

# THE RELATIONSHIPS BETWEEN SELECTED DEMOGRAPHIC FACTORS AND ACCEPTABILITY OF CONSUMER INSURANCE FRAUD

*Zuzana Brokesova, Ing., PhD*

*Erika Pastorakova, doc., Ing., PhD*

University of Economics in Bratislava, Slovak Republic

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## Abstract

Consumer insurance fraud represents considerable problem in insurance industry. The association of European insurers – the Insurance Europe – estimates that detected and undetected consumer fraud represents up to 10% of all claims expenditure in Europe (Insurance Europe, 2012). In theoretical and empirical research, incentives for committing this type of fraud are explained variously. However, the role of demographic factors is marginalized. In this paper, we analyze the relationships between selected demographic factors and the level of acceptability of insurance fraud commitment among Slovak respondents. Even though that acceptability of consumer insurance fraud does not represent the real action, these two variables are strongly linked. Based on our results, we could conclude that the level of insurance fraud acceptability among the respondents varies based on their age, gender, level of education and religion. In line with previous research, we find that women, highly educated individuals and elderly individuals understand different types of fraudulent behaviour as less acceptable. In addition, our study analyzes the role of religion and income level. Whereas in the case of religiosity, we confirm our assumption that respondents who declared themselves as believers in whose lives religion plays important role understand consumer insurance fraud as more unacceptable than nonbelievers, the role of personal income stays unclear.

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**Keywords:** Consumer insurance fraud, insurance industry, fraud acceptability, demographic factors

## Introduction:

Consumer insurance fraud represents considerable problem in insurance industry. Each year insurers spend an enormous amount of money on fraudulent claims (Miyazaki, 2008). The association of European insurers – the Insurance Europe – estimates that detected and undetected consumer fraud represents up to 10% of all claims expenditure in Europe (Insurance Europe, 2012).<sup>53</sup> A significant part of these expenditures are spent on opportunistic or “soft” consumer fraud that represents the most difficulty detected type of consumer insurance fraud. It involves attempts to get excessive payments for a legitimate insurance claims and it is committed by law-abiding citizens (Coalition Against Insurance Fraud, 2007; Miyazaki, 2008; Tennyson, 2002; Viaene and Dedene, 2004; Weisberg and Derrig, 1991). In addition, this type of fraud represents one of the most misunderstood types of crime, when the majority does not understand this type of action as unacceptable and tolerate this kind of behaviour in social community (Miyazaki, 2008). In the survey carried out by Tennyson (2002), it has been identified that 73.8% of respondents think that these types of claim are commonplace and they viewed this kind of behaviour as widely acceptable.

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<sup>53</sup> Experimental economic research reveals even higher values (Gabaldón, Hernández and Watt, 2011).

In theoretical and empirical research, numerous studies have focused on explaining incentives for committing this type of fraud. The explanations vary from misunderstanding the contract and subsequent differences in expectations (e.g. Lesch and Baker, 2013), changes in morality, poverty, intermediaries' behaviour, (e.g. Dionne, 2000), previous negative insurance experiences (e.g. Tennyson, 2002), contract design (e.g. Lammers and Schiller, 2010; Gabaldón, Hernández and Watt, 2011), claims settlement strategies (e.g. Crocker and Tennyson, 2002), etc. However, the role of demographic factors is marginalized in this type of behaviour.

As there exist assumptions that moral judgements are connected with some demographic characteristics of the individual (e.g. Milanowicz and Bokus, 2012; Vauclair, and Fischer, 2011) and also behavioural literature indicates that these factors play an important role in fraud in many financial areas, especially compliance behaviour of taxpayers (Devos, 2008; Cumming, Leung and Rui, 2012), we assume that these factors may also have influence on the consumer insurance fraud acceptability.

In this paper, we analyze the relationships between selected demographic factors and the acceptability of insurance fraud commitment. The study focuses on attitudes on insurance fraud acceptability, not actual insurance fraud.<sup>54</sup> Understanding of the determinants of consumer insurance fraud acceptability could help improve prevention efforts of insurance companies and government (Tennyson, 2008) as well as it could also help in revealing perpetrators of insurance fraud. From the view of insurers, consumer demographics could be easily obtained and enable to create typology of insurance consumers and their fraud inclination.

The paper is organized as follows. In first section, we define selected demographic factors and their role in the consumer insurance fraud acceptability, according to previous research. In the second section, we explain our dataset and used methodology and in the last section, we discuss empirical results.

### **Literature review and theoretical background:**

The role of demographic factors in consumer insurance fraud has not been widely researched. In comparison to the research of fraud in other financial areas, the role of these factors in insurance fraud has been marginalized. Only a few authors (Dean, 2004; Dionne and Wang, 2011; Lesch and Baker, 2013; Miyazaki, 2008; Tennyson 1997, 2002) have focused on this issue and researched characteristics that include gender, age, education, income and religion. In the next part, we are going to review the role of each factor according to previous studies.

*Gender.* The majority of studies concluded that gender and dishonesty are connected and men are more likely to be dishonest than women (Dreber and Johannesson, 2008; Childs, 2012; Friesen and Gangadharan, 2012). In the area of insurance fraud tolerance, the role of gender were firstly researched by Tennyson (1997, 2002), who has explored the determinants of consumers' attitudes toward filling exaggerated automobile insurance claims. She has observed that women are less tolerant to claims fraud. Her findings have been also confirmed by experimental economic research, where Dean (2004) as well as Miyazaki (2008) have found lower level of insurance fraud tolerance among women.

*Age.* Age along with the gender represents the most researched demographic factor in the insurance fraud acceptability. In general, age is considered as a significant factor in all financial decisions, including insurance fraud (Doerpinghaus, Schmit and Jia-Hsing Yeh, 2008). Explanations for its significance vary from a higher level of risk aversion in the group of elderly individuals, to the amount of their experiences, etc. Concerning insurance fraud,

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<sup>54</sup> Acceptability of consumer insurance fraud represents the individuals' attitudes to this type of behaviour. Even though that attitudes do not represent the real action, these two variables are strongly linked (e.g. Akers, 2003; Bem, 1970; Warr and Stafford, 1992).

some evidences support an argument that the older the persons are the more serious they consider insurance fraud (Jou, 2013; Tennyson, 1997, 2002). The relation between age and insurance fraud tolerance is, therefore, inverse (Lesch and Baker, 2013).

*Income.* In different types of white-collar frauds, including tax evasion, the role of income level is mixed and unclear (Devos, 2008). Nevertheless, findings for the insurance fraud are more homogenous. According to Dionne and Wang (2011), insurance fraud is related to an individual's morality that may also vary with income level. In addition, as insurance claims may increase individuals' income, there are assumptions that respondents with lower income could be more tolerant to insurance fraud (Tennyson, 2002).

*Education.* In economic theory, relation between educational attainment and criminal behaviour is negative (Lochner, 2007). However, schooling has only small positive effects on white-collar crime, including insurance fraud (Lochner, 2007). Even though Tennyson (1997, 2002) has observed that highly educated individuals are less tolerant to insurance fraud, the role of education in consumer insurance fraud perception is hard to uniquely determine. Problems are caused mainly by the way of educational attainment measuring, where a higher level of education does not imply the higher level of financial literacy.

*Religion.* Generally, religion influences fraudulent behaviour negatively. The stronger is the level of individual's religious beliefs, the lower is the risk of his/her fraudulent behaviour (Stack and Kposowa, 2006). It can be assumed that a similar relationship could be identified between religion and insurance fraud, even though it has not been scientifically proven yet. Indeed, the role of religion does not depend on the religious affiliation but more on whether the individuals are actively practicing their religion. After all, almost every religion advocates "good behaviour", which insurance fraud does not include.

### **Data and methodology:**

The data for our research were obtained from the broader survey conducted by the Department of Insurance at the University of Economics in Bratislava. The purpose of the survey was to reveal Slovak inhabitants' views on insurance issues. Survey was conducted from the 1st June 2013 to the 31st July 2013 electronically and also by paper version. We obtained 447 completed surveys, from who 314 subjects were randomly selected according to age and gender based on the demographic characteristics of the Slovak Republic (Statistical Office of the Slovak Republic, 2012). From the view of gender, sample consisted of 51,3 % of women and 48,7 % of men, and from age perspective 15,3% of respondents were in age 18 – 24, 39,5 % were in age 25 – 39 and 45,2 % were in age 40 - 61.

The questionnaire consisted of three parts. In the first part, we asked respondents about their demographic factors: gender, age, income, education and religion. While questions about gender, age, income and education were simply constructed. In terms of religion, we asked respondents about the role of the religion in their decisions. We did not simply ask respondents about their religious affiliation but we focused more on whether they are practicing religious rules in their lives. The main reason for this formulation of question was the fact that even though a lot of people identified themselves as members of religion (due to e.g. the family traditions, habits or many other reasons), they do not always behave according to the religious rules (e.g. Smith et al., 2003). Our respondents could, therefore, identify themselves as a member of one of three groups: strong believer, in whose decisions religion plays an important role; believer in whose decisions religion does not play an important role; and nonbeliever. In the second part of the questionnaire, we focused on respondents' attitudes to different forms of fraudulent behaviour. We formulated these statements as behaviour of other people for ensuring that individuals would feel free to be honest in answering questions as they were speaking about other people's "bad" behaviour (Ariely, 2013). Respondents used six point Likert-type scale (with 1 defined as totally acceptable behaviour and 6 defined as totally unacceptable behaviour) for evaluation four different types of behaviour, including:

1. Misrepresenting the facts on an insurance application in order to obtain lower insurance premium rate,
2. Submitting an insurance claim for damages that occurred prior to the insured accident,
3. Misrepresenting the nature of an incident to obtain insurance payment for a loss not covered by policy,
4. Falsifying receipts or estimates to increase the amount of an insurance settlement.

Each definition was accompanied by practical example with the aim to raise clarity and imagination of these actions. In addition, we avoided using word “fraud” or its synonyms in the whole questionnaire. The main reason for this was to avoid identification our questions with “illegal behaviour”.

### **Empirical results and discussion:**

From the general point of view, our respondents understand fraudulent behaviour in insurance as more unacceptable than acceptable (p-value < 0.001). They evaluated all types of fraudulent behaviour by 4.52 points on average on a 6 points scale (with 1 defined as totally acceptable behaviour and 6 defined as totally unacceptable behaviour). Only 13.69% of respondents evaluated different types of fraudulent behaviour on the lower half of the scale (less or equal to 3) and merely 1.6% of respondents understand all types of behaviour as totally acceptable. On the individual act basis, this value varies between 3.2 to 7.9%.

Respondents considered the second type of offered situations (“Submitting an insurance claim for damages that occurred prior to the insured accident”) as the most acceptable behaviour and evaluated it with the lowest average value. This behaviour represents the only one, where loss really exists and it also represents the most common behaviour mainly in automobile insurance. Detailed results are listed in Table 1.

*Table 1 – Average values of insurance fraud acceptability*

	N	Mean	Std. Deviation
Misrepresenting the facts on an insurance application in order to obtain lower insurance premium rate	314	4,54	1,489
Submitting an insurance claim for damages that occurred prior to the insured accident	314	4,19	1,642
Misrepresenting the nature of an accident to obtain insurance payment for a loss not covered by policy	314	4,81	1,432
Falsifying receipts or estimates to increase the amount of an insurance settlement	314	4,82	1,423

We analyzed the differences in individual respondents’ attitudes to acceptability of fraudulent behaviour in terms of selected demographic factors including gender, age, education, personal income and religion of the respondents. In general, our results are in line with previous research (Dean, 2004; Tennyson, 1997, 2002). We found that men, low educated individuals and younger respondents understand all types of offered fraudulent behaviour as more acceptable. Men displayed a higher acceptability in all four types of offered situations but differences between men and women assessment were similar in all four types of offered fraudulent behaviour. Our data also showed that elderly individuals understand all types of behaviour as less acceptable in comparison to younger respondents.

The exception is the third type of behaviour (“Misrepresenting the nature of an accident to obtain insurance payment for a loss not covered by policy”), which the group of 18 - 24 years old respondents assessed equally to the group of 40 - 61 years old respondents. However, even though that younger individuals assessed insurance fraud as more acceptable the lower values were obtained from the respondents in the age 25 - 39 years. Regarding the relationship between the education and acceptability of this type of behaviour, we obtained expected results. Individuals with a higher education attainment displayed lower levels of insurance fraud acceptability. However, these differences are not statistically significant in all

cases. Analysis of income level brought mixed results. On the one hand, respondents with gross monthly income lower than 330 € showed the higher values of insurance fraud acceptability in comparison to respondents whose monthly income is 1500 € and more. But on the other hand, income levels 331 €- 660 € and 881 €- 1500 € revealed even lower values of insurance fraud acceptability. These results, therefore, are not clear as well as they are not statistically significant. The last factor that we examined was religion. Analysis of the relationship between respondents' religion and consumer insurance fraud tolerance partially confirmed our assumptions. Respondents who declared themselves as nonbelievers assessed fraudulent behaviour as more acceptable than other two groups. However, respondents who declared themselves as strong believers (in whose decisions religion plays an important role) chose the higher values of acceptability of offered behaviour than believers (who declared that religion does not play important role in their lives). Thus, strong believers' values were closer to nonbelievers than to believers. This observation is in conflict with our assumptions that individuals who declare themselves as a strong believers understand fraudulent behaviour more unacceptable than anyone else does. Detailed results as well as values of factors statistical significance are shown in table 2.<sup>55</sup>

Table 2 – Average values of insurance fraud acceptability based on demographic characteristics

	Misrepresenting the facts on an insurance application in order to obtain lower insurance premium rate	Submitting an insurance claim for damages that occurred prior to the insured accident	Misrepresenting the nature of an accident to obtain insurance payment for a loss not covered by policy	Falsifying receipts or estimates to increase the amount of an insurance settlement
<b>Gender</b>				
Female	4.63	4.46	5.09	5.04
Male	4.46	3.90	4.52	4.59
p-value	.309	.002	.001	.013
<b>Age</b>				
18 - 24 years old	4.46	4.06	4.94	4.60
25 - 39 years old	4.39	3.82	4.61	4.65
40 - 61 years old	4.71	4.55	4.94	5.05
p-value	.055	.001	.064	.005
<b>Education</b>				
Elementary	4.05	3.98	4.72	4.66
High school	4.81	4.30	4.84	4.88
University	5.10	4.41	5.03	5.14
p-value	.000	.201	.764	.343
<b>Income</b>				
Less than 330 €	4.58	4.25	4.91	4.94
331 €- 660 €	4.13	3.97	4.82	4.66
661 €- 880 €	4.79	4.38	5.05	4.98
881 €- 1500 €	4.18	3.86	4.39	4.45
More than 1500 €	4.89	4.31	4.56	4.89
p-value	.024	.378	.319	.404
<b>Religion</b>				
Strong believer	4.41	3.91	4.56	4.64
Believer	5.07	4.93	5.50	5.57
Nonbeliever	4.54	4.23	4.84	4.81
p-value	.077	.013	.010	.005

Note: p-values computed by the Kruskal–Wallis one-way analysis of variance indicates statistical significance of differences across categories

<sup>55</sup> Regarding the sample size, we considered with 10% level of statistical significance.

## **Conclusion:**

The paper examines the relationships between selected demographic factors and the acceptability of insurance fraud commitment. The study focuses on attitudes on insurance fraud acceptability, not actual insurance fraud.

Based on our results, we could conclude that observed depth of perceived acceptability varies among individuals and this variance is not random. Theoretical and empirical research indicates that there are a lot of explanations for this variance, demographic factors including. The results of this study support the assumptions that the demographic factors play specific role of in the individual's perception of acceptability of insurance fraud. In line with previous research (Dean, 2004; Tennyson, 1997, 2002), we found that women, highly educated individuals and elderly individuals understand different types of fraudulent behaviour as less acceptable. Besides these factors, we also analyzed the relationship between income level as well as religion and respondent's attitude to insurance fraud. However, our results are not clear. The differences between the higher and the lower levels of gross monthly income were as predicted. But the differences in attitudes of respondents in the middle income levels did not follow expected pattern. Similar results were obtained regarding the role of religion. We found that nonbelievers assessed claim fraudulent behaviour as more acceptable in comparison to believers. At the same time, nonbelievers also understand insurance fraud very close to individuals who declared themselves as a strong believer, which opens the issue about level of their overconfidence and/or hypocrisy.

There are clearly many factors that play an important role in formation of consumer attitudes to insurance fraud. Demographic factors of consumers represent only a small group. However, not only that they could be easily obtained from consumers by insurers, moreover understanding of the relationships between these characteristics and level of consumer insurance fraud acceptability could help improve insurance fraud prevention efforts of insurance companies and government (Tennyson, 2008). In addition, understanding of their role in insurance fraud acceptability could also enable to create typology of insurance consumers and their fraud inclination, which could help in the process of potential insurance fraud perpetrators identification.

## **Acknowledgments:**

This research could be performed due to research grant VEGA entitled "Perspectives for the insurance market of the Slovak Republic in the lines of civilization challenges" No. 1/1122/11 provided by the Ministry of Education, Science, Research and Sport of the Slovak Republic. Authors also would like to thanks all anonymous survey participants.

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