of his financial adviser?

31. Below you will find a list of 18 possible events that might happen to you during your lifetime. Examine the list and answer the questions that appear below.

- 1 Being fired from a job
- 2 Your work recognized with award
- 3 Having gum problems
- 4 Living past 80
- 5 Having a heart attack
- 6 Tripping and breaking bone
- 7 Being sued by someone
- 8 No night in hospital for 5 years
- 9 Victim of mugging
- 10 Decayed tooth extracted
- 11 Your achievements in newspaper
- 12 Weight constant for 10 years
- 13 Having your car stolen
- 14 Injured in auto accident
- 15 In 10 years, earnings greater than \$400,000 a year
- 16 Developing cancer
- 17 Not ill all winter
- 18 Deciding you chose wrong career

Compared to other people in this class – same sex as you – what do you think are the chances that the following will happen to you? The choices range from much less than average, through average, to much more than average? The categories from which you choose are as follows:

1. 100% less (no chance)
2. 80% less
3. 60% less
4. 40% less
5. 20% less
6. 10% less
7. average
8. 10% more

- 9. 20% more
- 10. 40% more
- 11. 60% more
- 12. 80% more
- 13. 100% more
- 14. 3 times average
- 15. 5 times average

On your hardcopy and in your answer workfile, next to each event, place the number to the right of the category in the appropriate cell.

32. To what extent do you agree or disagree with the following three questions?  
When answering these questions, please use a 6-point scale, where

- 0 denotes unsure,
- 1 denotes completely disagree, and
- 5 denotes completely agree.

- 1. I am on a track with my retirement planning, and I am confident of a comfortable retirement
- 2. I know what my living costs will be after retirement.
- 3. I know what my pension and social security benefits will be in retirement.

33a. Imagine that you will receive a *special* bonus over and above your regular compensation. This special bonus will be paid monthly over the course of a year, and it will increase your *take home pay* by \$500 a month for the next 12 months.

Think about the way that your family consumption might change as a result of this special bonus. The question below asks you what you honestly think would happen, which may or may not be the same thing as what you would ideally like to have happen.

**QUESTION:** By how much would you expect your family's monthly consumption to increase during the next year?

\$\_\_\_\_\_ per month

- 33b. Again, imagine you have just been told that you will receive a *special* bonus over and above your regular compensation. This special bonus will be paid out of the ordinary cycle, it will be paid in **one lump sum**. Its value (after tax) is \$6,000.

**QUESTION:** By how much would you expect your family's consumption to increase during the next month?

\$\_\_\_\_\_ per month

- 33c. One of your distant relatives has died and left you a small inheritance with an after tax value of \$6,000. You will not receive the money for 5 years. During that time the money will be held in a unit investment trust (UIT) where it will be invested in conservative interest bearing securities. At the end of 5 years, you will *definitely* receive the \$6,000 plus interest.

**QUESTION:** By how much would you expect your family's consumption to rise *over the next 12 months* as a result of this gift?

\$\_\_\_\_\_ per month

- 34a. Consider a lottery whose outcome is determined by the toss of a fair coin. If the outcome of the coin toss is heads, you win \$2,000. If the outcome of the coin toss is tails, you lose \$1,000. If you had the opportunity to play this stylized lottery exactly once, would you? Answer (1) yes or (2) no.

\_\_\_\_\_

- 34b. Suppose that the stakes in the preceding lottery were smaller by a factor of 10 (\$200 and \$100). Would you play the lottery exactly once? Answer (1) yes or (2) no.

\_\_\_\_\_

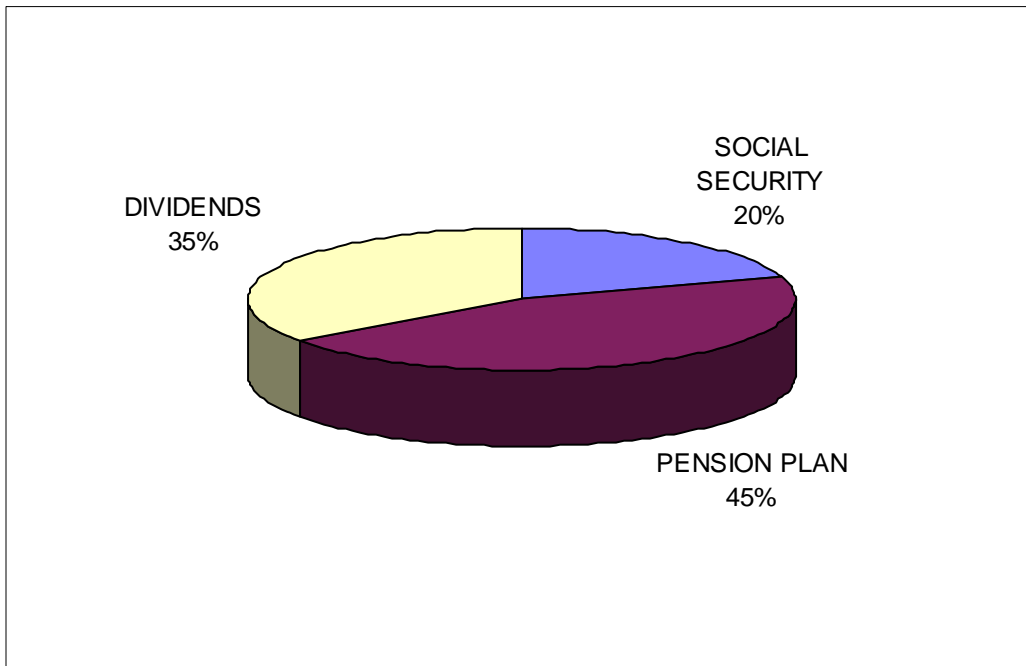
34c. Suppose that the stakes in the lottery were \$200 and \$100 for each coin toss, but you could play 2 rounds. Would you be willing to play this lottery twice, one after the other? Answer (1) yes or (2) no.

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34d. Suppose that the stakes in the lottery were \$200 and \$100 for each coin toss, but you could play 100 rounds. Would you be willing to play this lottery 100 times, one round after the other? Answer (1) yes or (2) no.

\_\_\_\_\_

35. Put yourself in the position of someone who is retired, and uses 3 sources to fund their expenditures. The following pie chart illustrates the division among the 3 sources:



1. Social Security (funds 20% of monthly expenditures);
2. Defined Benefit Pension Plan (funds 45% of monthly expenditures);
3. Dividends from two individual stocks, one being a utility stock, and the other being a bank stock. Together the dividends from these stocks fund 35% of monthly expenditures. Moreover, these are the only stocks in your portfolio.

Imagine that by sheer coincidence, the utility and the bank both experience financial distress at the same time. Suppose that the value of both stocks has declined by 50% in the past 3 months, and both firms have decided to omit the next quarterly dividend.

You have a choice. EITHER you can let your consumption expenditures decline by 35% over the next 3 months.

OR you can sell some of your stock, and spend the proceeds on consumption.

**QUESTION:** If you had to choose between these two courses of action, what would you do? Circle your response.

1) Cut consumption by 35%.

2) Sell some stock, and cut consumption by less than 35%.

- 36a. On a scale of 1 to 7, where 1 connotes strongly agree, and 7 denotes strongly disagree, indicate the extent to which you agree with the following statement: "I use dividend income for day-to-day expenses of living, but avoid selling stock except to reinvest the proceeds."
- 36b. On a scale of 1 to 7, where 1 connotes strongly agree, and 7 denotes strongly disagree, indicate the extent to which you agree with the following statement: "I like to own stocks that pay dividends because I am left with a larger 'silver lining' in the event of a stock price decline. That is, even if the stock price later goes down I still have the consolation of knowing I will get my money back eventually in the form of dividends."
- 37a. In your mind's eye, imagine three types of coins--one gold, one silver, and the third bronze. Every coin has a head appearing on one side and a tail on the other. Suppose that we give a coin to each of 5000 people who will then toss them 10 times. One third receive a gold coin, one third receive a silver coin, and the remaining third receive a bronze coin. All coins are fair. Now we ask each person to toss his or her coin ten consecutive times. Each time a person tosses a head, we pay him (or her) \$1. If he or she tosses a tail, we pay him nothing. Suppose that all of the coins are fair. In this case, how many people should you expect to toss more than 5 heads?
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- 37b. In the last question, people used three types of coins—gold, silver, and bronze. Imagine that of the three types, only the silver is fair. The gold coin is weighted towards heads, and the bronze coin is weighted towards tails. Specifically the odds of tossing a head are 55-45 when using a gold coin and 45-55 when using a bronze coin. It is only the silver coin that offers 50-50 odds.

Now suppose that we spot a person who has tossed 7 heads. But we have not been able to observe the color of their coin (gold, silver, or bronze). What is the probability that this person is tossing a gold coin?

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- 37c. This question refers to the same 7-head situation in the previous question, where only the silver coin is fair. Suppose we have a second 10 round toss. What is the probability that the person who tossed 7-heads will throw at least 7 heads in the second round of 10 tosses?

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38. Suppose that in the past, a particular mutual fund manager is known to have beaten his benchmark two thirds of the time. Consider three possible short term track records for his fund's most recent performance. Each record is a string of B's and N's. A "B" denotes "beat or meet benchmark", whereas an "M" denotes a "missed benchmark". The three possible short term records are:

1. BMBBB
2. MBMBBB
3. MBBBBB

Which of these three track records do you think is the most likely?