

Role Taking Under Financial Risk Decision Making

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&

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Abstract

This paper explores people's behavior when they are facing financial risks. Through the setting of an economics experiment, people's willingness to bear financial risks and their tendency to impose risks on others are investigated. The experiment result shows that most people are risk-neutral or risk-averse when making decision under financial environment, and their tendency to impose risks on others is directly related to their own willingness to bear risks.

Keyword: Financial Risk, Willingness to bear, Experimental Economics.

1- Introduction

For several years, experimental economists¹ have about sought controls and measures for risk attitudes. Many of them have oriented their research on people's perceptions of risk and trade-offs between risks and benefits. It is generally said that people are risk averse. Miles S. Kimbal (1993) defines a Von Neumann-Morgenstern standard risk aversion as a risk that has a negative interaction with a small reduction in wealth. Given monotonicity and concavity, the combination of decreasing absolute risk aversion and decreasing absolute

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1- Experimental economics has become very common and fast growing tool in many universities particularly for the developed economies and one of the text books related to this Davis, D. and Holt C. 1993 Experimental Economics. Princeton University Press.

prudence is necessary and sufficient for standard risk aversion. In fact, facing an undesirable risk people will tend to make optimal decisions that provide them with the highest expected utility with regard to the risky situation. Distribution of income was done by Pareto (1895, 1896, 1897). He was the first to specify, estimate and analyze a model of income distribution. Both the The question of risk imposition is rarely discussed among the literature. An article from the Quarterly Journal of Economics examined the effects of taxation upon risk-taking focusing on the imposition of a tax, under varying conditions and the reactions of investors. And Christopher Avery et al (1995) studied what happen, when rational individuals make decisions that impose health risks on others. These articles, mostly oriented on government and health issues, give a good overview of the relationship between two individuals, one acting, example a smoker and the other one forced to live a certain situation, his neighbor. Many other examples can be taken and this work will mostly deal with financial decision-makings.

This paper aims to study the difference of people's willingness to bear risks and their tendency to impose risks on others under financial environment. Through an economics experiment, two basic questions will be discussed in this study. The first one is to know whether or not people tends to be risk averse, and the other question is that, assuming self-interest, whether people tend to impose financial risks on others when they are somehow uncertain about their own gain.

Basically, this study explores individual's willingness to choose a sure payoff versus play a gamble and their willingness to protect their sure payoff by making somebody else take the risk. The object experiment is a "lottery" with "rolled dice" from which individuals' risk attitudes will be measured. This procedure is based on Roth and Malouf (1979) technique to induce risk-neutral behavior, which was recently evaluated and generalized by Berg et al (1984) to apply individual choice experiments.

This study tends to complete a very scarce literature on financial risk aversion and risk imposition and provides strong supports for laboratory experiments in Economics. The next section presents the hypothesis. Section 3 exposes the experimental design for both attitudes toward risks and tendency to impose risks on others. Section 4 will expose and discuss the experimental results. And in the last section, the conclusion is drawn.

II- Hypothesis

Following the findings of substantial empirical studies in the area of testing individuals' risk attitudes; we expect to find most people will also act with risk-aversion attitudes under financial environment. In the context of people's willingness to impose financial risks on others, our expectation is that when people make financial decision which involves another party's benefit, they may alter their behavior somehow but self-interest still dominates their decision-making, i.e. people's willingness to impose risks on others should reflect their own risk attitudes.

III- Experimental Design

The experimental design involves two sessions in which subjects make decisions under different scenarios. Both sessions require subjects to choose between gambles and some amount of sure payoff. In each session, there are 10 gambles with increasing or decreasing expected values, versus the unchanged amount of sure payoff, which is somewhere between the highest and lowest expected values of the 10 gambles. All the parameter settings of the gambles and the sure payoff in the two sessions are identical. The difference between the two sessions lies in the treatments--- in the first session, subjects make decisions that involve another party's benefit; while in the second session, subjects make decisions just on their own.

The aim of session 1 is testing individual's willingness to impose financial risks on others, in which the subjects are organized into a group of two, one as the decision-maker and the other as the partner. Those who act as partners can originally get a certain amount of sure payoff, while their corresponding decision-makers are facing gambles from which they might get a higher or lower amount than the sure payoff. There are 10 gambles with decreasing expected values for payoffs. For each of the gambles, decision-makers are asked to choose to play it or to swap their positions with their partners, i.e. to get the sure payoff of his partner's but asks his partner to play the gamble to get paid. By deciding to swap their positions, decision-makers transfer their own risks to their partners, thus indicating their willingness to impose risks on others. The parameter setting is as below:

Table 1: Session I: Experimental Parameters for Assessment of Individual's Tendency to Impose Risks on Others

Choice	Payoff of Decision Maker from Gamble	Expected Value for the Choice	
		Decision Maker	Partner
1	600 points if a 1 through 10 is rolled; 100 points otherwise	600 points	300
2	600 points if a 1 through 9 is rolled; 100 points otherwise	550 points	300
3	600 points if a 1 through 8 is rolled; 100 points otherwise	500 points	300
4	600 points if a 1 through 7 is rolled; 100 points otherwise	450 points	300
5	600 points if a 1 through 6 is rolled; 100 points otherwise	400 points	300
6	600 points if a 1 through 5 is rolled; 100 points otherwise	350 points	300
7	600 points if a 1 through 4 is rolled; 100 points otherwise	300 points	300
8	600 points if a 1 through 3 is rolled; 100 points otherwise	250 points	300
9	600 points if a 1 or 2; 100 points otherwise	200 points	300
10	600 points if a 1 is rolled; 100 points otherwise	150 points	300

There are two rounds in this session. In the first round, half of the subjects will be designated as decision-makers, and the other half will be as partners. Each decision-maker is paired with a partner. The designation of roles and pairing of groups are made through a random process. In the second round, those who act as decision makers in the first round will be acting as partners, and those who act as partners will be acting as partners. To avoid order effect, before the second round starts, subjects will be grouped into pairs again through a random process.

If subjects behave consistently, there should be a cross-over point in their choices between gambles and the sure payoffs, i.e., among the 10 gambles versus the sure payoff, as the expected values of the gambles become lower and lower, at a certain level, those who act as decision-makers will give up playing the gamble but always choose to swap their positions with the partners thereafter. By recording the expected value of the gamble after which each decision-maker changes his or her choice from gamble to swap position with the

partner for the sure payoff, we get the measurement of subjects' willingness to impose risks on others.

Session 2 is conducted to test individuals' willingness to bear risks on their own under financial environment. As mentioned before, in this session, each decision maker will be asked the same question: to choose a gamble or to choose a sure payoff. All the subjects are facing 10 gambles with increasing expected values for payoffs versus the unchanged sure payoff. The payoff schemes of the 10 gambles are the same as those of session 1 but they are arranged in a decreasing order by expected values. The sure payoff is also the same as session 1. The difference of session 2 from session 1 is that in session 2 the sure payoff doesn't belong to anyone originally unless the decision maker himself chooses it. The parameter setting is as below:

Table 2: Session II: Experimental Parameters for Risk Attitude Assessment

Choice	Payoff to Option A	Payoff to Option B	Expected Value for B
1	300 points	600 points if a 1 is rolled; 100 points otherwise	150 points
2	300 points	600 points if a 1 or 2 ; 100 points otherwise	200 points
3	300 points	600 points if a 1 though 3; 100 points otherwise	250 points
4	300 points	600 points if a 1 through 4; 100 points otherwise	300 points
5	300 points	600 points if a 1 through 5; 100 points otherwise	350 points
6	300 points	600 points if a 1 through 6; 100 points otherwise	400 points
7	300 points	600 points if a 1 through 7; 100 points otherwise	450 points
8	300 points	600 points if a 1 through 8; 100 points otherwise	500 points
9	300 points	600 points if a 1 through 9; 100 points otherwise	550 points
10	300 points	600 points if a 1 through 10; 100 points otherwise	600 points

Subjects are required to make decision under all the 10 choices above. Again, if they behave consistently, there should be a cross-over point in their choices between gambles and the sure payoffs, i.e., among the 10 gambles

versus the sure payoff, as the expected values of the gambles is increasing, at a certain level, subjects will change their choices from the sure payoff to gamble. By recording the expected value of the gamble from which each subject changes his or her choice from the sure payoff to gamble, subjects' risk attitudes can be assessed.

Subjects are volunteers students from Principles of Economics classes (Spring 2002 at the University of New Mexico) and have no prior experience with the experimental setting. To test the difference of people's willingness to impose risks on their own and on others under financial environment, 10 subjects are the focus of the research and are recruited. All subjects participate in both sessions. The total experiment lasted approximately one hour. Instructions and questionnaires being used in sessions I and II for decisions makers and partners are given in appendix 2. In appendix 3 communications conducted to get approval of university authorities and consent of the subjects is given.

IV- Results

Following description above, in each session, the expected values of the gambles at which level subjects change their decisions are recorded for the analysis.

The data variable is defined as below:

	Data from Session I	Data from Session II
Data Definition	$\{EI_i/I=1,2,\dots,10\}$	$\{EII_i/I=1,2,\dots,10\}$

To assess the difference between individuals' willingness to bear risks and their tendency to impose risks on others, the relative magnitude, $(EII-EI)$, deserves some discussions here.

Defining $DE = EII - EI$, $DE \in [-400,400]$

DE is a useful measurement of the difference between individuals' tendency to impose risks on their own and on others. The rationale is as follows:

Suppose two Extreme Cases

1) For individual i with $EI=550$ and $EII=150$, so $DE=150-550=-440$.

Individual with a low EII shows he's risk loving. But at the same time, if his EI is quite high, it means when he's making decision involving another party, even if the risk he's facing is small, he would transfer the risk from himself to another party. Therefore, the negative magnitude of DE indicates the individual is quite considerate. In other words, he's quite willing to forgo his or her expected gain to provide, opportunity of choosing by his or her partner.

2) For individual j with $EI=150$ and $EII=550$, so $DE=550-150=400$.

Individual with a high EII indicates he's rather risk averse. But at the same time, if his EI is quite low, it shows that when his decision making involving another party's benefit, he would transfer his own risk to others only when the risk is too high. In other words, though the individual himself is risk averse, he's not willing to let others use a risky situation to gain. Therefore, the positive magnitude of DE shows individual's unwillingness to impose risks on others relative to on themselves.

With DE moving from -400 to 400 , people tend to show less and less tendency to impose risks on others. For those subjects with DE valued near 0 , which means their EI and EII are almost equal, their willingness to impose risks on others is mainly due to their own risk attitudes.

Based on the argument above, variable DE is calculated for our analysis to measure the difference between individual's willingness to impose risks on themselves and on others. In the second session that is for testing individuals' willingness to bear risks, the baseline corresponding to the 10 gambles is the sure payoff, 300 points. Therefore, the risk attitudes of individuals' can be categorized into three groups:

If $EII_i < 300$, individual i is risk loving.

If $EII_i = 300$, individual i is risk neutral;

If $EII_i > 300$, individual i is risk averse.

The experiment result (attached as appendix at the end of the paper) shows that most subjects are risk averse or risk neutral, while only one subject (10% of total) shows risk-loving attitude. This result is consistent with the conclusion of most empirical studies on human being's risk attitudes.

In the context of testing individuals' willingness to impose risks on others, following the argument above on the meaning of variable DE , our result shows

that most subjects (80% of DE value are zero or negative) tend to impose at least equal or more risks on others than the magnitude they can bear by themselves. It's interesting to note that the only two subjects among the whole pool who show some "considerate" behavior to others regarding risk imposing are the one who is most risk-loving in session II, and the one who shows most risk-averse attitude in that session. On the whole, however, subjects with risk-averse or risk-neutral attitudes tend to impose more risks on others, while the only risk-loving subject tends to impose less risk on others.

To strengthen our results above on the difference of individuals' willingness to impose risks on others and on themselves, i.e. Risk-loving people tend to impose less risks on others than on themselves, while risk-neutral or risk-averse people tend to impose equal or more risks on others than on themselves, χ^2 statistical test is applied for analysis.

Table 3: Number of Individuals Falling into Corresponding 4 Categories

Sign of DE	Risk Attitudes		Total
	EII<300	EII>=300	
Negative or Zero (DE<=0)	0(.8)	8(7.2)	8
Positive (DE>0)	1(0.2)	1(1.8)	2
Total	1	9	10

Based on the null hypothesis that there's no relation between individuals' willingness to impose risks on themselves and on others, the frequencies for each categories are shown in parentheses below the corresponding actual frequencies in Table 3 and 4.

If categorization is done based upon Table 3 the calculated χ^2 statistics is obtained to be:

$$\sum (f - e)^2 / e = 4.4445$$

Degree of freedom = (row-1)*(column-1)=1*1=1

Significance level: $\chi^2_{.05}(df = 1) = 3.84$

Since $4.4445 > \chi^2_{.05}(df = 1)$, the null hypothesis is rejected at the significance level. 05. Therefore, we fail to conclude there's no relation between individuals risk attitudes towards themselves and their willingness to impose risks on others, which further strengthens our argument above.

If divided with more detail, 9 categories can be used to define subjects' behavior. The corresponding numbers of subjects are shown in Table 4. Again, the frequencies based on the same null hypothesis are shown in parenthesis.

Table 4: Number of Individuals Falling into Corresponding 9 Categories

Sign of DE	Risk Attitudes			Total
	EII<300	EII=300	EII>300	
DE<0	0(.5)	3(1.5)	2(3)	5
DE=0	0(.3)	0(.9)	3(1.8)	3
DE>0	1(.2)	0(.6)	1(1.2)	2
Total	1	3	6	10

$$\sum (f - e)^2 / e = 8.166$$

$$\text{Degree of freedom} = (\text{row}-1) * (\text{column}-1) = 2 * 2 = 4$$

$$\text{Significance level: } \chi^2_{.05}(df = 4) = 0.48773$$

$$\chi^2_{.10}(df = 4) = 7.77944$$

With $\chi^2_{.10}(df = 4) < 8.166 < \chi^2_{.05}(df = 4)$, we fail to reject the null hypothesis at 0.05 significance level, but we can still reject it at 0.10 significance level.

To interpret the difference between individuals' willingness to impose risks on themselves and on others, individuals' own risk attitudes deserve further attention. Our result shows that risk-loving individuals tend to impose less risk on others. This behavior is consistent with those people's decision-making when they face risks by themselves. As a risk-loving person, he is willing to bear risks

by himself. Therefore, it seems unnecessary to him to impose risks on others. Compared with risk-loving people, risk-neutral or risk-averse people would like to bear less risk by themselves. As a result, when they have opportunity to transfer their risks to others, they would be quite willing to do so rather than bear the risks by themselves. Therefore, it's natural that those people tend to impose more risks on others. Our experiment result just successfully verified this phenomenon.

On the other hand, among the risk-averse subjects, there is one person who behaves differently from his peers. The reason may be that this subject is more considerate to other's situation. But among the whole pool of risk-averse subjects, this behavior is just a minor case.

V- Conclusion

Through running an economics experiment that is aimed at testing people's behavior under financial risky environment, we found that the difference between people's willingness to impose risks on themselves and on others does exist, and the difference depends upon people's risk attitudes.

First our result shows that most people are risk-neutral or risk averse under financial environment. The result is consistent to the findings of most empirical studies on people's risk attitudes.

The most important result of this experiment is that, there exists a difference between people's willingness to bear risks and their tendency to impose risks on others. On the whole, risk-loving people tend to impose less risk on others and they would be more willing to bear risks by themselves. Those individuals who showed risk-neutral or risk-averse attitudes in our experiment, however, tend to impose more risks on others and bear less risk by themselves. People's willingness to impose risks on others is related to their own risk attitudes. Their behavior in imposing risks on others further reflects their own risk attitudes.

As our samples are too few, whether the conclusion on the relation between people's risk attitudes and their willingness to impose risks on others is robust deserves further study. Overall, the result indicates people's rationality when making decisions.

References

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Appendix (1)

Experiment Results*

NO.	EI	EII	DE
1	150	250	100
2	350	300	-50
3	350	300	-50
4	400	300	-100
5	350	350	0
6	400	350	-50
7	400	350	-50
8	400	400	0
9	400	400	0
10	400	450	50

* Data are sorted by variable EII in an increasing order.

Appendix (2)

Instructions for Sessions I

Rounds 1 and 2

Today we are going to play a lottery decision game. We will read the instructions. If you follow the instructions you may earn considerable tokens, which will be exchanged for grade points the end of the session.

First each two of you will form a group with one person acting as the decision maker and the other as the partner. Decision makers or partners will be presented appropriate and specific instructions fitted for each group. After reading the instructions, I will give you a chance to ask any questions you might have. Then we will start the game.

Now, please look at you're got when you just came in. Those who got odd numbers will be acting as decision makers. Those who got even numbers will be acting as decision maker's partners in the game.

To form pairs, the one with No. 1 will be paired with the one with No. 2; No. 3 will be paired with No. 4; No. 5 will be paired with No. 6...and so on. Please find your partners and sit together.

Now I will read instructions for decision- makers first, then instructions for partners Either you will be a diction- maker or a partner, please go through all the instructions carefully with me.

Instructions to decision makers

Decision maker's situation is like this: Priority in decision making first is provided to you. There are two options for you to choose. Option A involves gambling, and Option B will be a sure payoff of 300 tokens. For every gambling decision that you choose, options A, your partner can get a sure payoff of 300 tokens, but you are facing different gambles from which you might get 600 or 100 tokens. If you choose option B, then you will get the sure payoff of 300 tokens, while your partner could continue to play the gamble. For all 10 gambles provided to you, you can choose to play the gamble, or you can choose to switch your situation with your partner and get the sure payoff of 300 tokens. After you complete filling out your answer sheet, please present your choices to your partner and he or she will continue decision making. Now, your partner is provided the opportunity of evaluating the remaining gambles, which you

decided to give up and asked your partners to choose. Now please look at the answer sheet attached with the instructions. In the table, there are 10 gambles with different payoff schemes. After we finish reading the instructions and answering questions, you will be required to fill out the table. Please note that, in the work sheet there is a column for checking decisions being made by the decision maker, and a column for remaining decisions being made by the partner.

Please bear in mind that neither you nor your partners are forced to choose the gamble. You can always choose a sure payoff, which is option B, if you decided to do so.

The ten gambles all have two possible outcomes, a higher payoff with 600 tokens and a lower payoff with 100 tokens. The difference lies in that the chances to get 600 tokens or get 100 tokens are varying in the 10 gambles. For example, in the work sheet, the Choice 1 gamble's rule is that, if your die toss up shows any number from 1 to 10, you will get 600 tokens. But the Choice 10 gamble's rule is that if your die toss up shows 1, you will get 600 tokens; if it shows any number from 2 to 10, you just get 100 tokens.

Please don't forget to write down the last 5-digits of your SSN on the top line of the answer sheet along with your gender (F for Female and M for Male), so that we can keep track of your payoffs.

When you have finished your work-sheet, please give it to your partner so that she or he makes decision regarding remaining choices.

After all of you have finished your work-sheets, each of the decision makers will throw the die to determine from which number of the choice your group will get paid. For example, if the die shows 7, you will face the situation shown in Choice 7 of your work sheet. If you have chosen to play the gamble, you will throw the die again follow the corresponding rules of gamble 7 to get paid. If you have chosen to switch your position with your partner, you will get paid of 300 tokens directly, and your partner will play the gamble or not, depending on his or her decision.

At the end of this experiment, the tokens you get will be exchanged into grade points.

After we record the payoffs for all of you, please hand in your work-sheets.

Instructions to Partners

Partners' situation is like this: you are ensured of a 300-token payoff while your decision maker is facing different gambles. But whether you can get this sure payoff is determined by your decision maker's choice. Your decision maker finished her or his choices, for those gambles he or she gave up, you either could choose play or choose the sure payoff of 300 tokens.

There are 10 different gambles. For each of them, your decision makers will decide whether he or she would like to play it or to switch position with you. If he she chooses to switch position with you, it means you can continue playing or taking sure payoff for the remaining games on the work-sheet. If he or she chooses to play the gamble, it means you can get the sure payoff.

After your decision maker has finished all his or her decision making, the answer sheet will be given to you to fill out your choices under the column for partners. And please don't forget to write down your last 5 digits of SSN and gender in the space provided for you.

Then, a die will be rolled by your decision-maker to determine from which number of the choices you two will get paid. For example, if the die shows 7, you will get paid through what he or she chose under Choice 7. If he or she chose to play the gamble, you, your decision maker will get the sure payoff; while you may play the gamble and get paid through the corresponding rules of gamble 7, or get sure payoff, based upon your choices. At the end of the experiment, the tokens you earned will be exchanged into grade points.

Before you start filling out the answer sheets, if you have questions, please feel to ask me now.

Instructions for Session II

For this session, each of you will act as an independent decision maker. You are facing such a situation: you can get paid through a gamble or through a sure paid through a gamble all have two possible outcomes, a higher pay with 600 tokens and a lower pay with 100 tokens. The difference lies in that the chances to get 600 tokens or get 100 tokens are varying in the 10 gambles. For example, the Choice 1 gamble's rule is that, if your die toss up shows 1 you will get 600 tokens and otherwise you get 100 tokens. But the Choice 10 gamble's rule is that if your die toss up shows any number from 1 to 10, you will get 600 tokens. An alternative to the gamble is a sure payoff of 300 tokens. You can

choose to play the gamble, or you can choose the sure payoff. Please note here the sure payoff of 300 tokens doesn't belong to anyone originally unless you choose it by yourself.

Now please go through the work-sheet attached with the instructions. Please note the difference between this work sheet and the one you got from rounds 1 and 2 in session I. After I finished the instructions, you are required to fill in all your choices under the 10 different gamble situations, i.e. to choose gamble or to choose the sure payoff of 300 tokens. And again, don't forget the last 5-digit of your SSN on the top line of the work sheet, please.

After you have all finished your work sheets, each of you will throw a die to determine from which number of the choice you will get paid. For example, if a die toss up shows 7, you will get paid through what you have chosen under Choice 7. If you chose to play the gamble, you should throw the die again and follow the corresponding rules of gamble 7 to get paid. If you chose a sure payoff, you will get paid of 300 tokens directly. Those tokens, at the end of this experiment, will be exchanged into grade points to you.

After we record the payoffs for all of you, please hand in your work sheets.

Please calculate the total tokens you've earned from sessions I, II. Your grade points will be based on all that you have earned in the two sessions of the experiment.

Answer Sheet (S1)

Round 1

Decision Maker: 5 digits of SSN _____ Gender: _____

Partner: 5 digits of SSN _____ Gender: _____

For the Decision Maker: for each of the following 10 games, please make your choice between option A and option B. Fill out your answers (A or B) in the column of "Decisions by **Decision Maker**".

For the Partner: after your decision maker finished his or her choices, for those games he or she chose to give up gambles, i.e. his or her choice was option B, please make your choices between option A or option B. Fill out your answers (A or B) in the column of "Decisions by Partner".

Game No.	Option A Gamble	Option B Sure Payoff	Decisions by Decision Maker	Decisions by Partner
1	If any number form 1~10: 600 tokens	300 tokens		
2	If any number form 1~9: 600 tokens; Else: 100 tokens	300 tokens		
3	If any number form 1~8: 600 tokens; Else: 100 tokens	300 tokens		
4	If any number form 1~7: 600 tokens; Else: 100 tokens	300 tokens		
5	If any number form 1~6: 600 tokens; Else: 100 tokens	300 tokens		
6	If any number form 1~5: 600 tokens; Else: 100 tokens	300 tokens		
7	If any number form 1~4: 600 tokens; Else: 100 tokens	300 tokens		
8	If any number form 1~3: 600 tokens; Else: 100 tokens	300 tokens		
9	If any number form 1~2: 600 tokens; Else: 100 tokens	300 tokens		
10	It is number 1: 600 tokens; Else: 100 tokens	300 tokens		

Answer Sheet (S1)

Round 2

Decision Maker: 5 digits of SSN _____

Gender: _____

Partner: 5 digits of SSN _____

Gender: _____

For the Decision Maker: for each of the following 10 games, please make your choice between option A and option B. Fill out your answers (A or B) in the column of “Decisions by **Decision Maker**”.

For the Partner: after your decision maker finished his or her choices, for those games he or she chose to give up gambles, i.e. his or her choice was option B, please make your choices between option A or option B. Fill out your answers (A or B) in the column of “Decisions by Partner”.

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Game No.	Option A Gamble	Option B Sure Payoff	Decisions by Decision Maker	Decisions by Partner
1	If any number form 1~10: 600 tokens	300 tokens		
2	If any number form 1~9: 600 tokens; Else: 100 tokens	300 tokens		
3	If any number form 1~8: 600 tokens; Else: 100 tokens	300 tokens		
4	If any number form 1~7: 600 tokens; Else: 100 tokens	300 tokens		
5	If any number form 1~6: 600 tokens; Else: 100 tokens	300 tokens		
6	If any number form 1~5: 600 tokens; Else: 100 tokens	300 tokens		
7	If any number form 1~4: 600 tokens; Else: 100 tokens	300 tokens		
8	If any number form 1~3: 600 tokens; Else: 100 tokens	300 tokens		
9	If any number form 1~2: 600 tokens; Else: 100 tokens	300 tokens		
10	It is number 1: 600 tokens; Else: 100 tokens	300 tokens		

Answer Sheet (S2)

Decision Maker: 5 digits of SSN _____

Gender: _____

Partner: 5 digits of SSN _____

Gender: _____

For the Decision Maker: for each of the following 10 games, please make your choice between option A and option B. Fill out your answers(A or B) in the column of “Decisions by **Decision Maker**”.

For the Partner: after your decision maker finished his or her choices, for those games he or she chose to give up gambles, i.e. his or her choice was option

B, please make your choices between option A or option B. Fill out your answers (A or B) in the column of “Decisions by Partner”.

Game No.	Option A Gamble	Option B Sure Payoff	Decisions by Decision Maker	Decisions by Partner
1	If any number form 1~10: 600 tokens	300 tokens		
2	If any number form 1~9: 600 tokens; Else: 100 tokens	300 tokens		
3	If any number form 1~8: 600 tokens; Else: 100 tokens	300 tokens		
4	If any number form 1~7: 600 tokens; Else: 100 tokens	300 tokens		
5	If any number form 1~6: 600 tokens; Else: 100 tokens	300 tokens		
6	If any number form 1~5: 600 tokens; Else: 100 tokens	300 tokens		
7	If any number form 1~4: 600 tokens; Else: 100 tokens	300 tokens		
8	If any number form 1~3: 600 tokens; Else: 100 tokens	300 tokens		
9	If any number form 1~2: 600 tokens; Else: 100 tokens	300 tokens		
10	It is number 1: 600 tokens; Else: 100 tokens	300 tokens		

Appendix (3)

Date: 04/08/02

To: Professor Jose' Rivera

Chair, Human Subjects Institutional Review Board

Scholes Hall, Room 227A

Form: Rahman Khoshakhlagh (Contact No. 227-3628), On Sabbatical Leave at UNM for the academic year of 2001-2002

Manping Wang (Contact No. 227-6458), Graduate Student

Subject: Request for Expedited Review Approval for Use of Human Subjects for a Project Entitled

a. Name, Phone number, and UNM address of responsible faculty

Prof. Mike McKee

SSCI-2023A

Contact No. 227-1960

b. Names of any others who will make contact with human subjects.

N/A

c. Status of research.

Independent research

d. Objective of the research.

The objective of this research is to investigate whether there are differences between men and women in their attitudes towards financial risks or not. Another goal of this study is to test whether people are willing to impose risk on others or not and this regard men act differently from women or not.

This study will benefit several parties from different perspectives. First, it's beneficial to our society in exploring gender differences in their risk attitude and using the information obtained to devise different pricing policies for men and women. Second, this study not only will provide the academic community better understanding of the differences between men and women in their risk attitudes, but also helps UNM to gain a more solid reputation in academia for its role in conducting experiments in its economic laboratory. Last, it would help Rahman for its sabbatical goal and would be good experience for Manping as a first year graduate student.

e. Methods and procedures

The subjects will be college students (over the age of 18) recruited from Econ. 300-3 with the investigator clarifying what the study is about. Participation is voluntary. As many volunteers as is possible will be chosen from that class from women and men. This experience would be very beneficial to the students taking that class. Because, partly related to the materials intended to teach in the class.

Subjects will be given written instruction to follow every step of the study. Their reward will be a fixed 2 extra points plus an extra 3 points based upon their performance in the study. There will not be any deception in this study because in economic experiments deception is most unwanted.

As it is a simple experiment just requiring the subjects to make several financial decisions, the total participation time should be around 75 minutes.

Informed Consent

I understand that I am being asked to voluntarily participate in an economics study that is being conducted by Manping Wang and Rahman Khoshakhlagh of the University of New Mexico's Department of Economics.

I understand that this involves my participation in a decision-making experiment for which I will receive extra grade points for econ.300-3 based upon my decisions. I also understand that I am guaranteed 2 extra grade points for a participation. My maximum extra points all together are out of possible 5 points. I also agree to abide by the rules of the experiment and that I may cease my participation at any time. If I do not complete the experiment, I will receive only my extra points of 2 for participation.

I understand that I am under absolutely no obligation to participate in this experiment. It is not a part of classroom or any other requirements at UNM. I understand that my responses to questions asked in the experiment will be treated confidentially; no one will know the responses that I personally make.

In signing my name in the space provided below I am indicating my voluntary consent to participate in this study.

I understand that by signing this form I am not waiving any of my legal rights.

If I have any questions regarding this research I may contact Dr. Jose Rivera

227A Scholes Hall. UNM

Contact No.277-6128

Please, fill out and sign the consent form and then we'll begin our experiment which will take about 1 hour to complete. I will collect the consent forms after

Signed _____

Name _____

SSN _____

