

BEHAVIOURAL ASPECTS AFFECTING THE PURCHASE OF INSURANCE – DIFFERENT BEHAVIOUR OF MEN AND WOMEN¹

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Behaviouálne aspekty ovplyvňujúce nákup poistenia – rozdiely medzi správaním mužov a žien

Abstract: *The reality of insurance markets shows that the incentive to purchase insurance is not based only on risk aversion, the size of potential loss, probability of loss, the price of insurance coverage, and budget restrictions. In fact, individuals are also influenced by cognitive and emotional processes and heuristics that result in deviations from rationality. The aim of the paper is to discuss specific examples of behaviour that do not adhere to traditional economic theory models, for example purchase insurance after the occurrence of insured event, excessive optimism or a reliance on state aid. The paper shows several factors that affect people when they decide about the purchase of insurance coverage, for instance personal relationship to the object of insurance, advice from friends and acquaintances, emotional distress, etc. Special attention is paid to distinctions between men and women in this area and evaluation of the gender gap is done with the aid of a questionnaire on a sample of 160 respondents.*

Keywords: *behavioural economics, insurance demand, heuristics, demand anomalies*

JEL Classification: G 22, D 12

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1 Introduction

Insurance is a major method for handling financial risk. According to the Financial Times Lexicon, an insurance market is simply “the buying and selling of insurance”. Processes taking place in this market are very complex and the behaviour of participants in the insurance market is described by several economic models. Insurance is a contract in which the insured, an individual or entity, receives financial protection from the insurer, an insurance company. It is a transfer of risk from the individual to the insurance company. Individuals are better off paying relatively small insurance premium amounts than risking a large loss. In the insurance market, agents face different levels of potential risk and have private information about their own risk. If the risk levels differ due to differences in behaviour, new issues arise. Based on the monitoring of various deviations from rational behaviour of economic entities, a new economic field has been established. Behavioural economics and behavioural finance try to explain what neoclassical economic theory cannot explain. Because this sub-discipline of economics in certain ways represents a sharp departure from mainstream, neoclassical economics, it raises a number of questions of a philosophical, methodological and historical nature. Behavioural economics try to disprove the rational model of decision making. In many ways, real behaviour contradicts the rational model. The assumptions of the rational model are compared with the results of psychological experiments. In this article, we will study the different behaviour of men and women toward insurance purchase. We also focus on the irrational aspects of their behaviour.

2 Behavioural Economics and the Insurance Market

2.1 Standard economics view of insurance marke

“Standard economics assumes that we are rational... But, as the results show, we are far less rational in our decision making... Our irrational behaviours are neither random nor senseless – they are systematic and predictable. We all make the same types of mistakes over and over again because of the basic wiring of our brains. If we all make systematic mistakes in our decisions, then why not develop new strategies, tools, and methods to help us make better decisions and improve our overall well-being?” [1]. Traditional economics conceptualizes a world populated by so-called Homo

Economicus³, an unemotional agent who wants to maximize his utility for both monetary and non-monetary gains. The economic actor seeks to attain very specific and planned goals to the greatest extent with the least possible cost. Traditional economic models have relied on the assumption that humans are rational, self-interested actors who have the ability to make judgments towards subjectively defined ends. In general, individual insurance behaviour is considered in relation to expected utility theory. If the price of insurance is at actuarial fair amount, the individual balances his wealth in two possible states (loss vs. no loss) by obtaining full insurance coverage [6]. Neoclassical economic theory assumes that consumers have available all proper information about risks, so they are able to decide on insurance purchases by making clear and rational tradeoffs between the expected benefits and the costs of different policies. Academic workers and researchers worldwide apply well-known expected utility theory of choice as a basis for the benchmark model of insurance demand to analyze individuals' decision making process and their behaviour under uncertainty [14]. To sum up the neoclassical economics approach, the key factor in creating demand for insurance is risk aversion. Risk-averse individual would be willing to pay a certain price to avoid risky situations in favour of certain alternatives.⁴ Risk aversion is not homogeneous in the population. Individuals make decisions in risky situations differently, depending on available resources, age, and also gender. As stated in several academic studies, there is a negative relationship between age and risk aversion until age 65, when the relationship turns positive [8]. Another important factor affecting demand for insurance is the price of insurance defined as a ratio of insurance premiums paid to the amount of expected insurance benefit. When buying insurance, people make decisions based on the size of potential loss that would be incurred if the insured event occurs, and the loss is multiplied by the probability of its occurrence.

2.2 Behavioural economics view of the insurance market

The real world does not always match the benchmark models. Insurance

3 The definition of the term Homo Economicus was first proposed by John Stewards Mills in the 19th century. Although the term did not come into use until the 19th century, it is often associated with the ideas of 18th century economists, such as Adam Smith and David Ricardo.

4 In accordance with the socio-biological arguments we can assume that people usually behave in a risk averse manner. When choosing between two risky alternatives with the same expected value, people usually prefer the alternative with a smaller variance, but the downward deviation from the expected average (loss) is assessed with a higher degree of aversion compared to the upward deviation (gain) of the same size.

companies and individuals do not make strictly rational decisions that neoclassical economics would predict even if there are such conditions as voluntary and free choice on the supply and demand sides. The reality of insurance markets implies that the incentive to purchase insurance is not based purely on risk aversion and other mentioned factors. In fact, these factors are not sufficient in explaining the creation of the demand for insurance. Real people take into account irrelevant factors and considerations, which result in deviations from rational behaviour. In practice, the behaviours of actors in the economy are not always rational, predictable, or based on the traditional economic models. The standard economic framework ignores and does not bear in mind all the behaviour studied by cognitive and social psychologists. Homo Economicus has exclusively populated the theoretical world of economics for more than a century. Behavioural economics deals with human rationality, more precisely with the lack of rationality of market players and focuses on cognitive and emotional processes that cause deviations from rationality. Behavioural models integrate knowledge from neoclassical economics with knowledge of psychology. In a frequently cited survey article, Rabin [16] characterizes behavioural economics as “psychology and Economics”. Camerer [3] describes behavioural economics as a research program aimed at reunifying psychology and economics. According to empirical evidence and academic research, neoclassical models often fail to accurately describe human choice behaviour. The reasons for this failure are numerous: cognitive limitations and the presence of bounded rationality, as well as a great number of limitations of human knowledge and human computation that stop real world individuals from acting in the ways that are similar to the predictions of classical and neoclassical theories [16].

3 Insurance Demand Behaviour that is not in the Accordance with Benchmark Models

The deviation from classical models predictions could be observed on the demand side (individuals seeking for insurance coverage) as well as on the supply side (insurance companies selling the insurance to make a profit) of insurance market. Many people for whom insurance is worth purchasing do not have coverage and others who appear not to need financial protection against certain events have purchased coverage. These and other examples suggest that practices in the insurance market are not always in accordance with standard economic theory. Academic studies [10, 11, 19, 26] regarding insurance decision making indicate that there are many deviations from neoclassical theory, which could be divided into three general groups: under-

purchase, over-purchase or purchasing the wrong amount or type of coverage [11]. The deviations are for example as follows:

Influence of emotions on insurance purchase and claim decisions: Policyholders appear willing to spend more time and effort to make an insurance claim for a damaged or stolen object that is precious, than for an identical object considered to be not special. When buying insurance for “peace of mind”, people do not focus on the risk of a loss and the need for financial protection. More important is the affection and the personal relationship with the object. There is an evidence of academic studies which have identified psychological processes, such as regret, euphoria or disappointment, as important factors in explaining individuals’ insurance purchase preferences. People could regret buying insurance against some risk (e.g. flooding) if the insured event has not happened when the insurance policy was valid. This feeling of regret may result in avoiding buying such insurance coverage again in person’s lifetime. Set of academic experiments [12] analyzed if the attachment of a person to an object affects the level of premium that the person is willing to pay for insurance and also the length of time they would accept to wait for the compensation if the insured object was damaged. The finding was that people were willing pay more and to wait for a longer period of time to get the compensation compared to the similar item (in price) which they had no special feeling with.

Cancellation of an insurance contract if an insured event did not occur: Many consumers tend to cancel an insurance policy after there was no claim during a certain number of years. They had paid a significant amount of funds in premiums for the insurance protection, but during this period, there was not any insured event. Therefore, after this period of no incidents, they decide to terminate the policy. They consider the money they paid to be a “disadvantage” or lost investment. They do not realize that the probability of harmful event is still the same. This type of anomaly exists often in the market of insurance protection against floods. The owners who have concluded an insurance contract for this type of protection and there has been no flood event within few years, tend to cancel the insurance contract after this period [10]. This type of behaviour is linked with a view of insurance as an investment. After a certain time they paid premiums and no insured event occur, they have a feeling that they have wasted their money. However, they would never be better off if an insured event occurred. Insurance is not any investment; it is protection. Other behaviours that are not following classical benchmark models are for example [11]: insurance purchase because of social norms; willingness to purchase

insurance against non-pecuniary losses; unwillingness to make small claims above their deductible; preference for low deductibles [19, 23]; preferences for policies with rebates when no rebate policy is financially more attractive; limited interest in catastrophic coverage; purchase of flight insurance even though life insurance is a better deal; framing a problem in terms of insurance rather than the loss increases the demand for coverage. The reason for the occurrence of mentioned insurance demand behaviour could be the presence of incomplete information, errors in cognitive decision making, and in analytical thinking. Seemingly irrational behaviour on the demand side for insurance may be a result of the efforts of people to control their emotions, such as anxiety, sadness, and a fear of loss. Classical models do not include these non-financial attributes affecting the utility function of the individual. Other reasons why the real behaviour differs from the reference models are: imperfections in collection and processing of necessary information, misunderstanding of risk (e.g. underestimation of risk), use of estimation when selecting and assessing risk or unwillingness to consider all the alternatives offered.

4 Different Behaviour of Men and Women in Financial Matters

According to the previous text, we can state that the insurance market is exposed to a number of newly detected factors that influence the behaviour of clients. These factors may also differ depending on the sex of the potential client. The differences in behaviour between men and women can be observed in various spheres of life. In relation to financial issues, women are often underestimated compared to men who may be related to their lower confidence in concluding insurance products policies on their own. Women are said to be more sensitive to risk than men, and this is reflected in all aspects of their decision making, including choice of profession (and so earnings), investment decisions, and what products to buy. Experimental evidence suggests that women perceived risk as a certain degree of uncertainty while many men see risk more as an opportunity to gain. Many studies also points to the fact that women take part in risky behaviour in a much smaller proportion, as well as in illegal activities. There are numerous studies in sociology and psychology that support the hypothesis that women and men respond to risk in a different way. Studies have found sex differences in: the perception of risk associated with alcohol and drug use, the perception of the catastrophic potential of nuclear war, technology, radioactive waste, industrial hazards, and environmental degradation [21, 4, 14]. With regard to the longer life of womankind, women should be interested in life insurance products (e.g. unit-linked life insurance with a savings component) to a greater extent than

men, due to the fact that insurance also creates a certain financial reserve for the future. Trend of longevity should currently recall in women the need of income security and protection, even in older age. Several conducted surveys show that a number of substantial differences in the financial behaviour of men and women. We can thus say that females take investment decisions in a higher degree of uncertainty than men, and therefore, also select more conservative investment strategies than males and while accepting the risk solutions, women require higher investment premium (Merill Lynch Bank Survey, 2005⁵). According to the survey, the differences between the two sexes while thinking about money are as follows: women often associate the term investment with greed; they have remorse that they may threaten family finances; they consider that they have less resources and knowledge than required. Generally, they ask a lot of questions and want detailed answers; they need more time for thinking; they define the objectives and aims for the investment better than men. In the case of insurance purchase behaviour, women more frequently use insurance intermediaries; they listen in a greater extent to advice from friends or acquaintances; they are more sparing, therefore seek for the most convenient insurance products that undermine the family budget the least. Men often consider insurance as an unnecessary investment, because of the low probability of occurrence of insured event and on the contrary, women may conclude an insurance policy because of their fear. Males may also have a higher potential to conclude an insurance policy because of their greater awareness of financial products and higher insurance literacy, men are thus characterized by greater self-confidence to take out insurance as women [15].

5 Methodology

Selected behavioural aspects in consumer behaviour were investigated through a questionnaire. The questionnaire consisted of 11 questions relating to the incentives to buy insurance coverage and also to the different areas known as anomalies in the insurance market. All the questions offered several options and in the case of two questions respondents could indicate several possible answers. The responses were collected during April – August 2015. The questionnaire was designed and the majority of responses were collected in bachelor thesis: “Irrational behaviour of consumers in the Slovak insurance market” [24]. The survey was attended by 194 respondents and a sample of 160 respondents was selected to final evaluation of the survey. The sample consisted of 83 women and 77 men aged 18 to 60 years – the population in productive age. The distribution

5 Available at: www.theinvestmentassociation.org/assets/files/press/2005/20050523-01.pdf

of selected sample corresponded to the percentage distribution of the Slovak population by gender and age according to data from the Statistical Office of the Slovak Republic to the December 31, 2014⁶. To study the impact of gender on the behaviour of insurance in selected issues we use a statistical chi-square test. We will take into consideration 5% significance level.

6 Behavioural Aspects in Insurance Purchase Behaviour

6.1 Risk aversion among men and women

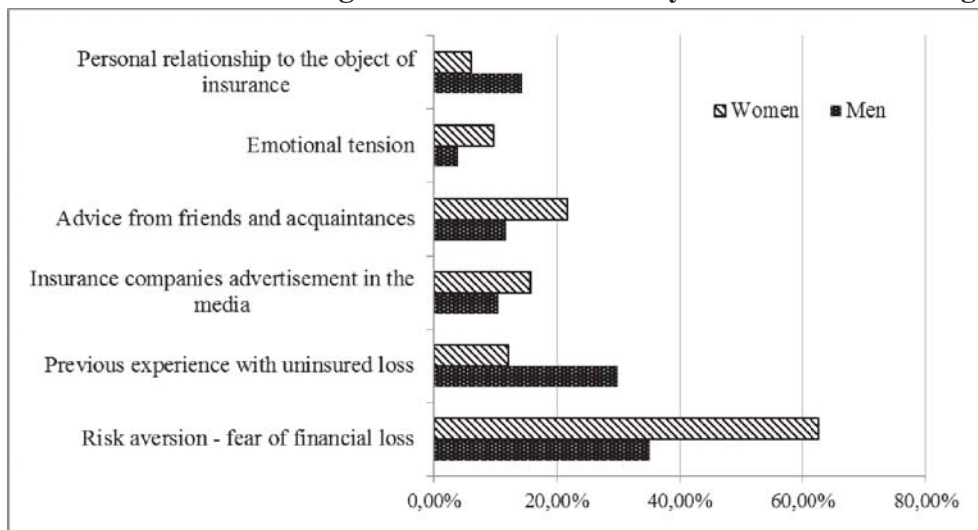
There are many incentives and factors that necessitate the purchase of insurance products. We have investigated the factors that encourage more female thinking and the factors that create the need of insurance in case of men population. There is an assumption that women's logic and reasoning will be more cautious and therefore will also prevail more averse behaviour towards risk events. According to the survey, women have a greater fear of adverse financial conditions and their health and property and therefore are seeking for the protection through insurance products more than men. The male behaviour towards risks is also influenced by the levels of hormone testosterone in their bodies. Men in their 20s go through something called "testosterone storm." The levels of the hormone can be quite high and changeable, and that can induce some pretty dangerous behaviour among young men. They do not wear their seatbelts; they drink too much alcohol; and they can be aggressive with weapons and so on and so forth. These behaviours lead also to a higher death rate [5]. This risky behaviour was not fully confirmed by the results of our survey, because we found the lowest risk aversion among the group aged 41-50 years. The higher risk seeking behaviour may be connected to the so called andropause (male menopause) that may occur as early as age 45 to 50. Low testosterone levels cause symptoms such as loss of interest in sex (decreased libido) or depression [25]. Moreover, the men with depression may have reduced survival instinct and seek more risk.

6.2 The factors stimulating insurance purchase

It can be stated that when buying insurance, the woman's mind affects other hierarchy of factors than in case of opposite sex. Figure 1 shows the factors that encourage women and men to buy an insurance coverage.

6 The number of respondents according to age category and gender was as follows: 18 – 30 year: 22 men and 22 women, 31 – 40 years: 19 men and 19 women, 41 – 50 years: 18 men and 21 women, 51 – 60 years: 18 men and 21 women.

Figure 1

The factors that encourage women and men to buy an insurance coverage

Source: the results of the survey.

The female gender is shown in red colour and men are represented in blue. The figure shows the hierarchically arranged factors that influence the decision to buy insurance. The graph includes six factors that respondents could mark depending on their personal attitudes towards the conclusion of insurance contracts. In this question, the respondents could indicate any number of options. The figure refers to the fact that the largest number of insurance policies is currently concluded for reasons of fear of a possible claim. We would like to stress the first three factors, which have been identified in the greatest number. The majority of surveyed respondents said that aversion to risk event is the most important factor in conclusion of the contract. According to the chart, we can see that the absolute majority of women (62.65%) said that the most encouraging is the fear of possible adverse events and the following financial losses. In contrast, the men showed lower risk-aversion. Only 35.06% of men reported that the fear of risk events is the factor that influence them. The gender is a significant factor if we take into account the conclusion of insurance because of fear of loss. At a significance level of 5% we reject the null hypothesis of the independence of the gender and fear of loss and accept alternative hypothesis, which tells us that there is certain dependence. The males are generally known to be able to withstand the risks to a greater extent than women and therefore the men often underestimate insurance coverage for various reasons.

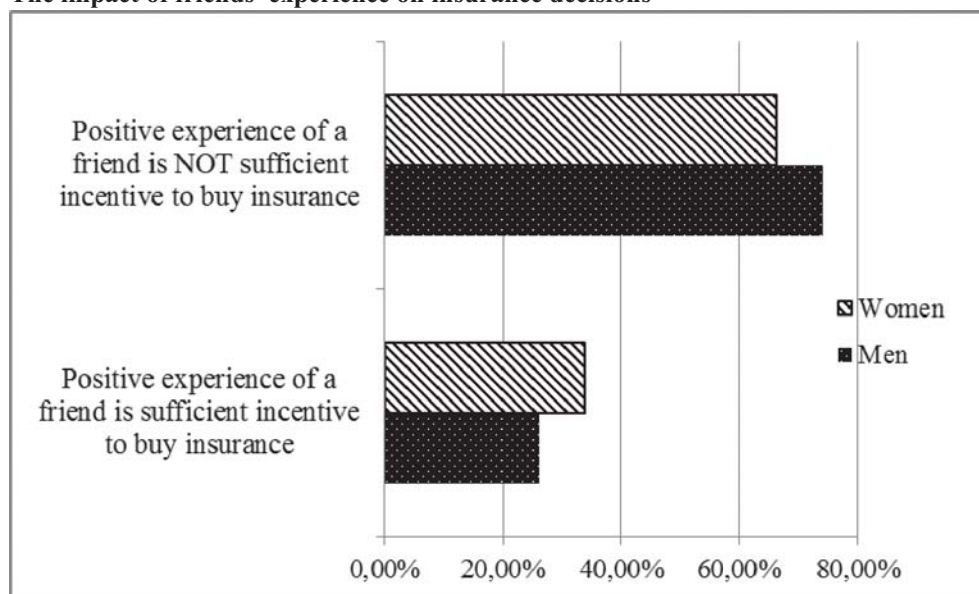
Another important factor affecting women's thinking is also counselling and

advice from friends or acquaintances (21.69% compared to men’s’ 11.69%). In case a client is surrounded by people who are very satisfied with their insurance products, she will also want to own such reasonable policy. The womankind is often influenced by their friends or family members in a great extend. Some of the family members or friends may have concluded a quality product that is, however, linked to the fulfilment of certain conditions, which may differ from features of our respondents. The effect of gender on the counselling and advice from friends is not statistically significant at 5% significance level.

This behaviour was also confirmed by another question, where the respondents were asked about car insurance. They should have answer whether they would concluded an insurance policy recommended by a good friend who is very satisfied with the product, while not verifying the details of such an insurance product. Only on a recommendation from a friend would rely 33.73% of women and 25.97% of men as shown in the figure below. This shows once again that women are more trusting. For example, when it comes to online networking, women have taken the lead. One study has shown, that women were 57% of Facebook users and more active on the site than men⁷ – with 8% more friends than men and doing 62% of the sharing.

Figure 2

The impact of friends’ experience on insurance decisions



Source: results of the survey.

7 Available at: <http://www.forbes.com/sites/jennagoudreau/2011/01/20/online-women-more-likely-to-trust-each-other-facebook-yahoo-twitter-myspace-marketing/>

Another important factor (the third place in women's answers with 15.66% compared to men's 10.39%) is the impact of advertising campaigns for insurance products. Insurance entities often use advertising campaign through sponsorship of various events, in direct television broadcasting. Given the fact that women are more likely to reach through advertising campaigns, they buy insurance products often because of certain marketing activities raising the awareness of particular insurance product. A substantial effect has also the reputation of insurance companies, which may be spread by family and friends. In this case, the gender was not statistically significant at chosen significance level.

In the case of the males, the second most frequent factor was the purchase of insurance as a reaction to the previous harmful event (29.87% compared to women's 12.05%). Such behaviour is more notable for men than for women. Men often underestimate insurance coverage initially, but over time, they may suffer an uninsured event, which may worsen their financial situation. One can only then realize the real need for insurance coverage, which would in such events provide financial security and the financial loss, would be partially or fully mitigated. Men do not realize the real need of insurance in the period until the occurrence of uninsured event. Incentive for insurance contracts conclusion thus often rises from earlier occurrence of an event that was not insured. In case of previous harmful event, the gender has been shown as statistically significant at 5% significance level.

The last factor that was often chosen by respondents was the existence of a personal relationship to the object of insurance. This factor was indicated by 14.29% of men and only about 6% of women. The fact that this factor occupies the third place in men's answers may be due to the fact, that man often assign higher value to the goods that were either produced by them or the ownership was reached by another way, but with their personal effort. This behaviour may be related to the heuristic called endowment effect (the mere ownership effect) which is based on the hypothesis that people ascribe more value to things merely because they own them [9]. The difference in behaviour related to the personal relationship to the object of insurance is not significant at 5% significance level. Women also reported emotional stress as a reason for buying insurance (9.64% compared to men's 3.9%). There is a well known stereotype that women are much more "emotional" than men. While it is certainly true that by nature women are more focused on their emotions and refer to them more commonly in conversation than men, both genders will experience emotions and emotional reactions to different stimuli

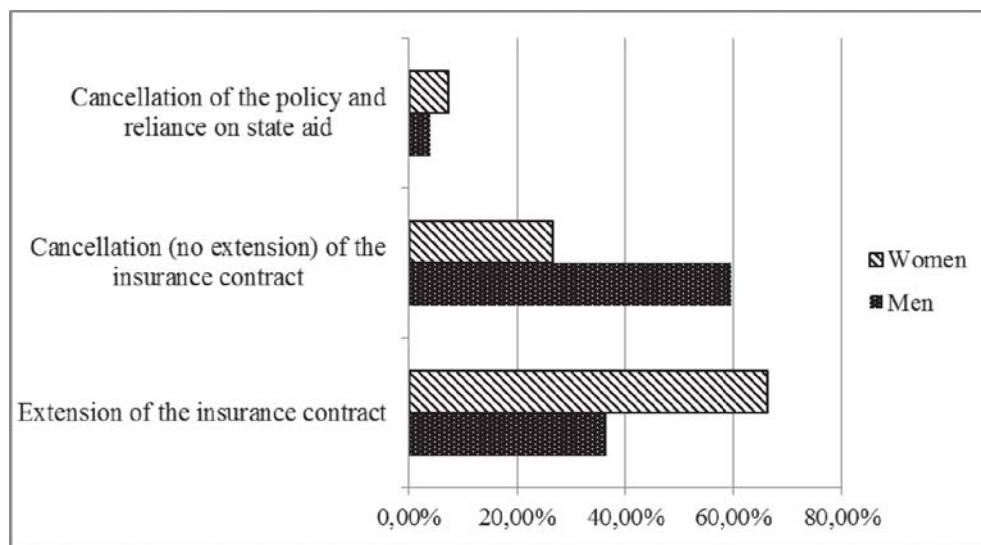
and situations. There is a common stereotype that men should not show their emotions and that “real men” do not cry or get upset. Also compared to women, men will display their emotions with less intensity, and tend to downplay how they are feeling. Men tend to have a greater control over their emotions and what they display to the world, which is possibly due to having more difficulty displaying emotions compared to women.

6.3 The rationality of behaviour of opposite sexes when buying insurance

In the next question, the respondents were asked to imagine an ownership of a house, in which they were living for 22 years. They were alerted for the existence of a risk of flood activity and were recommended to buy insurance coverage against such events. Insurance coverage was concluded for a period of 22 years with no claim (flood) during that period. The insurance policy expires this year. The annual cost of this product is € 200 and the respondents should decide whether they will continue to pay premiums or the contract will not be renewed.

Figure 3

Cancellation of insurance policy after a period of no claim



Source: results of the survey.

The figure shows how the respondents voted for particular option. The chart clearly shows that a greater aversion to risk events is related to women, and it was also confirmed in this case. The possibility of extending the policy

indicated about 66.27% of women. For men, the number is relatively lower, maybe due to the greater propensity for risk. The insurance policy would extend only 36.36% of the total respondents. By selecting the second option, men agreed with the statement that the further extension of the policy is an unnecessary step. The reason for such behaviour may be also the fact that the insurance product is associated with relatively high costs. In case the insured event does not occur within a few years as expected, men tend to be the initiators of policies cancellations or non-renewal of insurance protection. If a person pays premium for a number of years and no insured event has occurred, insurance is often considered as an unnecessary and unprofitable investment. If he calculates the amount of money spent on insurance premiums during the period, the total amount can be relatively high and could have been used to finance another goods and services. It shows that male respondents reflected behaviour that can be considered as irrational, given the fact up to 60% of them said that in the absence of the occurrence of a natural disaster a few years after the conclusion of the insurance contract. Therefore, they consider the insurance to be an unnecessary investment. Among the female population, this behaviour was not confirmed due to the fact that women, in general, treat the risk events more carefully than men. The last option was a cancellation of insurance policy because of an expectation that after the occurrence of negative events, the state (government) will give aggrieved citizens a helping hand. Only a minimum of respondents agreed with this choice (about 7% of women and 4% of men). Based on this fact it can be concluded that our sample of population do not expect any solidarity and help of the state in case of occurrence of natural disasters. The influence of gender on the decision to terminate insurance policy is statistical significant according to the chi square test. At a significance level of 5%, we reject the null hypothesis of the independence of the gender and mentioned behaviour and accept the alternative hypothesis, which tells us that there is certain dependence.

The next question was, “If you had ever concluded e.g. travel insurance and there was no insured event during your vacation, have you had a feeling that the insurance was unnecessary and have you regretted that you paid insurance premium and therefore wasted your money?” Regretting the money spent on insurance coverage can be considered as irrational behaviour. Insurance is not an investment; it is a method of financial protection in case of adverse events. If the insured event occurred, the insured will never be richer after receiving the compensation from insurance company compared to his financial situation if the insured event has not occurred. In this question, the irrationality of

behaviour was confirmed only in negligible portion of surveyed and we did not find a difference between male (14.63%) and female (12.31%) behaviour.

7 Conclusion

The paper was aimed to bring various non-financial aspects that influence the behaviour of the demand for insurance, that is, those that neoclassical economics does not take into account. The reason for not always rational behaviour on the demand for insurance could be incomplete information of the buyer and also errors in the cognitive and analytical thinking. A seemingly irrational behaviour of the demand for insurance may also arise from people's attempts to control their emotions, such as anxiety, sadness, and fear of loss. Neoclassical models exclude these non-financial attributes affecting the utility function of an individual. Other reasons why the actual behaviour differs from the reference models are imperfection in the collection and processing of the necessary information, a lack of understanding of the risks (e.g. underestimation of risk), the use of estimates when selecting and assessing risk or unwillingness to consider all the alternatives offered. An individual will not be willing to sacrifice his or her time and energy to gather information about the risks and cost of insurance if the probability of loss, according to him, is very low; if the potential loss is negligible compared with its total assets; or if the premium will be significantly higher than the expected benefits of buying insurance. The results of the questionnaire confirmed the presence of non-financial attributes in determining the demand in the insurance market in Slovakia. Through questionnaire was also found that the rate of the presence of irrational behaviour was different in men and women. We confirmed the hypothesis that women are generally more averse to risk than men. In case of women, there has also been confirmed that the tendency to risky behaviour is decreasing with age. Risk aversion was a key incentive to purchase insurance for both sexes. Factors that affect more women when buying insurance are advices from friends and acquaintances, advertising of the insurance company and emotional stress. Men are more influenced by the fact whether they have previously experienced an uninsured event, but also whether they have a personal relationship to the object of insurance. Regarding to the behaviour of the demand, men clearly see insurance as an investment in a greater extent, and tend to cancel or not renew the insurance contract if the insured event did not occur during the insured period. Women are in a much greater extent gullible, and if their friend is satisfied with an insurance policy, they tend to conclude the same insurance contract, and do

not obtain any information or details and therefore cannot verify whether such insurance is suitable for them.

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