UNIVERSITEIT VAN TILBURG

Gender Differences in Risk Taking:

Are Women more Risk Averse?

Jing Chen ANR: 865056

Supervised by

Dr. P. C. de Goeij

URL http://homepage.uvt.nl/~s865056/thesis.pdf

Abstract:

This paper studies the difference between men and women of their risk taking decisions in financial markets. Two aspects, namely individual characteristics and systematic factors are studied to explain the gender difference in choosing risk levels. It is found that women are more risk averse than men. Difference of characteristics between woman and man is identified as one reason for the gender difference in risk taking decisions. Another reason is that woman makes more conservative decisions in financial markets than man. The conclusion is mainly drawn upon the findings of previous researches.

Keywords: characteristics, systematic factors, risk taking, financial markets

Table of Content

1 Introduction

There have been many academic studies investigating gender differences. Many researchers agree that women are more risk averse than men. For instance, Byrnes, Miller and Schafer (1999) conclude that the females responders are more risk averse than their male counterparts after analyzing 150 studies from 1967 to 1997. Does this phenomenon also exist in financial markets? Powell and Ansic (1997) find that men are more inclined to take different investment strategies which increase the portfolios' risk variations. Their laboratory experiments indicate that women are less risk seeking than the men irrespective of the familiarity, framing, costs and ambiguity[1]. Similarly, others find that professional women in financial fields perform a more conservatively. De Goeij and Smedts (2008) conclude that male analysts are more likely to issue extreme positive stock recommendations than female analysts. Furthermore, in a study of American professional mutual fund managers, Niessen and Ruenzi (2007) show that female managers invest in a more risk averse way than male managers. However, there are still several researchers who argue against the "women risk aversion" theory and consider it to be a stereotype.

[1] Familiarity reflects the participants' experience of the situation.

Ambiguity causes because of lacking knowledge about the investment, historical price pattern and information of probability in financial markets.

Decision making under loss frame and familiar situations can reflect the gender difference in traits, while decision making under unfamiliar gain frame emphasizes on the situational instance difference.

Johnson and Powell (1994) point out that discrimination against women is the foundation of the stereotype. Through presupposing that women do not take enough risk to yield high returns, companies provide less opportunities for their accessing to promotions compared to men. In addition, several experiments, such as the dictator game (e.g., Bolton and Katok, 1995), the threshold public game (e.g., Cadsby and Maynes, 1998), the duopoly game (e.g., Mason et al., 1991) as well as the loss domain gamble games[2] (Schubert et al., 1999) rebuts the stereotype with experiment results which show no significant difference in performances between female and male groups.

Are women really more risk averse than men? This paper answers this question from two aspects, character traits factors and environmental factors. Furthermore, the paper discusses whether those factors interact on gender difference of risk tolerance in financial markets.

The decision making process is affected by two types of determinants, namely endogenous[3] and exogenous[4] factors. Specifically, the essential factors such as individual characteristics and systematic factors have a significant impact on investor's financial decisions making. Therefore, obtaining a deeper understanding of the personal characteristics and individual response to the financial environment would probably help

[2] A loss domain gamble game refers to loss dominant gambling in which participants have a large probability to lose money in the game.

[3] Endogenous factors are internal factors. To an investor the internal factors are mainly one's individual characteristics.

[4] Exogenous factors mean external factors. To an investor the external factors are the context of the financial environment.

to explain the causes of different performances in financial markets. In light of the previous perspective, this paper assumes that gender differences in characteristics and attitudes toward financial environment could have significant importance in studying the risk taking behaviors between women and men. It explains gender differences in risk taking grounded on above mentioned two aspects. First, the paper discusses the correlation of gender difference in characters and relative risk taking behaviors. Second, it studies gender differences in responses to environmental situations in financial markets.

This paper mainly uses previous empirical evidence found in psychological and economical studies. In addition, some reports from empirical studies which related to risk taking behaviors are employed. The structure of the paper is as follows. Section 2 discusses several different characteristics possessed by men and women and the impacts of the characteristic differences on risk taking behaviors. Section 3 examines some systematical factors in financial markets and gender differences in their responding to risk taking. In section 4 I describe the empirical literature that test the theories described in previous sections. Finally, section 5 concludes paper with a discussion of suggestions for future studies.

2 Gender Difference in Characteristics and Risk Taking Behaviors

A large body of literature supports the hypothesis that women differ from men psychologically (e.g., Gray, 1992). In fact, to a large extent, society assigns different roles and responsibilities to men and women. Gradually, women and men developed

many different characteristics. Some scholars categorize those characters into two groups called masculine and feminine characteristics[5]. In the western world, risk taking is regarded as an obvious masculine character (Meier-Pesti and Penz, 2007). Emphasizing on some obvious masculine and feminine characters, this paragraph explains the gender differences in performances through investigating into the distinctive character traits.

2.1 Competitiveness

It's generally accepted that men are more interested in gambling than women. Actually, we can see more men playing in casinos than women in most industrialized countries. Additional, the players of poker game shows on TV are mainly men. Why do men participate more in gambling? There are several reasons. According to questionnaire results, Derevensky et al (2006) find that young men are much exited about a competitive gambling environment and regard gambling a good social activity to share with friends. They are inspired by winning money from gambling. In contrast, young women who participate in gambling are solely attracted by the fun of playing. Female respondents show more concern about losing money in gambling than male respondents. Moreover, young women generally take opposing opinions towards men's high frequency gambling. Derevensky's research indicates that it's the males' competitive nature that makes them gamble more.

[5] "Masculinity and femininity refers to distribution of emotional roles between the genders, which is another fundamental problem for any society to which a range of solutions are found; it opposes "tough" masculine to "tender" feminine societies." (Hofstede, 2001)

In experiments to investigate whether women are unassertive to attend competitions, Niederle and Vesterlund (2007) find that men enter tournaments more often than women. Women are more likely to choose relatively stable environment instead of competitions regardless of their capabilities. In contrary to women's choices, men choose tournaments more frequently, even though some of them are not capable enough to compete with others. This empirical study reveals the competitive tendency of man.

It is plausible that men are more competitive than women. Consequently, men are more likely than women to choose competitive environment in which more risks are exposed. From this point of view, men would be more stimulated to take risk by their competitive nature.

2.2 Optimistic or Pessimistic

It is widely accepted that women's perceptions differ from men's. To verify the gender differences in perceptions about current, future, personal and general economic conditions, Jacobsen et al (2008) investigate the Consumer Confidence Index of eighteen countries [6] and conduct consumer confidence surveys. It turns out that men in those countries are more optimistic than women in all dimensions expect in Germany. Furthermore, they adopt 56 U.S. Gallup polls in order to analyze the gender differences

[6] The eighteen countries includes: Australia, Austria, Belgium, Czech rep., Denmark, Germany, Finland, France, Greece, Hungary, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, the United Kingdom and the United States.

in perceptions of macro economic factors[7]. With a precise control of the participants' personal characteristics such as income, level of education, and age, the Gallup survey indicates that women are less optimistic about the economic outlook than men. In addition, American women take risk more seriously than American men. In other words, men are more optimistic and are more likely to estimate a relatively lower risk markets than women in the United States.

To explain the gender differences in competitions, Niederle and Vesterlund (2007) argue that women put more focuses on the potential costs while men emphasize more on potential benefits. In addition, they argue that men are more prone to attribute their past success to inner abilities while women are inclined to relate past success to luck. This may be considered as personal skills. However, there is no doubt that women and men have different attitudes toward success, at least to certain extent. Those findings imply that women are more willing to work in stable environment instead of working in competitive situations.

It is evident that every financial decision involves a certain risk of a loss. And financial decisions are based on investors' expectations of economical outlook. Men's optimistic perceptions inspire them to make more risky decisions in financial markets while the pessimistic feature of women constrains their risk tolerance.

[7] Macro economic factors are determinants which reflect general economic conditions. They consist of economic growth, unemployment rate, inflation rate, interest rate and stock markets performance in the U.S. Gallup polls.

2.3 Adventurousness

People who are adventurous are inclined to take more risks. Actually, adventurousness is considered as a distinctive male characteristic. There is much psychological evidence supporting that point of view. For instance, men participate in more extreme sports than women do and, as indicated in the previous section, men gamble more often than women. In a study which analyzes the prevalence and treatment in Benin City (located in southern Nigeria), Omogbai et al. (2002) find that men are two times more likely to be bitten by snakes than women. The fact that men in Benin City are more adventurous could partially explain this phenomenon.

Zuckman developed his Sensation Seeking Scale in 1979. It can be used as an instrument to test the sensation seeking and risk taking behaviors. Sensation Seeking Scale is divided into four subscales, namely: thrill and adventure seeking (TAS), disinhibition (DIS), experience seeking (ES) and boredom susceptibility (BS). In Zuckman (1994)'s TAS experiment, he chooses a normative sample from University of Delaware's undergraduate students which consist of 410 men and 807 women aging from 17 to 23. The TAS experiment has a scale score range from 1 to 10. It is designed to measure the respondents appeal to activities of physical danger or risk taking. Higher score indicates the more incentives to take risk. Male respondents received on average a score of 7.7 compare to female respondents' received an average score of 6.6. This experiment results confirm that men are more adventurous than women and also more risk seeking. The TAS test may be explaining the phenomenon that male managers are more probably to

invest in extreme styles than their female counterparts in American mutual fund market (Niessen and Ruenzi, 2007).

To conclude, adventurousness and risk taking behaviors are positively related to each other. Men are more risk seeking due to the reason that men are generally more adventurous than women.

2.4 Overconfidence

Overconfidence is on the basis of overestimating of individual competence. Usually, the individual confidence level will influence one's response to surrounding issues. There are several academic studies that investigate gender differences of overconfidence. Most of them support the popular view that men are more overconfidence than women. For instance, Pulford and Colman (1997) test overconfidence by dividing questions into three groups: difficult questions, medium-difficult questions and easy questions. The results show that men are more overconfidence than women in all levels of questions.

This psychological test on overconfidence can also be applied to financial field. Generally, men are more confident than women in belief of personal capabilities in financial field (Prince 1993). Does overconfidence have any impact on risk taking behaviors in financial markets? To a large extent, people's attitudes toward risk depend on people's perceptions of risk level (Croson and Gneezy, 2004) and their risk tolerances. According to Odean's (1998) report, overconfident investors hold much riskier portfolios as well as trade relatively more frequently than rational investors. Barber and Odean

(2000) go a step further to test gender differences in financial markets using the overconfidence model. They find men trade 45% more than women which result in risk-adjusted net returns that are 1.4% less than women's. This result indicates that the assumption that male investors are more overconfidence than women and they take more risk than women in financial markets is justified.

Overconfident people are likely to overestimate individual competence or underestimate the riskiness in completing a task. As men are more overconfident in their ability in the financial field, they are much easier to be persuaded (by themselves) to take high risks. Not surprisingly, women take less risk compared to men, since women are not as overconfident as men.

2.5 Summary

The outcomes of many studies suggest that individual characteristics are determinants in decision making process. Obviously, men have different characteristics from woman. For example, men are more competitive, optimistic, adventurous and overconfident compared to women. Those characteristics play a vital role in risk taking behavior, as a number of research papers point out that those characteristics are positively correlated to the risk taking behaviors, especially in financial markets. Thus it's concluded that men would take more risk in financial markets.

3 Financial Environment and Risk Taking Decision

Although, gender differences in characteristics may reflect different risk taking biases in financial markets. However, this can only sever as partial reason for gender differences in making financial decisions. Systematic factors in financial markets should also be taken into account. Generally speaking, those factors may seem identical to everyone in a macro scope[8]. But by looking into that with a micro scope[9], it turns out that people do not always have similar attitudes toward outside variables. In practice, the different responses to the financial environment can affect investors risk taking decisions. This section discusses gender differences in measuring systematic factors in the financial markets. Furthermore, in this section, relationships between different attitudes toward financial environment and risk taking decisions are discussed in the context of gender difference.

3.1 Information and Ambiguity

Information plays a crucial role in financial world. To make a sound financial decision, information is necessary for predicting the outlook of any investment. However, it is costly to obtain reliable information. The high information expenses require investors to obtain information with limited frequency or limited accuracy (Huang and Liu, 2007). The cost for access useful information is an obstacle for investors to make a precise

[8] Macro scope is from the perspective of general economic effects. Those factor seem have equal impact on everybody.

[9] Micro scope mainly concerns the economical impact on personal level.

estimation in financial markets. Moreover the difficulty of accessing to reliable information not only lies within high cost, but also lies with instruments or ways to obtain it. Although the development in Information Communication Technologies (ICT) helps to collect, communicate, transmit and disseminate information efficiently, gender differences still exist in access to ICT. Indeed, women take an inferior position in ICTs' employment, education, training and other areas (Primo, 2003). Women's disadvantageous position in ICT hampers their accessing to information compared to men. With less information available, women may feel more unsafe to invest in financial markets than men. Perhaps, this can be a reason that why women are more risk averse than men.

To make a sound financial decision, one needs to have information about the movement of the financial markets (Gysler et al, 2002). Lack of information can cause ambiguity[10] in financial markets. But as a matter of fact, accurate and crucial information is not always available to investors. Therefore, they have to deal with vague factors in financial markets. In fact, such financial environment may increase the investors' perceived risk. In other words, investors perceive more risks in facing explicit economic situations. In order to study the gender differences of performances in ambiguous financial circumstances, Schubert et al, (2000) conduct a lottery experiment. In weak ambiguous environment, respondents are partially aware of the lottery outcomes. While in strong ambiguous environment, the only information that the respondents have is the outcome

[10] Ambiguity refers to the vague and uncertain situations in financial markets which can hamper investors in making rational expectations. In most cases it is caused by lack of information.

record from the past. After examining 42 male and 46 female undergraduate students' performances, the authors reach two conclusions. First, women are more ambiguity averse. Second, gender difference expands as levels of ambiguity increases. Therefore, ambiguity averse implicates that women would take less risk in financial markets.

3.2 Environmental Pressure

Ariely et al (2005) find that monetary rewards stimulate people to improve their performances. They point out that the higher the level of reward, the higher quality of performance.

Paserman (2007) further develops Ariely's theory in gender differences. He chooses professional tennis players who participate in four Grand Slam tournaments during the time period 2006 and 2007 as the samples. Paserman applies a simple game theory model to analyze the point-to-point data. Unforced errors are used as natural measurement of performance. In the study, male players' performances seem more consistent than female players. Although the monetary reward differs from quarter-final to final, approximately 30% of all the points played by men, result in unforced errors, in each round. Compare to men, women's performances are more fluctuating with the change of monetary rewards. As rewards increases, the probability of women's point end in unforced errors increases by 6%. It seems that women are more sensitive to monetary pressures. In addition, the data on serve speed, first serve percentage and length of the rally indicates that women play more conservative when the level of reward increases.

Verona and Curtin (2006) find that men are more aggressive than women under stress and the level of aggressiveness would be enhanced over time in stressful environment. Anderson and Morrow (1995) suggest that aggressiveness will arouse competitiveness and stimulate people to take more risks. It is plausible that men are more risk seeking than women under stress.

However, problem rises with the definition of pressure in financial world. Up to date, there is insufficient information guiding people's acquaintance of stress environment in financial markets. To draw appropriate conclusion, further study is needed to elaborate the financial pressure.

3.3 Probability Weighting

Risk has a very close relation with probability of gain or loss. Because of different perceptions of risk men and women have, those two groups may have dissimilar views with probability of perceptive returns. Currently there are several hypotheses to explain phenomenon of gender difference in probability weighting. "Bounded rationality" for example, points out the most decisions are mainly dealing with trivial things in normal life (e.g., Fehr-Duda et al, 2004). Women and men may have different probability weighting system due to different types of problems they come across in everyday lives. Risk-as-feelings hypothesis (Loewenstein et al, 2001) argues that people's feeling determines the relative probability. Their study implicates that gender difference in risk taking may be caused by different feeling determines that women and men have.

To test above mentioned hypothesis, Fehr-Duda et al (2004) select two groups of people and put them in both abstract[11] and contextual[12] gambling environment. They study decision time in experiment, the personal parameter estimations, and expectations of median function. As a result, they find that women are less sensitive to probability changes and they always invest in relatively more risk premium compared to men. Women are also more risk averse in gamble frames with large probability of realization for large or median gains. They suggest that this relates to women's characteristics of pessimistic and underconfidence. Consequently, women are more risk averse than men in both abstract and contextual environment.

3.4 Summary

Systematic factors have significant impact on people's decision making. This chapter explains gender differences in performances in financial markets through analyzing two genders different attitudes towards some systematic factor. In brief, information is what every investor needs for accurate analysis and wise investment. Lack of information leads to ambiguity, which may increase the perceived risk. In addition, women have an inferior position in information gathering because of their less access to ICT. This may hamper women's risk taking behavior as more uncertainty energies. Furthermore, every investor in financial markets confront with pressure. Recently, there is some empirical evidence that shows women are more risk averse under stress. But still there is not enough

[11] Computerized lottery game in which the participants are required to make abstract choices in an abstract environment.
[12] Same lottery game but participants are asked to make decisions in investment and insurance context.

evidence illustrating the performances under pressure. Therefore, further research on this field is needed. Finally, some latest researches implicate that women differ from men in probability weighting. Women's weighting probabilities are generally more conservative than men's. All the evidence in this chapter implies that women are more risk averse than men. Despite those factors, other systematic ingredients may have impact on gender differences in risk taking behaviors in financial world. Thus further efforts are needed. To conclude, systematic factors have more pessimistic impact on women than men. Therefore women are more likely to take less risk than men in financial markets.

4 Evidence of Gender Differences in Investment Decisions

At this stage, questions might arise as to address women's risk aversion in financial markets. Through checking investors' perceptions and asset allocations in financial markets, this section aims at justifying the conclusion reached in the previous chapters and draw a more empirical conclusion. Although a number of hypotheses and testing models suggest that women are more risk averse in financial markets, unfortunately, many studies encounter the limitations of accuracy in modeling real-life decision making. In addition, studies are also flawed by sampling issues. Most empirical studies use small sample group which inevitably increases statistical error. Furthermore, many researches use college students as samples. Conclusions reached under such conditions have drawbacks, especially, for the validity of generalization. As a matter of fact, the conclusions reached in this paper also inherit these limitations. Conclusions found on

such samples probably could not precisely estimate the difference gap between two genders.

4.1 Risk Perception

Investors' decisions of investment can be affected by their different perceptions of outcomes. Similarly, different perceptions of riskiness adapted by two gender groups would reflect their risk taking decisions in the field of finance. However, data on large population's financial decisions is rare. Fortunately, the Survey of Consumer Finances[13] (SCF) is of substantial usefulness to study the genders' different trends toward risk taking in U.S. financial markets. Concerning people's willingness to take certain level of risk, SCF asks the following question: "Which of the following statements on this page comes closest to the amount of financial risk that you are willing to take when you save or make investments?" The possible four options of responses are: (1) take substantial financial risks expecting to earn substantial returns (2) take above average financial risks expecting to earn above average returns, (3) take average financial risks expecting to earn average returns, and (4) not willing to take any financial risks. (Lyons et al, 2008) According to the survey's report, 63% of the single women and 57% of the married women choose not to accept any financial risk. In comparison, 43% of single men and 41% of married men are unwilling to take any risk. Jianakoplos and Bernasek (1998) conclude that women perceive themselves to be less risk taking compared to men regarding their risk-return

[13] Survey of Consumer Finances (SCF) is a study using large datasets sponsored by the Federal Reserve System. It collects information of various economical items to study household financial characteristics and behavior. SCF is representative of the US population's financial state.

tradeoff. The gender differences in perceptions of risk probably would result in gender differences of strategies in investment risk choice scenarios.

4.2 Assets Allocation

Several research analyses reveal that there exists gender difference in assets allocation especially in pension investment. For instance, Palsson (1996) finds that women are more risk averse than men in Swedish households. Moreover, through using the U.S. Survey of Consumer Finances, Jianakoplos and Bernasek (1998) also find single women have more risk-averse portfolios of assets than single men and married couples.

Furthermore, Bajtelsmit and Van Derhei (1997) study the private plan of investment in pension assets and collect data from 20,000 management-level employees from a single U.S. firm. All the participants are required to make a distribution of pension among five items: employer stock, a diversified equity portfolio, a government bond portfolio, a guaranteed interest fund (GIC), and a social choice equity fund. The result shows that women invest a significantly larger proportion of their pensions in fixed assets than men. Simultaneously, they find women are much less likely to allocate their pensions to employer stock and equities than men. Note that employer stock and equities are usually thought to be more risky than government bond, GIC and social choice equity fund.

Besides the evidences of women's risk aversion on pension allocation, similar gender differences are found in informal monetary saving. Adams and Fitchett (1992) studies informal savings associations such as ROSCAs (Rotating Savings and Credit

Associations) among participants with independent sources of income in Asia, Latin America, and Africa. The results show female participants build up the major part of savings.

4.3 Summary

Due to the reasons that it is difficult to access the integrated data, analysis addressing gender issues is insufficient to reflect the true state of the problems. This paper provides only a small overview of the true-life phenomenon as it can only provide evidence on perception and assets allocation (mainly about pension allocation). Women are more conservative than men in both financial perceptions and assets allocation decisions from those two aspects. However, to highlight the validity of the arguments further, substantive efforts are required to study the gender phenomenon in other financial aspects such as insurance decision, security investment.

5 Conclusion and Discussion

Many studies try to exploit the various determinants that may affect the overall risk perceptions between two genders. Some academic papers support the prevailing view that women are more risk averse than men. However, a few researchers hold opposite view and suggest that women are as tolerant to risk as men do and sometimes they are more risk seeking than men in financial markets. This paper studies two genders' risk taking behaviors from two angles namely, character traits and responses to financial

environment. First, from character traits perspective, men are more competitive, optimistic, adventurous and overconfident than women. Those typical character traits that men have would inspirit them to take more risk. Second, women have more pessimistic attitudes than men toward ambiguity and pressure in financial markets. Additionally, women have a more pessimistic way in measuring probability. Therefore, they would probably incline to tolerant less risk than men. However, those conclusions rely on a couple of factors which may conflict with the real-life examples. The results also confirm that women are more risk averse in financial markets. Remarkably, the sources used in this paper are mainly from the western world. Thus, the conclusions in this paper only reflect the risk taking phenomenon in several developed countries.

It should also be noted that the conclusions drawn on gender differences in this paper as well as other papers are not final. As a matter of fact, the reasons for gender differences in performances in financial markets are not well defined. On one side, this is caused by lacking of a complete set of analytic frame and a well established model. On the other hand, researches are banded by the difficulty of accessing to various types of information (for example, demographic and economic characteristics, and education gap) as well as statistically important data. Therefore, genders' differences in risk taking in financial markets are more complicated as it was suggested.

Admittedly, the studies described in this paper pave the way for future studies. It gives many implications in gender studies. For example, future researchers may precisely model the risk taking from multi-angles. In addition, future research may weigh the

priorities in making financial decision between two genders. Furthermore, gender studies may help to shed new light on other academic fields, as well as public policy making, helping to eliminate gender discriminations and gender gap.

Reference

1. Adams, D., and Fitchett, D. (Eds.). (1992). Informal Finance in Low-Income Countries. Westview Press, Boulder.
2. Anderson, C. A., and Morrow, M. (1995). Competitive aggression without interaction: effects of competitive versus cooperative instruction on aggressive behavior in video games. *Personality and Social Psychology Bulletin, 21,* 1020-1030.
3. Ariely, D., Gneezy, U., Loewenstein, G., and Mazar, N. (2005). Large Stakes and Big Mistakes. Federal Reserve of Boston Working Paper.
4. Bajtelsmit, V. and Van Derhei, J. (1997). Risk Aversion and Pension Investment Choices. In: Gordon, M.S. et al (eds.): Positioning Pensions for the Twenty-First Century. University of Pennsylvania Press, Philadelphia. p. 45-66.
5. Barber, B. and Odean, T. (2000). Boys will be Boys: Gender, Overconfidence, and Common Stock Investment. *Quarterly Journal of Economics 116:1*, p. 261-292.
6. Bolton, G. E. & Katok, E. (1995). An Experimental Test for Gender Differences in Beneficent Behavior. *Economics Letters, Elsevier, vol. 48(3-4),* p. 287-292.
7. Byrnes, J., Miller, D. C. and Schafer. W. D. (1999). Gender Differences in Risk Taking: a Meta-analysis. *Psychological Bulletin 125,* p. 367-383.
8. Cadsby, B., and Maynes, E. (1998). Gender and Free Riding in a Threshold Public Goods Game: Experimental Evidence. *Journal of Economic Behavior and Organization 34,* p. 603-620.
9. Croson, R., & Gneezy, U. (2004). Gender Differences in Preference. Working Paper. Wharton School.
10. De Goeij, P., and Smedts, K. (2008). Gender Differences Among Analyst Recommendations. Tilbury University.
11. Derevensky, J. L., Gupta, R., and Ellenbogen, S. (2006). A Cross-Cultural Study of Gambling Behaviour Among Adolescents. *Journal of Gambling Studies***.**

12. Fehr-Duda, H., de Geunaro, M. and Schubert, R. (2004). Gender, Financial Risk, and Probability Weights. http://www.cer.ethz.ch/research/wp_04_31.pdf
13. Gray, J. (1992). Men are from Mars, women are from Venus: A practical guide for improving communication and getting what you want in your relationships. New York: HarperCollins.
14. Gysler, M., Kruse, J. B. and Schubert. R. (2002). Ambiguity and Gender Differences in Financial Decision Making: An Experimental Examination of Competence and Confidence Effects. http://www.cer.ethz.ch/research/wp_02_23_paper.pdf
15. Hofstede, G. (2001). Cultures consequences. California: Thousand Oaks.
16. Huang, L., and Liu, H. (2007). Rational Inattention and Portfolio Selection. *Journal of Finance Vol. 62 Issue 4*, P. 1999.
17. Jacobsen, B., Lee, J.B., and Marquering, W. (2008). Are Men More Optimistic? http://ssrn.com/abstract=1030478
18. Jianakoplos, N. and Bernasek, A. (1998). Are Women More Risk Averse? *Economic Inquiry 36:* 620-630.
19. Johnson, J. E. V. and Powell, P. L. (1994). Decision Making, Risk and Gender: Are Managers Different? *British Journal of Management 5,* p. 123-138.
20. Loewenstein, G. F., Weber, E. U., Hsee, C. K., and Welch, N. (2001). Risk as Feelings. *Psychological Bulletin 127:*267-286.
21. Lyons, A., Neelakantan, U., and Scherpf, E. (2008). Gender and Marital Differences in Wealth and Investment Decisions: Implications for Researchers, Financial Professionals, and Educators. http://ssrn.com/abstract=1109103.
22. Mason, C. Phillips, O. Redington, D. (1991). The Role of Gender in a Non-cooperative Game. *Journal of Economic Behavior and Organization 15,* 215–235.
23. Meier-Pesti, K. and Penz, E. (2007). Sex or Gender? Expanding The Sex-based View by Introducing of Masculinity and Femininity as Predictors of Financial Risk Taking. *Journal of Economic Psychology 29 (2008),* 180–196.

24. Niederle, M. and Vesterlund, L. (2007). Do Women Shy Away from Competition? Do Men Compete too Much? *The Quarterly Journal of Economics 122,* p.1067-1101.
25. Niessen, A. and Ruenzi, S. (2007). Sex Matters: Gender Differences in Professional Setting. SRN:http://papers.ssrn.com/sol3/papers.cfm?abstract_id=966243
26. Odean, T. (1998). Volume, Volatility, Price, and Profit When All Traders Are Above Average. *Journal of Finance, Vol. LIII, 6,* p. 1887-1934.
27. Omogbai, E. K. I., Nworgu, Z. A. M., Imhafidon, M. A., Ikpeme, A. A., Ojo, D. O. and Nwako, C. N. (2002). Snake Bites in Nigeria: A study of the Prevalence and Treatment in Benin City. http://www.tjpr.freehosting.net.
28. Palsson A. M. (1996). Does the degree of relative risk aversion vary with household characteristics? *Journal ofEconomic Psychology*, *17*(6), 771-787.
29. Paserman, M. D. (2007). Gender Differences in Performance in Competitive Environment: Evidence from Professional Tennis Players. http://www.iza.org/conference_files/essle2006/paserman_d1505.pdf
30. Powell, M. and Ansic, D. (1997). Gender Differences in Risk Behaviour in Financial Decision-Making: An Experimental Analysis. *Journal of EconomicPsychology 18,* p. 605-628.
31. Primo, N. (2003). Gender Issue in the Information Society. United Nations Educational, Scientific and Cultural Organization (UNESCO).
32. Prince, M. (1993). Women, Men, and Money Styles. *Journal of Economic Psychology, XIV,* 175–182.
33. Pulford, B. D., and Colman, A. M. (1997). Overconfidence: Feedback and item difficulty effects. *Personality and Individual Differences, 23,* 125-133.
34. Schubert, R., Gysler, M., Brachinger, H. and Brown, M. (1999). Financial Decision-Making: Are Women Really More Risk Averse? *American Economic Review Papers and Proceedings 89,* p. 381-385.

35. Schubert, R., Gysler, M., Brachinger, H. and Brown, M. (2000). Gender Specific Attitudes Towards Risk and Ambiguity: An Experimental Investigation. Available on line: http://www.wif.ethz.ch/research/wp_00_17.pdf.
36. Verona, E. and Curtin, J. J. (2006). Gender Differences in the Negative Affective Priming of Aggressive Behavior. *American Psychological Association 2006, Vol. 6, No. 1,* 115–124.
37. Zuckerman, M. (1994). Behavioral Expressions and Biosocial Bases of Sensation Seeking. New York: Cambridge University Press.