

# **Appendices to Are Women Really Better Borrowers in Microfinance? Evidence from Matrilineal and Patrilineal Societies in India**

Shagata Mukherjee

Meghnad Desai Academy of Economics,  
Mumbai School of Economics and Public Policy  
shagata.mukherjee@gmail.com

## **Appendix A: Subject Instruction for Individual Game**

Thank you for participating in today's experiment. It will take up to 4 hours to finish the experiment.

**No talking allowed until the end of the experiment.** If anyone is found trying to communicate with other participants, she/he will be declared disqualified. A disqualified participant will not receive any payment for this game. If you have any questions, or if you do not understand any rules of the game, please raise your hand. You will be personally attended to.

**Privacy:** All your **decisions will be kept confidential**, that is, no other participant will know about your decisions. At the end of the experiment, you will be paid in cash in private.

### **How will the Game Progress?**

There will be two jars—jar A and jar B. **Jar A** will have **five colored and one white** ball in it. **Jar B** will have **three colored and three white** balls in it. You will be

asked to choose one of the two jars and draw one ball from your chosen jar without looking inside.

If you choose jar A and draw a colored ball from it, you will receive **Rs. 60**. If you choose jar B and draw a colored ball from it, you will receive **Rs. 160**. If you draw a white ball from either jar, you will not receive any money.

If a colored ball is drawn, you will decide whether to contribute **Rs. 25** from your winnings to the pot. If you do not contribute, the game will end.

The game will proceed to the second round only if you contribute. The second round will be played the same way. **Remember** that the money you receive in any round of this game cannot be used in subsequent rounds.

### **How Long Will The Game Go On?**

The game will have multiple rounds. The exact number of rounds will not be announced in advance.

### **What will be Your Final Earnings from the Game?**

Your final earnings will be calculated by simply adding up your earnings in all the rounds in the game.

### **What is the Chance of Drawing a Colored Ball from Jar A?**

There is a 5 out of 6 chance of drawing a colored ball from Jar A.

### **What is the Chance of Drawing a Colored Ball from Jar B?**

There is a 50-50 chance of drawing a colored ball from Jar B.

## **Appendix B: Subject Instruction for Group Full Game**

Thank you for participating in today's experiment. It will take up to 4 hours to finish the experiment.

**No talking allowed until the end of the experiment.** If anyone is found trying to communicate with other participants, she/he will be declared disqualified. A disqualified participant will not receive any payment for this game. If you have any questions, or if you do not understand any rules of the game, please raise your hand. You will be personally attended to.

**Privacy:** All your **decisions will be kept confidential**, that is, no other participant will know about your decisions. At the end of the experiment, you will be paid in cash in private.

**Random Matching and Anonymity:** You will be **randomly paired** with another participant for the entire duration of the experiment. However, at no point during the experiment will you know the identity of your partner. Your partner will also never know your identity.

### **How will the Game Progress?**

There will be two jars—jar A and jar B. **Jar A** will have **five colored and one white** ball in it. **Jar B** will have **three colored and three white** balls in it. You will be asked to choose one of the two jars and draw one ball from your chosen jar without looking inside.

If you choose jar A and draw a colored ball from it, you will receive **Rs. 60**. If you choose jar B and draw a colored ball from it, you will receive **Rs. 160**. If you draw a white ball from either jar, you will not receive any money.

If you draw a colored ball, you will decide whether or not to contribute **Rs. 50** from your winnings to the pot. Your partner will face the same task. If **both of you contribute**, then each of you will get **Rs. 25** back from the experimenter. If **only one of you contributes**, then the contributing member will not get any money back from the experimenter. If both of you draw white balls or neither of you contributes, the game will end.

The game will proceed to the second round only if at least one of you draw a colored ball and choose to contribute. The second round will be played the same way. **Remember** that the money you receive in any round of this game cannot be used in subsequent rounds.

**Will Your Partner Know if You Chose Jar A or Jar B?**

**No.** It will be your private information.

**Will Your Partner Know if You Choose to Contribute or Not?**

**No.** It will be your private information.

**How Long Will The Game Go On?**

The game will have multiple rounds. The exact number of rounds will not be announced in advance.

### **What will be Your Final Earnings from the Game?**

Your final earnings will be calculated by simply adding up your earnings in **all the rounds in the game.**

### **What is the Chance of Drawing a Colored Ball from Jar A?**

There is a 5 out of 6 chance of drawing a colored ball from Jar A.

### **What is the Chance of Drawing a Colored Ball from Jar B?**

There is a 50-50 chance of drawing a colored ball from Jar B.

### **Under What Situations will Your Partner Not Contribute?**

Your partner will not contribute if she/he draws a white ball, or draws a colored ball and chooses not to contribute.

### **Will You Know Whether Your Partner Has Drawn a White Or a Colored Ball?**

**No.** You will not know which colored ball your partner has drawn. Neither will your partner know which colored ball you have drawn.

## Appendix C: Figures and Tables

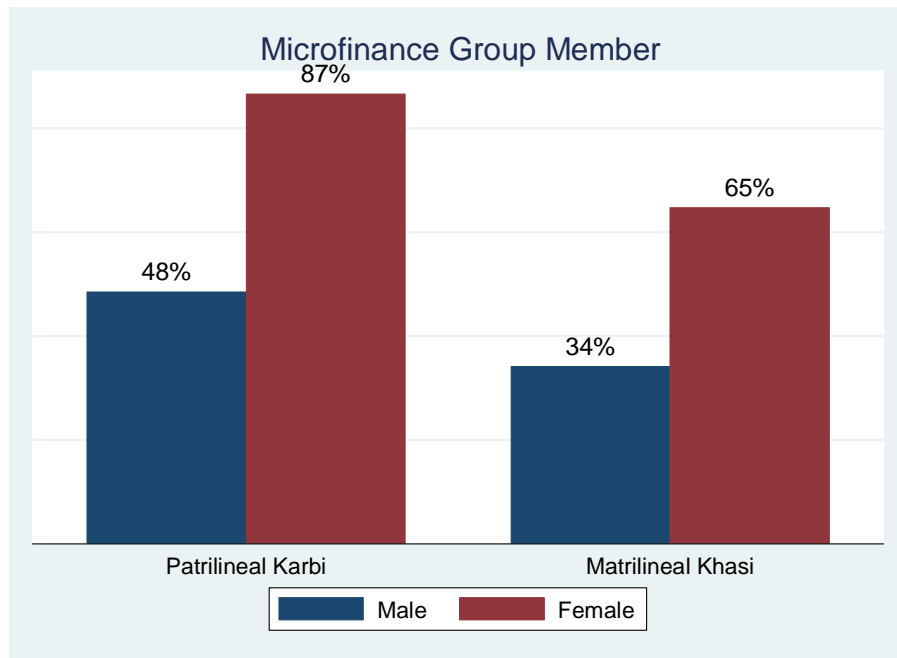


Figure C.1: Microfinance Group Member: Khasi vs. Karbi

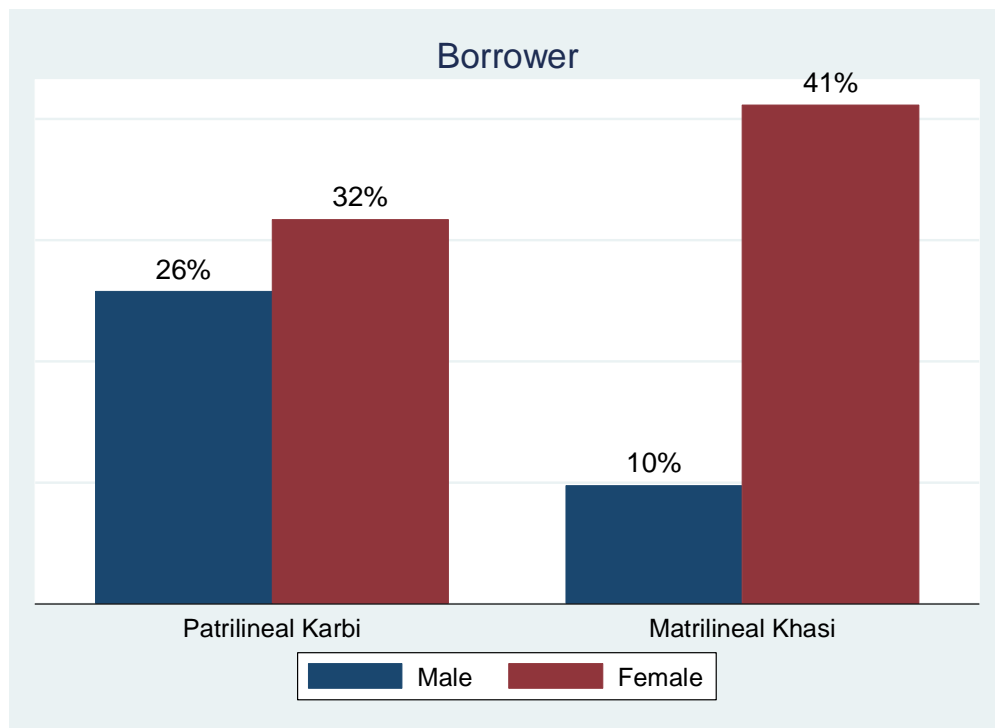


Figure C.2: Previous Borrower: Khasi vs. Karbi

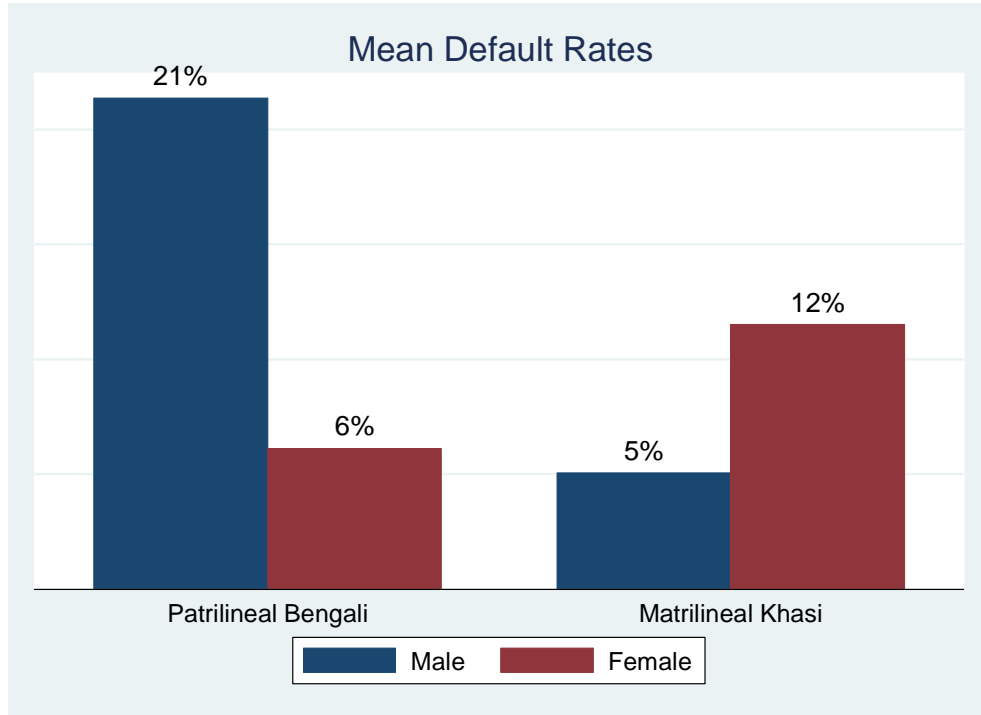


Figure C.3: Mean Loan Default Rates: Matrilineal Khasi vs. Patrilineal Bengali

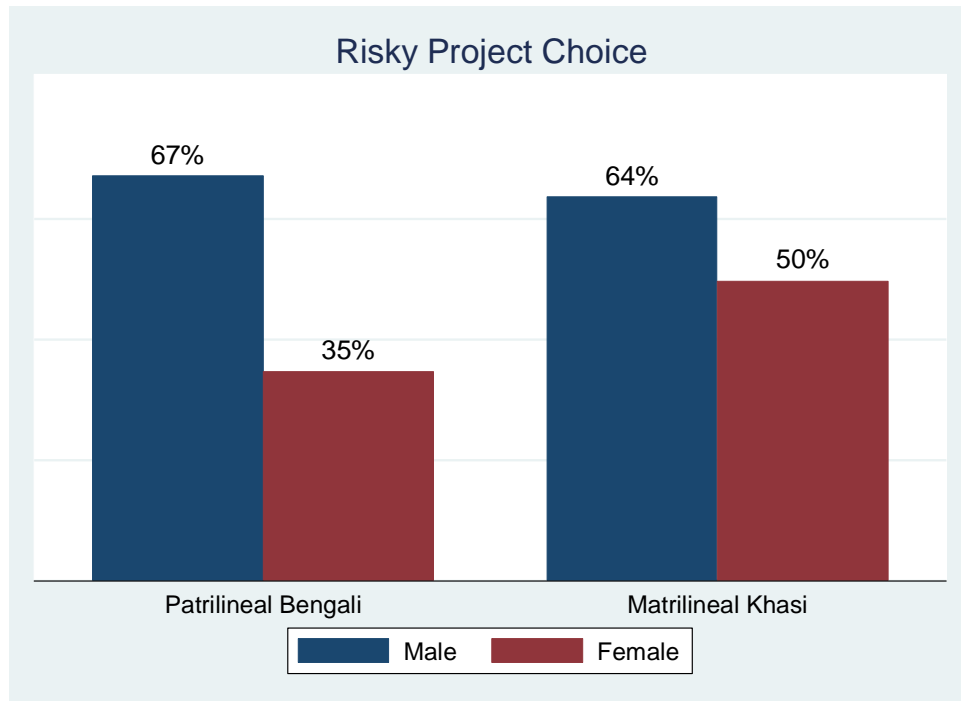


Figure C.4: Mean Risky Project Choice Rates: Matrilineal Khasi vs. Patrilineal Bengali

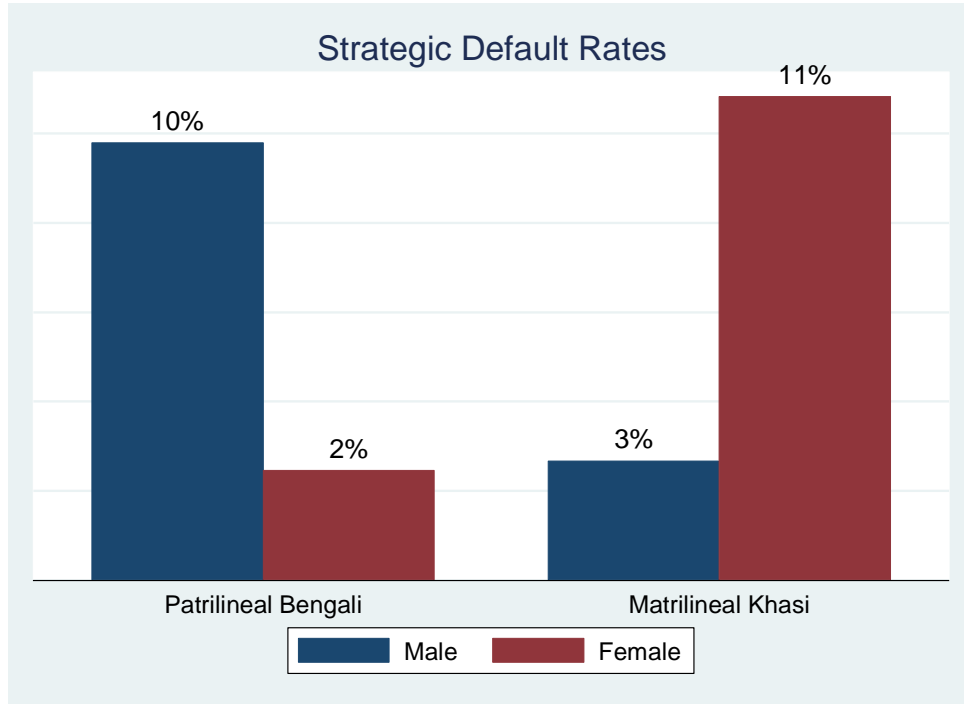


Figure C.5: Mean Strategic Default Rates: Matrilineal Khasi vs. Patrilineal Bengali

Table C.1: Linear regression results for investment risk for Khasi and Karbi sample

<i>Investment risk behavior</i>	(S1)	(S2)
Female	-0.34*** (0.05)	-0.29*** (0.06)
Matrilineal Khasi	-0.06 (0.05)	-0.12** (0.06)
Female* Matrilineal	0.31*** (0.07)	0.32*** (0.07)
Individual controls	No	Yes
Observations	298	298
R-squared	0.15	0.25

Robust standard errors, clustered at individual level, in parentheses.  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



Table C.2: Probit estimation results for the effect of risk behavior on *risky project choice*

<i>Risky project choice</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.35*** (0.07)	-0.25*** (0.07)	-0.24** (0.10)	-0.21** (0.11)
Matrilineal Khasi	-0.01 (0.07)	0.01 (0.07)	0.01 (0.06)	-0.01 (0.07)
Female* Matrilineal	0.22** (0.09)	0.13 (0.09)	0.11 (0.12)	0.11 (0.12)
Investment risk behavior	—	0.29*** (0.06)	0.30*** (0.06)	0.31*** (0.06)
Group liability	—	—	0.19*** (0.07)	0.19** (0.07)
Group*Female	—	—	0.02 (0.11)	0.011 (0.12)
Group*Female*Matrilineal	—	—	-0.001 (0.12)	0.012 (0.12)
Individual level controls	No	No	No	Yes
Round fixed effects	Yes	Yes	Yes	Yes
Observations	827	827	827	827
R-squared	0.07	0.10	0.13	0.14

Robust standard errors, clustered at group level, in parentheses.

<sup>+</sup> Marginal coefficients      \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.3: Probit estimation results for the effect of risk behavior on *strategic default*

<i>Strategic default</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.10** (0.04)	-0.09** (0.04)	-0.01 (0.01)	-0.04** (0.02)
Matrilineal Khasi	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.06* (0.03)
Female* Matrilineal	0.16*** (0.05)	0.16*** (0.05)	0.36*** (0.07)	0.38*** (0.07)
Investment risk behavior	—	0.003 (0.02)	0.001 (0.02)	0.004 (0.02)
Group liability	—	—	0.36*** (0.06)	0.36*** (0.05)
Group*Female	—	—	-0.07* (0.04)	-0.06 (0.04)
Group*Female*Matrilineal	—	—	-0.21***	-0.21***

Individual level controls	No	No	(0.06)	(0.06)
Round fixed effects	Yes	Yes	Yes	Yes
Observations	652	652	652	634
R-squared	0.10	0.10	0.15	0.22

Robust standard errors, clustered at group level, in parentheses.

+ Marginal coefficients \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.4: Probit estimation results for the effect of experience with microfinance on risky project choice

<i>Risky project choice</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.35*** (0.07)	-0.36*** (0.07)	-0.42*** (0.10)	-0.34*** (0.09)
Matrilineal Khasi	-0.01 (0.07)	-0.01 (0.07)	-0.02 (0.07)	-0.03 (0.07)
Female* Matrilineal	0.22** (0.09)	0.24*** (0.09)	0.26*** (0.09)	0.17** (0.08)
Microfinance group member	—	0.02 (0.05)	-0.02 (0.07)	-0.04 (0.06)
Borrower	—	-0.06 (0.05)	-0.09 (0.10)	-0.12 (0.10)
Female* member	—	—	0.08 (0.10)	0.16* (0.09)
Female* borrower	—	—	0.03 (0.11)	0.07 (0.11)
Investment risk behavior	—	—	—	0.32*** (0.06)
Group game	—	—	—	0.21*** (0.05)
Individual level controls	No	No	No	Yes
Round fixed effects	Yes	Yes	Yes	Yes
Observations	827	827	827	827
R-squared	0.07	0.07	0.07	0.15

Robust standard errors, clustered at group level, in parentheses.

+ Marginal coefficients \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.5: Probit estimation results for the effect of experience with microfinance on ex-post moral hazard

<i>Strategic default</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.10** (0.04)	-0.09** (0.04)	-0.06 (0.04)	-0.07* (0.04)
Matrilineal Khasi	-0.04 (0.03)	-0.04* (0.03)	-0.04* (0.02)	-0.07** (0.03)
Female* Matrilineal	0.16*** (0.05)	0.16*** (0.05)	0.15*** (0.05)	0.16*** (0.05)
Microfinance group member	—	-0.02 (0.02)	0.02 (0.02)	-0.02 (0.02)
Borrower	—	-0.02 (0.02)	-0.05 (0.04)	-0.04 (0.04)
Female* member	—	—	-0.09** (0.04)	-0.07* (0.04)
Female* borrower	—	—	0.08 (0.05)	0.09* (0.05)
Investment risk behavior	—	—	—	0.001 (0.02)
Group game	—	—	—	0.09** (0.04)
Individual level controls	No	No	No	Yes
Round fixed effects	Yes	Yes	Yes	Yes
Observations	652	652	652	634
R-squared	0.10	0.11	0.14	0.26

Robust standard errors, clustered at group level, in parentheses.

<sup>+</sup> Marginal coefficients \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.6: Regression results for *loan default* for Khasi and Bengali sample

<i>Loan default</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>
Female	-0.13*** (0.04)	-0.13*** (0.04)	-0.14*** (0.05)
Matrilineal Khasi	-0.14*** (0.04)	-0.14*** (0.04)	-0.13*** (0.04)
Female* Matrilineal	0.21*** (0.06)	0.20*** (0.06)	0.19*** (0.06)
Group liability	—	-0.08*** (0.02)	-0.09** (0.04)
Group liability*Female	—	—	0.01

Group liability* Female*	—	—	(0.08)
Matrilineal			0.01
Round fixed effects	Yes	Yes	(0.07)
Observations	706	706	Yes
R-squared	0.11	0.14	706
			0.14

Robust standard errors, clustered at group level, in parentheses.

<sup>+</sup> Marginal coefficients \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.7: Regression results for *risky project choice* for Khasi and Bengali sample

<i>Risky project choice</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.32*** (0.07)	-0.27** (0.11)	-0.20** (0.10)	-0.14 (0.11)
Matrilineal Khasi	-0.04 (0.08)	-0.10 (0.07)	-0.04 (0.06)	0.003 (0.09)
Female* Matrilineal	0.19* (0.09)	0.26** (0.13)	0.17 (0.12)	0.16 (0.12)
Group liability	—	0.35*** (0.07)	0.31*** (0.07)	0.35*** (0.07)
Group*Female	—	-0.08 (0.12)	-0.06 (0.11)	-0.07 (0.11)
Group*Female*Matrilineal	—	-0.05 (0.13)	-0.06 (0.12)	-0.06 (0.12)
Investment risk behavior	—	—	0.38*** (0.07)	0.39*** (0.06)
Microfinance group member	—	—	—	0.02 (0.06)
Borrower	—	—	—	-0.02 (0.07)
Individual level controls	No	No	No	Yes
Round fixed effects	Yes	Yes	Yes	Yes
Observations	706	706	706	706
R-squared	0.05	0.11	0.16	0.18

Robust standard errors, clustered at group level, in parentheses.

<sup>+</sup> Marginal coefficients \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C.8: Regression results for *strategic default* for Khasi and Bengali sample

<i>Strategic default</i>	(1) Probit <sup>+</sup>	(2) Probit <sup>+</sup>	(3) Probit <sup>+</sup>	(4) Probit <sup>+</sup>
Female	-0.08** (0.03)	-0.02** (0.01)	-0.02** (0.01)	0.02 (0.04)
Matrilineal Khasi	-0.07** (0.03)	-0.09*** (0.03)	-0.09*** (0.03)	-0.09** (0.04)
Female* Matrilineal	0.16*** (0.05)	0.49*** (0.09)	0.49*** (0.09)	0.48*** (0.09)
Group liability	—	0.48*** (0.07)	0.49*** (0.08)	0.52*** (0.08)
Group*Female	—	-0.07* (0.03)	-0.07** (0.03)	-0.10** (0.05)
Group*Female*Matrilineal	—	-0.32*** (0.07)	-0.32*** (0.08)	-0.32*** (0.08)
Investment risk behavior	—	—	-0.01 (0.03)	-0.01 (0.03)
Microfinance group member	—	—	—	-0.03 (0.03)
Borrower	—	—	—	0.04* (0.03)
Individual level controls	No	No	No	Yes
Round fixed effects	Yes	Yes	Yes	Yes
Observations	558	558	558	558
R-squared	0.08	0.15	0.15	0.22

Robust standard errors, clustered at group level, in parentheses.

<sup>+</sup> Marginal coefficients      \*\*\* p<0.01, \*\* p<0.05, \* p<0.1