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STOCK INVESTING AMONG WOMEN: A STUDY OF HOW PSYCHOLOGICAL BIASES AFFECT INVESTMENT DECISIONS

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1. Introduction

Money is power. For many, money is also something that can contribute to a sense of security and freedom. Some save for a buffer for unexpected expenses, for a vacation or for retirement. Others strive for financial freedom. There are many reasons to save and there are just as many ways to do it. Some prefer to have the money in a savings account, others in funds that the bank has selected and some have their savings tucked away in the mattress. What generally gives the highest return are shares, but it also involves higher risk.

In the current situation, women still earn less than men. Beyond lower wages, women also have a lower pension. In addition, women invest less i n equities than men, which means that they lose out on potentially higher returns on their savings. According to Statistics India's shareholder statistics, women own only a third of the (directly owned) shares on the Indian marketplaces. A study that Ipsos recently did on behalf of Danske Bank (2019) showed that 37% of women in India consider that their finances are a fairly large obstacle to being able to separate from their partner. For men, the figure was 18%. These are different examples of the economic inequality that prevails today women and men, and it is problematic in several different ways.

Previous research in the field of women and investments has mainly focused on differences between women and men. It is often about risk-taking and risk-taking. Many studies show that women are less prone to risk than men and that they are more conservative when it comes to investments (Bajtelsmit & Bernasek, 1996). Although there are fewer women who own shares than men, there are also studies that show that women generally receive a higher return (Barber & Odean, 2001) on their investments. Classical economic theories are based on the fact that man is rational in his actions and constantly maximizes benefits. In recent years, the emergence of a new research area, behavioural economics, has begun to receive attention which instead claims the opposite, that man is not always as rational in his actions as the classical economic theories say. Behavioural economics is about how real people make financial decisions in practice. When it comes to savings and investment decisions, they are complex processes and they are therefore exposed to different psychological side effects. Heuristics (which can be

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explained as thought shortcuts) are often used in complex processes and depending on the heuristics used, the decision can be biased.

Given what the statistics show about women's financial situation, there should be incentives for more women to strive for higher returns. The few women who invest in shares also generally receive a higher return than men. The purpose of this study is to conduct an in-depth study, based on previous research, to increase understanding of how psychological biases affect women investors' investment decisions. The research that the study is mainly based on is "An Exploratory Inquiry into the Psychological Biases in Financial Investment Behaviour" (Sahi et al., 2013) which deals with psychological biases among individual Indian investors. With a qualitative method, the new target group, svenska1 share-investing women, will be interviewed and the answers analysed.

2. Literature Review

Investment decision

Psychologists believe that there are two different types of decision theories: normative and descriptive theories (Thaler, 2000). A normative theory is about how a person or organization should make decisions to act rationally. It involves theories and models as Bayes' theorem and expected utility (Thaler, 2000). A descriptive theory instead aims to describe and explain how decision-making takes place in reality.

Since most decisions are unique in their kind, it is unique difficulties that come with the decisions. But with experience, the unique difficulties can disappear and similarities emerge. Therefore, according to Clemen & Reilly (2014), it is an advantage to be able to understand how a unique decision fits into a larger picture. It will be easier to be able to choose the right tool to be able to analyse the decision and see how others have solved similar problems. Clemen & Reilly (2014) talk about four things that contribute to the fact that it is difficult to make decisions, one of which is complexity. The other things are about the uncertainty of the decision, multiple goals (the English "objectives") and competing points of view. Investment decisions normally involve a balance between risk and return (Clemen & Reilly, 2014). Decisions can also be difficult if different perspectives lead to different conclusions. Decisions are complex, but using the right techniques can lead to good decisions. But what is a good decision? It is important to distinguish between good decisions and good outcomes. Also, one good decision can lead to a less good outcome. The uncertainty that the decision has is like

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often said beyond our own control. What decision analysis can do is to improve our decisions by making us carefully consider and understand all the different factors of the problem. By understanding the structure of the problem, the uncertainties and (potentially) those of weighing made in different alternatives, we improve our chances of getting results that suit us better.

What kind of decisions does an investor need to make? Most decisions concern the investor portfolio, which is simply a collection of investment assets (Bodie et al., 2011). Once the portfolio is created, the investor can update it by selling existing assets and buying new ones or new assets are added to increase the size of the portfolio. In the same way, assets can be sold to reduce the portfolio. The investments can be divided into different investment categories such as shares, funds, real estate and commodities and more. Investors make two different kinds of decisions when creating their portfolio.

The first decision is about which investment categories should make up the portfolio. This means that the decision is also about how much is invested in "safe" categories (e.g. bank account) and in more risky categories, such as shares.

The second decision is about which specific assets should be included in each category. As with all difficult decisions, it is important to think through all the different parts of the decision. The better you understand what is i important in the decision and what it i s you want to achieve with it, the easier it will be to understand which alternatives are best. Therefore, the first step for the

decision maker is to arrive at what it wants to achieve with its investment and it does so by setting goals. Making money may be the first thought for investment goals, but for few people, money is important in its form as money. Money is often important because it helps us to be able to do things. Like getting money for basic things like our accommodation and food. Money can also contribute to a feeling of freedom as more opportunities can be opened up. Many people also spend money on various insurance policies because their goal is to avoid risks. So even though money is often not the direct goal of investments, it can serve as a “Proxy goal”, as it is universally understood, measurable and simplifies trade-offs as different goals can be used and compared on the same scale (Clemen & Reilly, 2014).

Heuristics and Psychological Biases

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Heuristics can be explained as shortcuts of thought (Tversky & Kahneman, 1974). It is cognitive techniques that help us make assessments. Heuristics are easy and intuitive ways to handle uncertain situations (Clemen & Reilly, 2014).

An example is when we have to assess the distance of an object. The more blurred we see the object, the further away we judge it to be. Heuristics help us on many occasions, but they can lead to a biased result, depending on the heuristics used.

Gigerenzer (2018) describes a bias as a systematic deviation from a person's or group's assessment of a true value or norm. Psychological biases help us understand how an investor arrives at their decision. As early as the 1970s, Kahneman and Tversky began writing about judgments and decisions under uncertainty. In their well- quoted and comprehensive article "Judgments under Uncertainty: Heuristics and Biases" (1974), they go through three different heuristics (they also call it "mental operations") that can influence decisions under uncertainty. Representativeness which is about the fact that men's shoes do not tend to think about the sample size with regard to populations. The problem then is that people often think that a small sample is as representative as a larger sample. The risk with these heuristics is that they can then quickly start to see patterns and trends based on small samples that do not represent the population. The second heuristic is called Availability. Availability describes how even subjective probability assessment is often affected by how we remember an event.

It's about how "accessible" the event is in our memory. There are several different factors that affect accessibility, such as whether it happened recently, the number of remembered times of the event and how easily we remember it. For example, it is easier for many to remember a major plane crash that receives media attention than a car accident that we drove past. This may explain why many people consider the risk of flying to be greater than driving a car. Even though the probability of being involved in a car accident is much greater. When investing, Availability can influence our choice of investments and mislead our assessments of risks. For example, if an investor has recently experienced a large share fall (where the share price has fallen sharply in a short time) for a real estate fund, it is possible that the investor considers real estate funds to be riskier than a private real estate investment. Even though a private real estate investment is usually a much riskier investment as it lacks the diversification that the fund has. They call the third heuristic Anchoring and is about how an "anchor" can affect people when they do assessments. In many cases, when people have to make some kind of assessment, they have a value or some kind of starting point that they start from when they

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make their assessment. The starting point can come from a problem formulation or be a result of different composite parts. Regardless of where the value comes from, adjustments from that value are usually insufficient. This means that different starting points give different assessments, as they are “biased” towards the first starting point.

3. Research Methodology

As there are many definitions of qualitative method, it is important, to avoid misunderstandings, to explain what is meant when talking about the method. This study is based on Langemar's (2008) definition of qualitative method which reads:

“Qualitative method includes all methods of analysis that are linguistic and that lead to a result in the form of text of some kind. The fact that the result is qualitative also means that the question should be qualitative, and this means that the focus on the analysis method gives a more meaningful overall picture of the quantitative / qualitative distinction, compared with, for example, the data collection method or scientific philosophical assumptions”. Qualitative studies often involve how and why questions (Randolph, 2008) and "the purposes with which qualitative method works well are for understanding meaning and meaning, description of qualitative properties and variations, concept and theory development and exploration" (Langemar, 2008). Then the goal of this study is to create a kind of understanding of different psychological biases and how they affect women investors' decision-making process when investing, a qualitative method is appropriate, according to Langemar's (2008) definition. Studies with an understanding perspective are characterized by a holistic perspective, which may be appropriate when studying complex phenomena. Investments and decision-making processes can be considered complex and thus the holistic perspective helps to increase understanding. Understanding in a positivist spirit can mean using and building “good” models for description and explanation, ie models that help us achieve understanding (Eriksson & Wiedersheim-Paul, 2011). This study will not build any new models but instead start from descriptive decision theories. To find theories and research articles, keywords such as "Bias heuristics investment ", "Decision theory", "Investment decision", "Behavioral Finance” is used in Google Scholar (Google's search engine for scientific and academic web sources) and in the University of Gavle's digital article library.

4. Findings and Analysis

4.1 Findings of the Interview

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Tendency to invest with a sustainability perspective / social responsibility

During the interviews that were held, there was a point that was important, in one way or another, for all stock investing women. It falls under the category of Affective influences and emotions and is the tendency to invest with a sustainability perspective / societal response". Several of the women described it as having an ethical saving and that it was important to them in different ways.

R1 described it as:

"I want to be ethical as well. I do not want to make money because someone else is suffering... "

R4 described it as:

"Do not want to invest in, for example, weapons that will kill children. Better cancer medicine''

R8 says that she has plans to invest more from a feminist perspective the next time she makes a reallocation. Among other things, she wants to invest in a fund that invests in companies where there are women on the company board:

"I think you can make a difference ... Money is power, if you can steer companies in a direction that you think is good, through your investments, and do something good for society, then it's a bonus ..."

R6 wants to invest ethically and sustainably, but finds it difficult to trust everything that is said in the media. She addresses the phenomenon of Greenwash and is therefore skeptical when different companies have become very ethical outwardly. But the will to invest ethically is still there:

"I would really appreciate being able to do that, to contribute my little financial power to something better."

Risky / afraid of losses

Several of the women did not find it particularly difficult to lose. They simply reckoned that shares can go both up and down. When most people invested long-term, they had experienced both ups and downs. Many bought more shares if the share price had fallen on a share they liked, some called it a sale.

But for some of the women, it felt awkward with losses. When shares showed red (in most portfolios, negative figures show red) it felt awkward and a respondent reported that she worked systematically to get rid of the shares that had gone bad, but she did not want to sell at a loss. What she did was buy on more of those who had gone bad to bring down the GAV (average acquisition value) and then sell when the value had gone up and the numbers turned blue again (she also calculated the brokerage cost):

“I do not like when there are red numbers. I want blue and I have a hard time selling at a loss”.

Tendency to invest based on readily available information

The majority of the stock-invested women had a so-called Home bias, almost everything their holdings were Indian. Several of the women thought it had something to do with the fact that they knew too little about foreign investment.

R2: “I know too little about foreign shares. I do not know the market and I am very nervous currency risks.’’

R7 invests almost exclusively in India because it is more easily accessible information about the Indian market. Foreign stocks felt less secure for her as it was difficult to stay informed and updated:

You know this better and it's easier to have information about... I feel more secure with Indian shares. Foreign shares, I think I go a little more on unknown waters. I may not get information in the same way then.’’

R3 also experienced that Indian shares were less risky than foreign ones, due to that it was easier to get information about the Indian market and that it was therefore

Many of the interviewees indicated that their Home Bias had to do with easily accessible

information. Investing in foreign stocks that were perceived as difficult. When R4 was to explain why she had almost exclusively Indian shares, she described it as:

"Probably because it's easiest. It's easier to get a good overview of them.”

Tendency to invest differently depending on the source of income

Several said that they invested differently depending on the source of income. For many investors, the expected income was as usual every month. If they received an unexpected

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income, such as a tax refund, many of the women invested in shares with higher risk in their "play portfolio". R2 and R7 said that they invested differently depending on where the money had come from, but in different ways. Both asked about how they invested money they received from their mothers.

R2 told how she invested:

"I recently received a larger amount from my mother and that money went exclusively to top stocks. Those that are a bit odd, the ones I would not have indulged in otherwise. With my income I invest and build the base, with odd money I invest in odd shares."

R7 was instead more careful with the money she had received from her mother.

"It was also the account that did best. She invests her own money in a variety of shares. Money she has received from her mother, she only invested in investment companies: "I'm careful there, so I have an investment company... Then I think about it. I absolutely do not want to lose them."

Tendency to rely on their own skills

The tendency to trust their own ability could be seen in many of the women, as most were careful to always make their own analysis when investing. Sahi et al. (2013) distinguishes between the tendency to be confident in their own skills and the tendency to be confident i n their own ability. Confident in his own ability has been mentioned in other studies such as Overconfidence and has been seen mainly among male investors (Barber & Odean, 2001). To the question "Do you think you are better at investing than other women?", In the interviews of this study, not a single one answered a resounding yes.

R8 answered:

"Haha, if I had been a man, I would have said something like this: you can jump up and accept that I am! But since I am a woman, educated in economics and have invested for over 30 years, I do not think I am better than anyone else at investing."

R5 said that she did not like to compare herself with others but replied:

"You have to consider here that I am a woman and you do not like to pat yourself on the shoulder, of course. But I think I choose at least as well as most people."

Discussions

This study has shown that Indian stock investing women's investment decisions are affected by several different psychological biases. In addition to the psychological biases as noted in previous research (Sahi et al., 2013), this study was able to see two additional biases that tended to influence the investment decisions of women stock investors. The first falls under the first main category Affective influences and emotions and is about several of the women tending to invest in things like the enjoy. Their feelings about certain products or companies have influenced their investment decisions. Just as the psychological bias, the tendency to invest with a sustainability thinking /Social responsibility tended to be present in most of the women, so we also say here that emotions have an impact in their decisions. Their investments are not just about making money. Many of them want to do something good with their financial strength and their investments. Many define it as investing ethically.

The second trend that was discovered belongs to the second main category Strategies for information management & perceptual organizational principles and is about the tendency to trust their gut feeling. As previous research has shown, investment decisions are complex and given the enormous amount of information available, it is no wonder that gut feeling plays a role in the decision. Exactly what it means to trust your gut feeling when making investment decisions, this study cannot answer. But as previously mentioned in the theory section, heuristics are about shortcuts of thought. Relying on gut feeling may well mean that some kind of heuristic has been used.

A specific psychological bias that can be discussed is Overconfidence. Sahi et al (2013) call it the tendency to be confident about one's own ability. In Barber and Odean's (2001) study "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment" they saw that Overconfidence was mainly found in men. In this study, not a single woman answered that she thought she chose better investments than other stock investing women. Statistically speaking (it obviously depends on how you veneer better and how you measure it), some of the women are better at choosing vests than others. Why did no one answer that they thought they were a better investor than others, in this anonymous study? Some of the women gave indications that it was about them being women, and that women do not like to say that they are better than others. Others felt that they did not like to compare themselves with others.

Regardless of why no one answered yes, it is an interesting result for this study.

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Home bias is also a psychological bias that can be discussed. What does it really depend on? Most answers indicated that it has to do with easily accessible information but there are other theories that can explain. This may be due to Sahi et al. (2013) trends to play safe cards. That you as an investor prefer to invest in something that feels like family and you already know about. It is also possible that it has to do with the risk experience. Wang et al. (2011) study showed that the self-experienced knowledge of financial products correlated with the risk experience. As some of the stock-investing women mentioned, they had little knowledge of foreign investment.

Several mentioned that they experienced it as riskier. Therefore, it is possible that their Home bias can be explained by the fact that their self-perceived knowledge of foreign investments has affected their risk assessment. As previous studies have shown, Home bias is a research area worth studying.

4.2 Frequency Analysis

How long have you been investing in stocks?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 years	10	15.2	15.2	15.2
	1-5 years	2	3.0	3.0	18.2
	More than 5 years	54	81.8	81.8	100.0
	Total	66	100.0	100.0	

81.8 percent people stated that they have been investing for more than 5 years.

Do you think than someone can increase their income by investing in stocks?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	4	6.1	6.1	6.1
	Definitely Increase	20	30.3	30.3	36.4
	Might Increase	16	24.2	24.2	60.6
	Stay same	26	39.4	39.4	100.0
	Total	66	100.0	100.0	

30.3 percent of the consumer said that they expected their income to be increase by investing in stocks and other 39.4 percent said their income would remain same.

If you are to compare yourself with other women who invest in stocks, do you think you are Satisfied with your choice of investments??

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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	20	30.3	30.3	30.3
	Not Satisfied	14	21.2	21.2	51.5
	Satisfied	22	33.3	33.3	84.8
	Very Satisfied	6	9.1	9.1	93.9
	very Unsatisfied	4	6.1	6.1	100.0
	Total	66	100.0	100.0	

Majority of the respondents are satisfied with their choice of investments when compared to that of other female investors.

If a friend or family member recommends a stock, do you rely on that information?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely Yes	18	27.3	27.3	27.3
	No	28	42.4	42.4	69.7
	Yes	20	30.3	30.3	100.0
	Total	66	100.0	100.0	

Majority of the respondents believe that they don't rely on information regarding stocks shared by their friends and family.

Do you do any kind of analysis when you make investments or do you go on gut feeling?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely No	2	3.0	3.0	3.0
	Definitely Yes	18	27.3	27.3	30.3
	No	20	30.3	30.3	60.6
	Yes	26	39.4	39.4	100.0
	Total	66	100.0	100.0	

Majority of respondents consider to analyse the information they receive before making any investment.

4.3 T-Test Analysis

		Levene's Test for Equality Of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Financial Decision making	Equal variances assumed	.536	.465	2.774	385	.006	4.14837	1.49563	1.20775	7.08900
	Equal variances not assumed			2.718	226.616	.007	4.14837	1.52638	1.14066	7.15609

The value of F- test was .536 which was significant at 0.465 indicating that the variance of the two groups was equal. Therefore T-test assuming equal variance was applied. The T value for equal variances assumed was 2.774 which were significant at .006 indicating significant impact on the decision making of female investors due to psychological bias.

5. Conclusions

As mentioned in the theory part, heuristics can be described as shortcuts of thought. There are various cognitive techniques that help us to make assessments, especially in cases where there is an uncertainty factor to consider. Heuristics help us on many occasions, but depending on the type of heuristics that have been used, it can lead to a biased result.

Sahi et al. (2013) have conducted a comprehensive study of psychological biases among investors. However, one can question both the categorization and what the authors call "themes". Is a theme really a psychological bias? "The tendency to rely on a point of reference" sounds very good as Tversky & Kahneman's (1974) heuristic Anchoring. If an investor has relied on a reference point (set an anchor) when they make an investment, their decision will be biased towards that reference point, which may affect the goal of maximizing the financial

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outcome negatively. Another example is the "tendency to invest based on readily available information".

The heuristic Availability is precisely about making decisions based on one's subjective probability assessment, which is often affected by the number of times an event has occurred and depending on how easily we remember it. It's about how "accessible" the event is in our memory. Several of the authors' (Sahi et al., 2013) themes can be questioned. The whole category 2: Strategies for information management and perceptual organizational principles are really exampling of different heuristics that are used, right? The themes are described as biases in decision-making but the question is whether in several cases they can only lead to biases?

As previously mentioned, the phenomenon of Home bias can be explained by both “the tendency to play safe cards” (which belongs to main category three: Psychological motives) and “the tendency to invest based on easily accessible information” (main category two: Strategies for information management & perceptual organizational principles). It shows that there is also a kind of overlap between the authors' (Sahi et al., 2013) category division. The difference between the category "Psychological motives" Strategies for information management & perceptual organizational principles” are not entirely clear, then many of the trends in psychological motives are precisely strategies for managing information.

In order to make good decisions, as mentioned in the theory part, it is important to set goals. Most of the women had the goal of maximizing the return on their savings. Many also said that they saved for retirement. As the study has shown, the investment decision-making process is complex and psychological biases can stand in the way of women achieving their goals. Given that most of the women had a sustainability perspective / social responsibility for their savings, one can also question whether their goal is only to maximize the return. As one stock investing woman described it she would like to be able to do something good with her financial power. This may mean that women also have other goals, such as ethical goals. The answers therefore indicate that their decision problems may well be about multi-criterion problems. If this is the case, the theme "tendency to invest with a sustainability perspective" may have to do with goal fulfilment and not with a bias in the decision with the sole goal of maximizing the financial outcome. In order to make good decisions in the case of multi-criterion problems, different aspects need to be weighed together and aggregated. It is important how this aggregation takes place, and that it corresponds to the women's individual preferences and rice level.

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