

Gender differences in risk taking essay sample



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Abstract

This report is a compilation of 16 economic papers that study the topic of gender differences for risk taking. The level of risk taking while making investment decisions differs from one individual to another, based on various factors. The studies analyzed in these journal papers are summarized in the survey of literature section of this paper. Moreover, two papers have been selected to focus on the details discussed about risk taking differences amongst the two genders. A summary of these two papers has been formed in the extension section of this paper. The first journal paper is written by Charness and Gneezy (2012) which attempts to answer the question of whether the stereotype about females being more financially risk averse, holds true.

The paper discusses various studies and identifies and underlying difference in the investment choices made by females as compared to males. Secondly, the article by Mittal and Vyas (2011), is discussed in detail. This article emphasizes on the psychological reasons behind the gender differences in males and females while making risky decisions. The conclusion formed from both articles is consistent, which is in conjunction with the stereotype that women are in fact more risk averse than men. Survey of literature

Of the decisions people make in their life, many involve risk. Risk is referred to activities in which the individual chooses an option that carries the possibility of negative outcomes (Cox and Olsen, 2001). The response to risky situations differs from one individual to another. Recent studies and research are being conducted to investigate the reasons that caused these disparities. It has been highlighted through miscellaneous studies and

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experiments that gender is indeed a contributing factor for the difference in the decision making that involve risk. A study by a major brokerage firm pointed out that after the factors of age and income, gender is the most important factor that affects investment choices (Bajtelsmit and Bernasek, 1996). In general, these differences between the two genders are noticed in daily life decisions, such as smoking, drinking, speed limit and wearing seat belt while driving (Hersch 1996).

Similarly, differences in gender preferences of risk were also noticed in various aspects in the business field such as investment, consumption and in the labor market (Blau & Kahn, 2000). Among different studies, a common conclusion support the stereotype that women tend to be more risk averse than men in both daily life decisions and business decisions. In his study over 18, 000 individuals, Hersch (1996) found out that on average men make riskier decisions in their daily life than women do. The same conclusion was earlier drawn by Kristiansen in 1990 and by Svenson in 1978. Likewise, in financial decisions, significant body of research reveals that males show greater risk taking than females (Croson and Gneezy, 2009). For instance, Lewellen et al (1977) stated that women “ hold less risky portfolios than men, and that men tilt their portfolios toward higher betas and smaller stocks” (as cited in Graham et al, 2002).

Another study by Croson and Gneezy (2009) shows that women risk less in Objective Probability Lotteries with known probabilities and outcomes.

A Large-scale one-on-one attitude survey by the Investment Company Institute (1996) and S. R. I. International (1997) asserted that women are more likely to invest in lower risk assets than men (Cox and Olsen, 2001).

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Moreover, Eckel and Grossman (2003) investigate the differences between males and females in a simple gamble choice task. The experiment indicates that women are more risk-averse than men in gambles. Eckel and Grossman (2003) emphasize that the result is the same whether the gambles carry the possibility of losses or not. This common stereotype becomes an interest for research because it led to some discriminatory actions against women (Schubert et al., 2000). In their paper, Eckel and Grossman (2003) also pointed out that, as a result, female clients were offered limited options by the advisors.

Schubert et al., (2000), also noticed that investment brokers advise women to go for low-risk options which usually result in low return in the long run. He also stated that women are not likely to be offered jobs that require ability to take decisions that include risk. Research also shed the light on reasons behind the differences in preferences toward risk. Theories suggest that the differences emerged due to biological, emotional and psychological reasons. Zuckerman (1994) attributed these disparities to different levels of enzyme monoamine oxidase in the body of each of the two sexes (Mittal & Vyas 2011). Zuckerman (1984, 1990, 1996) extensive research shows that this enzyme affects sensation seeking, which is related to individual's behavior in "use of illegal drugs, risky sports, tolerance for ambiguity, and nonconforming attitudes" (Öngen, 2007). Zuckerman with Kurtz in 1978 also showed that women score lower in sensation seeking scales due to their low level of enzyme monoamine oxidase (Öngen, 2007).

From another point of view, researchers provided various explanations for emotional factors. For instance, Elizabeth Arch (1993) states that males

consider a risky situation as a challenge which induce them to participate, contrary to females, who interpret it more like a threat that should be avoided (Croson and Gneezy, 2009). Another study by Fujita et al (1991) indicates that women, in general, experience intense nervousness when they make a decision that carry out a negative outcome probability, which result in more risk aversions. Harris interactive survey commissioned by Charles Schwab & Co. indicates that “ twice as many women as compared to men (24% versus 48%) find investing ‘ scary’ ” (Mittal & Vyas, 2011, p. 48).

Another area of research explored psychological reasons for differences in gender preferences toward risk. One psychological factor is overconfidence.

A study by the investment marketing Group of America concluded that women exhibit less overconfidence than men in their financial decisions (Graham et al, 2002). Lewellen, Lease, and Schlarbaum’s in 1977 found that “ men spend more time and money on security analysis, rely less on their brokers, make more transactions, believe that returns are more highly predictable, and anticipate higher possible returns than do women ” (as cited in Barber and Odean , 2001, p. 256). In the extension we represent in detail the findings by the most recent studies in this issue. Charness and Gneezy (2012), investigate the common stereotype about women being more risk averse than men. Mittal and Vyas (2011) focus on psychological reasons for risk preference differences between the two genders. Extension

Since it is known that gender differences may have an effect on the risk preferences of investors while making decisions, economists are increasingly carrying out research to determine the impacts of gender in taking financial risks. There exists a common stereotype that women are more risk averse

than men while making investment decisions. Thus, in their paper, "Strong Evidence for Gender Differences in Risk Taking", Charness and Gneezy, attempt to answer the following hypothesis of whether men are willing to take more financial risk than women? The authors believe that when investigators carry out research with the goal of finding a gender difference, the design of their experiment becomes biased towards the goal. Therefore, in their article the authors use empirical results from observations by different researchers using different setups, but one common investment game.

The game was designed such that, every decision maker was given $\$X$ and was asked how much they would like to invest in a risky asset ($\$x$) which would yield $\$kx$ where $k > 1$, with a probability p . In all the cases, the expected value of investing was higher than the expected value of not investing any amount in the risky asset. Charness and Gneezy analyze these investment decisions made by men and women across different experiments carried out by different observers. In their paper they explain these observations across five different studies. The first observation was based on the Dreber et al (2010) study that was carried out in professional bridge players. This was an interesting case because these bridge players make decisions based on risk often, while playing bridge in their tournaments. However, this study was based on the financial risks that these players would undertake.

Based on other studies, there is no differences in gender when these individuals make bridge decisions, however, based on the financial decisions, there was a difference noticed amongst this sample. The results proved that, <https://assignbuster.com/gender-differences-in-risk-taking-essay-sample/>

there was a high difference in the total amounts of investment made by males and females, the males in this experiment invested 78.5% of their endowment in the risky asset, as compared to females who only invested 48% of the money given initially. These statistics confirm the hypothesis that females are more risk-averse while making financial decisions. The second study that Charness and Gneezy's paper discusses is by Dreber and Hoffman (2007). This experiment had a very different goal as compared to the previous one, as it studies the link between financial risk undertaking and the length of the individual's index (2nd) finger and ring (4th) finger. Although this is a strange relationship to be established, it is based on the biological study of how the prenatal hormones are linked with the length of the fingers.

Thus, it was determined that prenatal hormones are in fact an important factor in the risk aversion of individuals, and can be assessed by measuring their finger length. The results of this study suggest that males invested 68.8% of the money into the risky investment, whereas females only invested 49.6% of the money given. Therefore, this investigation also concludes that females are more risk averse than men while making investment choices as they choose smaller amounts to invest in the risky asset in spite of higher returns, as compared to keeping the money with themselves, and earning no returns on it. Next, the authors analyze the hypothesis of gender stereotypes on one of the studies carried out by them earlier, which was for a different goal. The experiment by Charness and Gneezy in 2010, was based on the effect of ambiguity aversion and illusion of control while making an investment decision.

In this experiment, the ambiguity aversion of individuals was measured based on whether the rolling of the dice was a free or paid choice, and whether the investor or the experimenter rolled the dice. Secondly the illusion of control test was based on the free or costly choice, and whether the success of each outcome was known or unknown. Table 7 shows the results of this experiment, which again shows that for each condition, there was a strong difference between the amounts invested by females and the amounts invested by males in the risky asset. Furthermore, Charness and Gneezy use one of their other experiments carried out in the year 2004 to evaluate the differences in gender preferences during risk undertaking. This experiment was primarily designed to find out if there is an effect of framing differences on different investment decisions made by individuals. Moreover, the experiment also analyzes whether the framing effect is stronger for men or women, based on the differences in their risk aversion decisions. Framing differences are differences in the way an investment is phrased and formed.

In the case of this study carried out by the authors, there were two different treatments; one was called the normal condition, and the other the framing condition. The difference between the two treatments was the way the instructions to the investment game were worded. Based on the primary goal of the study, it is evident that there exists a framing difference in the investment decisions of individuals. This means that, for a given investment, the way the investment is worded and phrased plays a role in the decision made by the investor. Moreover, it was realized that even though the effect of framing being stronger for a particular gender proved to be inconclusive, this experiment consistently shows that men invested more heavily on the

risky asset as compared to women, under both treatments. Lastly the paper written by Charness and Gneezy, discusses an investigation carried out by Yu in 2006. The main emphasis of this study was based on how often the investment game is played and the effect of freedom to change the initial investment decision made by individuals.

Moreover, this experiment was carried out across different samples using an on-line investment game, and one that was based in the laboratory. This study was designed based on three different treatments for the on-line as well as the laboratory choices. The different treatments were based on how often the individual would make the decision, daily, intermediately, or weekly. The individuals were given the freedom to change their previous decision irrespective of which treatment they were playing under. Based on the results, there is a strong difference in the investment decisions made by males and females across the three different treatments. Additionally, there is also a difference in whether the investor was a part of the on-line experiment or the laboratory experiment. The on-line experiment required the investors to log in to the website using a username and password assigned to them, whereas the sample participating in the laboratory experiment were required to visit the lab to make every investment decision.

Results showed that the average investment in males under each of the 6 conditions was between ranges of 28-68% higher than the average investment made by females under the same 6 conditions. Table 8, summarizes the results of this experiment under the 6 conditions by recording the different averages of male and female investments. The paper, " Strong Evidence on Gender Differences in Risk Taking", written by <https://assignbuster.com/gender-differences-in-risk-taking-essay-sample/>

Charness and Gneezy is an extremely effective paper in determining whether the stereotype of females being more financially risk-averse than males, holds true or not. The main reason why this paper is a credible source is because it is unbiased based on the studies carried out to confirm the hypothesis true or false. The authors mention in the paper that when study is carried out based on proving or disproving a particular theory, the investigators or researchers subconsciously design the experiment in a biased manner, to prove the hypothesis true.

Therefore, this paper is different from other papers carrying out the same research because it uses different studies that were observed with different set ups to find an underlying difference between the investment decisions made by males and females. This paper discusses 5 main studies carried out based on: professional tournament bridge players, prenatal hormones affected by the length of the investor's fingers, ambiguity aversion and illusion of control, framing differences, and freedom to change investments in a repeated environment. Under all these studies, the investment game was similar, and recorded the investment made by males and females. In conclusion, as females made a lower investment in the risky asset under all conditions, across the different studies, the results of all these studies were consistent with the stereotype that females are more financially risk averse than males. Mittal and Vyas (2011) investigate psychological reasons for gender differences in preferences for risk.

The results are based on questionnaire distributed to investors of more than three years of investment experience. The sample size was 428, of which 281 were males and 147 were females. In (Table 1) demographic factors

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described more in details. The questionnaire is designed to answer five questions; are males and females significantly different in their preference of risk? Do they differ in their investment avenue choice? Are women more likely to follow a methodical approach in processing the information than men do? Are females less overconfident as stereotypes suggest? Do men put less effort in accumulating information related to the decision they are about to make? The following procedures were taken to improve the validity of the results; the researchers intended to hide the purpose of the questionnaire to avoid the bias on the responses. For each property there were many questions range from 5 to 10 and results were analyzed based on the average score over the number of the questions. Moreover, the following tests for statistical significance were used: One-way analysis of variance (ANOVA) used to test the significance in the differences in preference for risk, information processing style and overconfidence, between females and males.

Mann-Whitney U-test (or Wilcoxon Mann-Whitney test) was used to examine the difference between the two groups in their investment avenue choice. Mittal and Vyas define the test as the following, “ a non-parametric test for assessing that two samples of observation come from same population. It requires the two samples to be independent and the measurement scale to be ordinal.” They explain that this test was used because responses were collected on an ordinal scale. Chi-square test was used to investigate the difference in effort accumulation between the two groups. Chi-square test is “ A test that uses the chi-square statistic to test the fit between a theoretical frequency distribution and a frequency distribution of observed data for

which each observation may fall into one of several classes” (The American Heritage® Dictionary of the English Language, 2000).

The authors clarified that this test was used because the responses were collected on a nominal scale. To answer the first question; whether men and women differ in the preferences for risk, Mittal and Vyas analyzed the participants’ responses to five risky situations on 5-point scale. The scale starts from 1 indicating higher tendency toward risk up to 5 indicating high risk-aversion. (Table 2) summarize the results based on the average score of men and women. The females’ higher average score of 15.29 shows that they are more risk-averse than males with mean equal to 14.00. The one way ANOVA test shows that the difference in preference between the two groups is statistically significant. Second, the authors examined the gender preference for Investment Avenue based on the order that the participants rank their preference of different investments like “ equity, mutual funds, debentures, bank deposits, real estate/bullion and derivatives.” The response then analyzed based on the mean rank; higher mean ranking for an investment avenue, indicates lower preference of that avenue. The results in (Table. 3a) assert females’ tendency to choose lower risk investment avenues.

Females’ highest mean rank score (242.38) is for Equity and lowest rank score (180.22) for Post office deposits. This indicates that females prefer the safe investment with low return (post office deposits) rather than investments which result in higher return along with higher risk too. The results for males were the opposite. The highest mean rank score (232.43) is for Post office deposits and lowest rank score (199.92) for Equity. This

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highlights their preference of risky high-return investments rather than safe low-return investments. Further results in (Table. 3b) show that the two genders are indifferent in preference for other investment avenues which are considered “ medium-risk medium-return Investments”. Mann-Whitney U-test indicates that there is a significant difference between the two groups in their investment avenue choice between Equity shares and post office deposits. Third, the information processing style was investigated by collecting the participants’ response on 5-point Likert scale regarding 10 questions.

The questions are such as “ do you plan your things, take decision after much thought, find there are few hours in a day, etc (p. 50).” The average score is taken to analyze the results; A lower mean score indicate a more methodical approach for information processing than heuristics or mental shortcuts. The results (Table. 4) show lower average score for Females (25. 1837) than males (25. 4128). However, ANOVA test shows that the difference is statistically insignificant. Fourth, the overconfidence in investment decision-making ability is investigated by ‘ better than average’ effect. Mittal and Vyas explain that the term refers to “ the tendency in individuals to overestimate his/her own abilities relative to others” (p. 50). The authors examined how the participants compare themselves to other by collecting their response to 5 questions on a 10-point scale. The abilities range from general ones like driving and planning skills to more specific related to investment like making right investment decisions and picking up “ hot stock”.

The results (Table. 5) indicate that men are more confident than women because of the higher mean they scored in all the abilities examined. The result of one-way ANOVA shows a significant difference in overconfidence scores among the two groups. Finally, the information accumulation effort was measured on the basis of probability theory. Mittal and Vyas cited Kahneman and Riepe (1998) who explain the theory as the following, “ the probabilities of both of the outcomes are equal, but most of the people erroneously believe that the random sequence is more likely than the first. They tend to act on the obvious cue (that one sequence is systematic and the other is random) and do not try to accumulate the eclipsed information that they have equal probability of appearing” (p. 50). Therefore, to test information accumulation effort, the participants were asked to choose from the sequences HHHTTT or HTHTTH the one which they believe is more likely to occur when a coin is tossed. The sequence (HHHTTT) appeared systematic and (HTHTTH) appeared random. According to the theory, those who choose the systematic sequence (HTHTTH) are the ones who act on obvious cues rather than putting the effort in accumulating the information.

The results (Table. 6) were opposite to the common belief that women put in more effort to accumulate information than men do. The results show that 68% of men chose (HTHTTH) while 72% females did. However, the Chi-Square test indicate no statistical significance in the difference between the two groups. In conclusion, the results of Mittal and Vyas (2011) agree with the previous studies, which show that there exists a difference in preference toward risk between the two genders, and that females show more risk-aversion. Their study also indicates that the men prefer risky investment

with high return while females prefer to invest in low risk investment with low return. However the results did not show a significant difference between men and women in their information processing style and information accumulation effort. Directions for Future Research

Investigating the extent of gender differences in risk taking has been of great importance to researchers and economists over time. The two papers discussed in this report, use various studies to identify whether gender differences amongst individuals while making risk exist. However, there is ample evidence now, to prove that gender difference does in fact prevail while making investment choices. Therefore, further research should now be carried on to examine how these gender differences affect the lifestyles of individuals and decisions made by investment companies.

It is a given fact that lower risk gives lower return on any investment, and thus the lifestyle and income distribution of males and females should be researched to determine whether making less risky investment choices, has a long term effect on their income and wealth. Moreover, as discussed in the paper, since it is now commonly known that women are more risk averse, investment companies and brokers have started offering less risky investments to females as compared to males. Research in the future must be carried out to investigate how the investment companies form their analysis and what information do they use to design their various investments differently for females.

Carrying out research has become increasingly simpler nowadays due to the extensive use of the Internet and smartphones. It is now much easier than

before to carry out experiments and survey individuals. Therefore, this gives opportunities for further research in the field of economics about the factors that contribute to risk taking in individuals. The use of technology can help researchers reach out to a larger sample audience, including children, so that the topic can be further developed to identify gender differences in risk taking from a younger age. Additionally, the investment behavior of married individuals who make investment decisions collectively may differ greatly from the stereotypes known, and this may be an interesting concept for further research.

References

Bajtelsmit, V. and Bernasek, A. (1996), " Why do women invest differently than men?", *Financial Counseling and investing*, Vol. 7, pp. 1-10.

Brad M. Barber and Terrance Odean. Boys Will be Boys: Gender, Overconfidence, and Common Stock Investment. *The Quarterly Journal of Economics* , Vol. 116, No. 1 (Feb., 2001), pp. 261-292. Retrieved from: <http://www.jstor.org/stable/2696449>. Blau, Francine D., and Lawrence M. Kahn. 2000. " Gender Differences in Pay." *Journal of Economic Perspectives*, 14(4): 75-99.

Croson, R. Gneezy, U. Gender Differences in Preferences. *Journal of Economic Literature* 2009, 47: 2, 448-474. Retrived from <http://www.aeaweb.org/articles.php?doi=10.1257/jel.47.2.448>

Eckel C C and Grossman P J (2003), " Forecasting Risk Attitudes: An Experimental Study of Actual and Forecast Risk Attitude of Women and Men". Retrieved from www.alpbach.org/PDF/Leaflets/ForecastingRisk.pdf.

Gary Charness, Uri Gneezy, Strong Evidence for Gender Differences in Risk Taking, *Journal of Economic Behavior & Organization*, Volume 83, Issue 1, June 2012, Pages 50-58, ISSN 0167-2681, 10.1016/j.jebo.2011.06.007.

Graham J F, Stendardi E J, Myers J K and Graham M J (2002), " Gender Differences in Investment Strategies: An Information Processing Perspective", *International Journal of Bank Marketing*, Vol. 20, pp. 17-26.

Hersch, Joni. (1996). " Smoking, Seat Belts, and Other Risky Consumer Decisions: Differences by Gender and Race," *Managerial and Decision Economics* 17(5), 471-481.

Kristiansen, Connie M. (1990). " The Role of Values in the Relation Between Gender and Health Behaviour," *Social Behaviour* 5, 127-133.

Mittal, M., & R, K. V. (2011). A study of psychological reasons for gender differences in preferences for risk and investment decision making. *IUP Journal of Behavioral Finance*, 8(3), 45-60. Retrieved from <http://ezproxy.aus.edu/login?url=http://search.proquest.com/docview/922557604?accountid=16946>

Olsen R A and Cox C M (2001), " The Influence of Gender on the Perception and Response to Investment Risk: The Case of Professional Investors", *Journal of Psychology and Financial Markets*, Vol. 2, pp. 29-36

Öngen, D. (2007). The relationships between sensation seeking and gender role orientations among turkish university students. *Sex Roles*, 57(1-2), 111-118. doi: <http://dx.doi.org/10.1007/s11199-007-9214-4>

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(1978). " Risks of Road Transportation in a Psychological Perspective,"
Accident Analysis and Prevention 10, 267-280.

Schubert R, Gysler M, Brown M and Brachinger H (2000), " Gender Specific
Attitude Towards Risk and Ambiguity: An Experimental Investigation",
Retrieved from: [www. e-collection. ethbib. ethz. ch/show? type= incoll&nr=](http://www.e-collection.ethbib.ethz.ch/show?type=incoll&nr=409&=text)
409&= text.

The American Heritage® Dictionary of the English Language, 2000.
Retrieved from [http://www. thefreedictionary. com/chi-square+test](http://www.thefreedictionary.com/chi-square+test).