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Financial risk information avoidance

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ABSTRACT

Availability of information is one of the most important factors for financial decision-makers. Having complete information about the probability of losing money should always leave decision-makers better off. However, in some situations financial decision-makers prefer to know less than more. In this study we investigated the impact of selected characteristics of financial threats on individuals' decisions to avoid risk information in an incentivised online experiment. We found that threat severity, relative risk, and effectiveness of threat prevention alone do not influence decisions to avoid risk information. However, we did find an interaction effect between the first two treatments. Furthermore, our data suggest that coping style, locus of control, and anticipated emotional response are statistically significant predictors of financial risk information avoidance.

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1. Introduction

In economics, it is often assumed that availability of relevant information is key to making sound decisions. Perfect, complete, or certain information enables entities to make decisions resulting in optimal outcomes. For this reason, financial decision-makers should perceive having complete risk information as beneficial. However, in some situations financial decision-makers prefer to know less than more, even when it may result in losing money. Sometimes shareholders do not keep themselves informed about the company they have invested in. For instance, they do it when the stock market is down (Karlsson, Loewenstein, & Seppi, 2009), and while having a better personal 'financial position', i.e., wealth, holdings (Sicherman, Loewenstein, Seppi, & Utkus, 2016).

The aim of this study was to identify the impact of selected characteristics of financial threats and personal characteristics on individuals' decisions to avoid risk information. For the purpose of this paper, we define financial threat as possibility of losing money due to an event that may occur with an unknown probability and can be to some extent prevented. In turn, financial risk information is the probability that this event will occur. To the best of our knowledge, this is the first study of financial risk information avoidance. Our

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introduction of the construct of information avoidance to the field of behavioural finance and our application of experimental methodology to investigating this problem are the main novel contributions of our study.

Based on reviewed literature, we hypothesise that the following factors may influence decisions to avoid information: threat severity, relative probability that the threat might occur, and the effectiveness of prevention. Moreover, we conjecture that individuals anticipating highly negative emotional response to high probability of threat and exhibiting experiential information processing style, blunting coping style, external locus of control, and risk seeking will be more likely to avoid risk information.

To verify this set of hypotheses, we conducted an incentivised full-factorial $2 \times 2 \times 2$ experiment in which subjects ($n = 394$) made financial decisions to minimise the amount of money they could lose at the end of the experiment. We investigated their behaviour under such threat focusing mainly on their willingness to obtain information that could protect them from losing money.

The article is structured as follows. The next three sections provide a brief literature review of (1) information avoidance, (2) risk information avoidance and its financial aspects, and (3) psychological characteristics of information avoidance. In the following section, the research design is presented. Next, we discuss data analysis and present results. The final section provides summary and conclusions.

2. Literature review

2.1. Information avoidance

Even though there is a wide array of literature about information and information behaviour, research considering information avoidance is quite sparse. Existing studies explore information-seeking behaviour, and unintentional or passive behaviours towards information 'as well as purposive behaviours that do not involve seeking, such as actively avoiding information' (Case, 2012, p. 5). There are many models describing and analysing the sequence of information behaviours as well as variables influencing this process (Byström & Järvelin, 1995; Donohew & Tipton, 1973; Ellis, 1989; Johnson, 1997; Krikelas, 1983; Leckie, Pettigrew & Sylvain, 1996; Savolainen, 2005; Savolainen, 1995; Wilson, 1999; Wilson, 1981). However, these models do not recognise information avoidance explicitly. The most prevalent tendency is to analyse information-seeking behaviour, defined by Case (2012) as 'a conscious effort to acquire information in response to a need or gap in your knowledge' (p. 8). However, in reality people sometimes tend either to ignore or to avoid information. Case, Andrews, Johnson, and Allard (2005) wrote: 'many models of the information-seeking process [...] do not even consider that information seeking may not take place in cases in which people recognise their ignorance about a topic' (p. 354).

Information avoidance occurs when subjects intentionally, deliberately refrain from 'acquiring' decision-relevant information, which could make them better off. Studies conducted in the health context confirmed that individuals deliberately avoid relevant information (Afifi & Weiner, 2004).

Sweeny, Melnyk, Miller, and Shepperd (2010) highlighted the fact that information avoidance refers to unwanted information. They stated that information avoidance is 'any

behaviour intended to prevent or delay the acquisition of available but potentially unwanted information' (p. 340). According to Case (2012), information avoidance is 'the tendency for humans to avoid exposure to information that conflicts with their prior knowledge, beliefs and attitudes, and/or which causes them anxiety' (p. 367). However, Neben (2015) points out that behaviour, when people avoid decision-relevant but incongruent information which 'mismatches prior beliefs, decisions, or knowledge' and leads to the perception of dissonance, is called defensive information avoidance (p. 1). The study of everyday-life information behaviours conducted by Narayan, Edwards, and Case (2011) confirmed results obtained in previous studies (Case et al., 2005; Johnson, 2009), as it showed that most people seek out information which they agree with.

Furthermore, Neben (2015) distinguishes three sub-constructs of the concept of information avoidance: exposure avoidance, absorption avoidance, and use avoidance. They refer to limiting or terminating the search for decision-relevant information, the absorption of decision-relevant information, and the use of decision-relevant information, respectively. Nowadays, we all experience an information overload, and information quality becomes a problem in the context of its utility as well as selection. These issues lead to a paradox: a wider access to information may result in higher uncertainty, mental discomfort, and cognitive dissonance. This is one of the reasons why people tend to avoid information (Narayan et al., 2011). It is also an example of individuals limiting absorption and use of information. In this study we focus on the first stage of this process, i.e., exposure avoidance.

Golman, Hagmann, and Loewenstein (2017) provide an excellent overview of previous information avoidance studies and discuss physical avoidance, inattention, biased interpretation of information, forgetting, and self-handicapping. In the case of physical avoidance, individuals deliberately choose to avoid information. Inattention results from the fact that attention is a scarce resource. People tend to sometimes avoid information just because they have already allocated their attention to a different target and perceive that attention allocation to be more efficient. Sometimes, individuals avoid drawing the most logical conclusions from already obtained information, often leading to biased interpretations of such information. Forgetting is based on the observation that individuals deliberately forget selected information over time to help them to deal with unpleasant situations, life experience, and cognitive dissonance (Benabou & Tirole, 2002). Self-handicapping covers a wide array of categories described by authors as individuals' tendencies to choose tasks poorly matched to their abilities or undertake actions undermining their performance.

Furthermore, information avoidance can be classified as active or passive. According to Sweeny et al. (2010), active information avoidance involves preventing others from revealing information, and passive refers to not looking for information.

According to Narayan et al. (2011), passive information avoidance is the concept of long-term avoidance related to long and deeply held beliefs. Since people anticipate new information to disturb these beliefs (to cause a cognitive dissonance), they avoid learning the information. In other words, passive avoidance is a refusal to process information rather than a refusal to seek it. This kind of avoidance occurs mostly in the context of religious, political, and world-view beliefs. In contrast, active information avoidance is 'a short-term rejection of information' (p. 5). It results from affective processing of information and is a stress-coping mechanism. People tend to exhibit active information avoidance mostly in

areas of health, relationships, and finance (Narayan et al., 2011). For information avoidance to be classified as active, two criteria have to be met. First, the individual knows that the information exists and is available. Second, 'the individual has free access to the information or would avoid the information even if the access were free' (Golman et al., 2017, p. 3).

Studies of information behaviours in everyday lives show that information avoidance is a common phenomenon in the health domain, in moral dilemmas (van der Weele, 2012), financial decisions (Sicherman et al., 2016), personal relationships, and even in the religious context (Narayan et al., 2011). Case et al. (2005) confirmed that information avoidance occurs in all domains of everyday life such as personal health, financial affairs, religious issues, relationship issues (e.g., family), corporate decision-making, national security, and disaster management.

2.2. Risk information avoidance and its financial aspects

In this study, we focused on a very specific type of information avoidance: avoidance of information about financial risk. As mentioned earlier, information avoidance literature is scarce, but when it comes to risk information avoidance it is almost non-existent.

Those few studies that do exist come primarily from public health. For instance, Keogh et al. (2004) reported that 40% of subjects coming from families with cancer histories refused to learn the results of their predictive genetic tests for breast and ovarian cancer susceptibility (BRCA1 and BRCA2) mutations.

As mentioned earlier, to the best of our knowledge, no other study has directly addressed financial risk information avoidance. The most relevant research, reported by Galai and Sade (2006), focused on financial risk avoidance, but not financial risk information avoidance. The authors of that study compared investors to ostriches avoiding risky situation by burying their heads in the sand, pretending that the hazard does not exist if they do not see it. Hence, they define 'Ostrich Effect' as avoiding 'apparently risky financial situations by pretending they do not exist' (p. 2741). The data obtained in that study suggest that individuals, faced with uncertain investments with a similar risk-return profile, 'prefer an investment where the risk is unreported, over an investment for which the risks are frequently reported' (p. 2758). Authors give an example of a loss-averse investor choosing between a traded government bond, where the price is reported on a daily basis, and a non-negotiable bank deposit for the same term. According to the Ostrich Effect, investor will choose the bank deposit, 'especially during periods of increased uncertainty' (p. 2751). This effect may be a protection mechanism helping investors to avoid 'panic-sell when markets are down' (Golman et al., 2017, p. 5).

Investigating investors' financial attention, Sicherman et al. (2016) found that investors exhibit selective attention to information about their personal portfolios. Positive stock index returns cause, on average, higher attention than negative returns. However, after extremely negative results, investors led by curiosity and monitoring behaviours also search for trading opportunities. Furthermore, Sicherman et al. found strong correlations between the level of attention and investors' gender, age, and their financial position. In particular, 'men, older investors, and wealthier investors are more likely to pay attention to their portfolios and to behave as ostriches' (Sicherman et al., 2016, p. 893).

In this study, we focused on the impact of selected characteristics of financial threats on individuals' decisions to avoid information about risk. In traditional risk-management

theory risk-financing choices are determined by severity of losses, frequency of losses (the likelihood of the event occurring), wealth and size of the decision-maker (e.g., the firm), and by the cost of insurance (Baranoff, 2000; Carroll, 2011; Mentel & Brożyna, 2015; Miciuła, 2015). These determinants served as a basis for our hypothesis development. To create a framework that would be suitable for modelling and studying decisions of both individuals and companies facing financial threat we selected three factors:

- (1) severity of a financial threat (or ‘threat severity’), i.e., the amount of money that can be lost due to a threatening event;
- (2) probability of the event (financial threat) occurring;
- (3) effectiveness of prevention, i.e., the extent to which it is possible to minimise the probability that the financial threat will occur.

We hypothesised that:

- (1) the less severe the financial threat, the more often people avoid risk information;
- (2) the lower the perceived relative risk of suffering from the financial threat, the more often people avoid risk information;
- (3) the higher the effectiveness of threat prevention, the more often people avoid risk information.

2.3. Information avoidance and psychological characteristics

The relationship between information avoidance and psychological characteristics of decision-makers has been discussed by only a handful of researchers. In their study of food-related risk-reduction strategies, Brunel and Pichon (2004) found avoidance to be a behaviour focused on emotions; they described specific avoidance strategies: behavioural disconnection, denial, fatalism, cognitive repression, and magic thought. Behavioural disconnection is based on minimising efforts to deal with a stressful situation (Carver, Scheier, & Weintraub, 1989). Even when knowing the threat or the risk associated with the threat, people often do not do anything to change the situation. In the case of denial, people tend to refuse to believe in a threat, denying its severity. Fatalism is also known as an acceptance of the irremediable character of a threat (Carver et al., 1989), while cognitive repression is based on preferring not to think about a threat. Finally, the strategy of a magic thought involves believing that everything will be fine anyway. The use of these strategies results in information avoidance.

When studying economic (or financial) behaviour, we should account for not only economic and financial theories, but also investigate the impact of psychological characteristics on reasoning and decision-making (Morselli, 2015; Endress & Gear, 2015). Previous studies identified anticipated emotional response to information about threat, rational or experiential information processing style, coping style, locus of control, and risk attitude as potential predictors of information avoidance.

People use different strategies to avoid or mitigate negative emotions (Carroll, Sweeny, & Shepperd, 2006; van Dijk, Zeelenberg, & van der Pligt, 2003). As information may be unpleasant, those who anticipate it will cause a negative emotional response are more likely to avoid it (Thompson et al., 2002). It is, therefore, salient that we control for anticipated emotional response in our study.

Rational and experiential information processing styles (Norris, Pacini, & Epstein, 1998; Pacini & Epstein, 1999) may also be predictors of information avoidance. Rational experiential inventory (REI) developed by Norris et al. (1998) assesses how individuals process information. Theoretically motivated by Cognitive-Experiential Self-Theory (Epstein, 1973), REI allows for categorising people as exhibiting either a rational or an experiential processing style. REI includes two subscales: Need for Cognition and Faith in Intuition. The former subscale reflects an extent to which individuals engage in and enjoy thinking; it is perceived as measurement of a conscious, analytical approach. The latter subscale measures an experiential, emotional, affective information processing style. Information-seeking behaviour among people exhibiting an experiential processing style is driven largely by affect, while rational information processors make their decision based on analytical thinking. Hence, avoidance of potentially threatening risk information is likely to be more prevalent among the former group. In turn, those who process information rationally ought to be more willing to learn risk information because informed decision-making on average leads to more favourable outcomes.

Information avoidance might be also correlated with a person's coping style. Miller's Behavioural Style Scale (1987) allows for categorising people as those who approach threatening information ('monitors') and those who avoid it ('blunters'). When faced with threat, monitors scan the environment in search for information and solutions, while blunters distract themselves to avoid encountering and processing any information relevant to the threat (Baker, 2005; Case et al., 2005; Miller 1979). Therefore, we expect that 'blunters' will be more prone to avoiding risk information than 'monitors.'

Avoiding information about financial risk may also result from an external locus of control. The concept of locus of control was introduced in 1960s by Rotter, and refers to the extent to which people believe they have power to control events affecting them (Rotter, 1966). People who perceive different events and situations as contingent upon luck, chance, fate, or control of other entities, are said to have an external locus of control. In turn, those, who perceive events and situations as results of their own behaviours are said to place control internally. We hypothesise that individuals with an internal locus of control are more likely to acquire risk information because it is they who believe they are in control and can act upon the information.

Finally, individual risk attitudes are likely to influence risk information behaviour. We assume that rational decision-makers have a strong preference for new information because avoiding it could lead to losses. Hence, only risk-loving individuals would choose not to acquire risk information.

Based on the reviewed literature we developed the following set of hypotheses that we later evaluated experimentally.

- (1) The impact of threat characteristics on risk information avoidance
 - (a) The less severe the threat, the more often people avoid risk information.
 - (b) The higher the effectiveness of threat prevention, the more often people avoid risk information.
 - (c) The lower the perceived relative risk of suffering from the threat, the more often people avoid risk information.

- (2) The impact of personal characteristics on risk information avoidance
 - (a) People with a rational information processing style avoid risk information less often than others.
 - (b) People exhibiting a blunting coping style avoid risk information more often than others.
 - (c) People with an external locus of control avoid risk information more often than others.
 - (d) Risk-averse individuals are less likely to avoid risk information than risk-loving ones.
- (3) The less negative anticipated reaction to unfavourable outcome the more people are likely to engage in risk information avoidance.

3. Methodology

3.1. Research design

In this study we focused mainly on risk information avoidance in the domain of finance. We placed individuals in a decision environment in which they could lose a large proportion of their wealth due to a random event characterised by a given level of probability and severity. (Henceforth, we refer to the probability of losing wealth simply as risk).

We investigated if participants would always be interested in learning that probability assuming that such information is relevant, actionable, and can help in reducing this risk. Building on existing, yet scant, research we identified a set of conditions that might influence individuals' decisions to learn information about financial risk, and conducted an incentivised full-factorial $2 \times 2 \times 2$ online experiment to verify their impact on decision-making. The factors and their corresponding levels were as follows:

- (1) Threat severity – percentage of money participants could lose – levels: low (45%) / high (90%);
- (2) Effectiveness of prevention – how much participants could lower the probability of losing money – levels: low (20 percentage points) / high (30 percentage points);
- (3) Relative risk – levels: low/high. Subjects were told that there were two groups of participants and that they were randomly assigned to the group with a lower (or higher) risk. This treatment allowed us to manipulate and control for participants perceived relative risk. Furthermore, it allowed us to model conditions in which investors are not able to calculate the exact level of risk, but know that it is lower (or higher) than that of other investors.

The experiment was divided into four stages, presented in Figure 1.

(1) Introduction

- (a) We told subjects that we would give them 30 Polish zloty (equivalent of \$8; the purchasing power equal to two lunches in a students' canteen) at the beginning of the experiment. They were informed that at the end of the study our algorithm would determine whether or not they would lose a proportion of their money based on their risk level. This proportion was 45% in the low threat severity treatment condition and 90% in the high

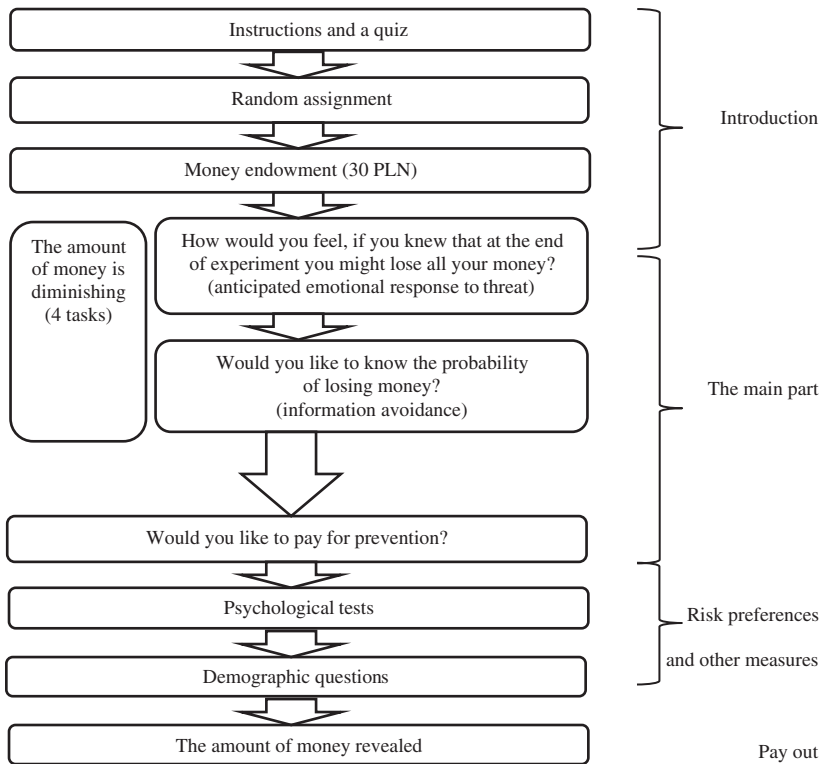


Figure 1. Simplified scheme of the experiment. Source: own compilation.

threat severity treatment condition. Subjects were randomly assigned to one of these conditions and only saw information relevant to it. The amount of money they were left with at the end of study would be transferred to their PayPal accounts.

- (b) Each subject was randomly assigned to a group where the relative risk was either high or low. As mentioned earlier, subjects in the high-risk group were told that their risk was higher than in the other group (and vice versa), but they did not know the exact value of this probability.
 - (c) We told subjects that they would be able to lower their risk before the experiment ends by spending a proportion of their money (we refer to lowering this risk as prevention).
 - (d) Next, we asked participants to complete a quiz which tested how well they comprehended the instructions. Participants could take it multiple times until they answered all of the questions correctly. We recorded how many times each subject attempted the test and used these data in our analysis.
 - (e) After successfully completing the quiz, participants were given 30 PLN. As it was an online experiment, this amount of money simply appeared on their screens.
- (2) Main part of the experiment
- (a) We explained to participants that for the next 4 min this amount of money would continuously diminish. To temporarily stop this process, the subjects

had to correctly perform four memorisation tasks. (To sum up, until this moment, they were informed that they could lose money: (1) at the end of the experiment due to computer's random decision; (2) during the game due to incorrectly performing a task).

- (b) Each task had the following structure. Subjects were showed a 2-digit number for 20 s and asked to memorise it. On the next screen, subjects were asked to input this number within another 20 s. If a correct number was entered, the subject's money would stop diminishing for 20 s. If not, the money would continue to diminish. Next, there was a 20 s long break.
 - (c) During the last task, just before subjects were to enter their memorised numbers, we asked them two questions. First, we wanted to learn their anticipated emotional response to the threat. Hence, we asked them to answer 'How would you feel, if we told you that at the end of experiment you will lose a proportion of your money?' using a 5-point Likert scale (very unhappy, somewhat unhappy, neither happy nor unhappy, happy, very happy). Next, we asked if they would like us to tell them whether their probability of losing money is higher or lower than 50%. After the last memorisation task, we showed risk information to the participants who answered 'yes' to the previous questions and hid it from those who decided to avoid it.
 - (d) Finally, we gave subjects an opportunity to engage in prevention and decrease their risk by either 30 or 20 percentage points (in high or low prevention effectiveness treatment conditions, respectively) by spending a fraction of their income that was proportional to the severity of threat. Subjects in the low threat severity condition paid 13% of their money and those in high threat severity condition paid 26%.
- (3) Elicitation of risk preferences and other measures
- (a) We asked subjects to complete Dohmen and Falk's (2011) variation of Holt and Laury's (2002) incentivised paired lottery choice task and to fill out a non-incentivised domain-specific risk questionnaire (DOSPERT; Weber, Blais, & Betz, 2002). Additionally, we asked subjects to report their willingness to take risks using questions coming from the German Socio-Economic Panel (Dohmen, Falk, Huffman, & Sunde, 2008).
 - (b) Participants also filled out the following questionnaires: Miller Behavioural Styles Scale (Miller, 1987), locus of control (Rotter, 1966), preference for information processing as captured by REI-10 (Norris, Pacini, & Epstein, 1998), and basic demographic information.
- (4) Pay out: finally, we revealed to the subjects whether they lost any money in the experiment and showed them the final amount they were left with. This amount was transferred to their PayPal accounts.

The experiment was conducted in Poland where behavioural human subject experiments in economics are not classified as clinical trials and do not require Institutional Review Boards' (IRB) approval. Nevertheless, we did our best to protect subjects and the study was designed and conducted under supervision of experienced researcher certified with NIH 'Protecting Human Research Participants'. We also ensured that the experiment posed no

more than minimal risk to participants. While not legally required, subjects signed consent form. All collected data were stored on a secure server.

3.2. Data analysis

Given that the experiment was quite complex, we only analysed data of those participants who understood the instructions well. We removed data of those subjects who took the comprehension test over two times and those who said that they would be happy or very happy to lose money at the end of the experiment. We also removed data of those participants who switched from safe bets to a risky choice more than once in the pair lottery choice task. Finally, we deleted data of participants who did not provide their true age.¹

The resulting subject pool is presented in Table 1. It consists of 394 participants – 39% male (154), 61% female (240) – with a mean age of 22.88 years ($SD = 2.79$, $min = 18$, $max = 56$). At least 54.82% of the subjects were students. All of the participants were Polish.

Result 1 (Detection of financial risk information avoidance): We found that on average 28.42% of participants decided not to learn free information which they knew could increase their wealth. While this proportion varies across treatment conditions, it is always larger than zero ($t(393) = 12.49$, $p < 0.0001$). The mean of avoidance per treatment condition is presented in Table 2. Curiously, participants in the ‘worst’ treatment condition – i.e., high severity, high relative risk, and low prevention effectiveness – avoided risk information most often. This finding is consistent with previous research on behavioural disconnection,

Table 1. Number of subjects per treatment condition.

Low-risk group			
	prevention low	prevention high	Total
severity low	50	48	98
severity high	53	42	95
Total	103	90	193
High-risk group			
	prevention low	prevention high	Total
severity low	51	48	99
severity high	50	52	102
Total	101	100	201

Source: Own calculations.

Table 2. Mean of avoidance per treatment condition (rounded).

Low-risk group			
	prevention low	prevention high	Total
severity low	0.26	0.25	0.26
severity high	0.17	0.24	0.20
Total	0.21	0.24	0.23
High-risk group			
	prevention low	prevention high	Total
severity low	0.33	0.25	0.29
severity high	0.42	0.35	0.38
Total	0.38	0.30	0.34

Source: Own calculations.

Table 3. Logistic regression with Huber-White sandwich variance estimator.

Risk information avoidance	Odds Ratio	Std. Err.	z	P>z	[95% Conf. Interval]	
severity (high)	0.453	0.231	-1.560	0.120	0.167	1.228
prevention effectiveness (high)	0.950	0.455	-0.110	0.914	0.371	2.430
risk group (high)	1.247	0.551	0.500	0.618	0.524	2.965
severity × prevention effectiveness	1.930	1.420	0.890	0.372	0.456	8.165
severity × risk group	3.912	2.608	2.050	0.041	1.059	14.452
prevention effectiveness × risk group	0.920	0.637	-0.120	0.904	0.237	3.572
severity × prev. effectiveness × risk group	0.474	0.477	-0.740	0.458	0.066	3.414
coping styles (blunting)	1.073	0.036	2.07	0.039	1.004	1.148
locus of control (external)	1.991	0.548	2.500	0.012	1.161	3.413
anticipated emotional response (higher score = 'less negative')	1.817	0.316	3.430	0.001	1.292	2.554
Rational-Experiential Inventory REI 10 (thinking)	1.029	0.028	1.060	0.290	0.976	1.086
incentivised paired lottery choice task	0.975	0.035	-0.710	0.478	0.910	1.045
SOEP risk measure	0.990	0.072	-0.130	0.893	0.859	1.142
DOSPERT_social	1.054	0.034	1.630	0.102	0.990	1.122
DOSPERT_gambling	1.042	0.042	1.020	0.307	0.962	1.129
DOSPERT_investment	0.981	0.041	-0.450	0.654	0.904	1.065
DOSPERT_recreational	0.983	0.018	-0.940	0.345	0.949	1.018
DOSPERT_health	0.957	0.021	-2.040	0.042	0.916	0.998
DOSPERT_ethical	1.027	0.033	0.830	0.405	0.964	1.094
Male	1.777	0.493	2.070	0.038	1.032	3.060
above average income	0.935	0.239	-0.260	0.793	0.567	1.542
economics student	0.690	0.174	-1.470	0.142	0.421	1.132
Constant	0.073	0.077	-2.47	0.013	0.009	0.582

Number of observations = 394
Wald chi2(22) = 42.40
Prob > chi2 = 0.0056
Pseudo R² = 0.1087

Source: Own calculations.

showing that people often minimise efforts and possibly even abandon their goals when they expect these goals to lead to poor coping outcomes (Carver, Scheier, & Weintraub, 1989).

To test our hypotheses, we used a logistic regression model with financial risk information avoidance being the binary dependent variable (McFadden, 1973). Logistic regression is a natural modelling choice when the outcome variable is binary. To avoid reporting invalid standard errors resulting from potentially heteroscedastic and non-normal residuals we used Huber-White sandwich variance estimator (Mood, 2010). The results are presented in Table 3.

Our model, presented in Table 3, is statistically significant (Pseudo R² = 0.1087, Wald Chi-Square statistic (22) = 42.40, $p = 0.0056$). It includes experimental treatment dummy variables and their interactions; severity = 1 for high threat severity treatment condition and 0 for low threat severity, prevention = 1 for high effectiveness of threat prevention condition and 0 for low high effectiveness of threat prevention, relative risk = 1 for high relative risk treatment condition and 0 for low relative risk.

Result 2 (Impact of threat characteristics and financial risk information avoidance): We found no support for hypothesis 1a, 1b, and 1c; there are no effects of threat severity, effectiveness of threat prevention, and perceived relative risk on risk information avoidance. There is, however, an interesting interaction effect between threat severity and relative

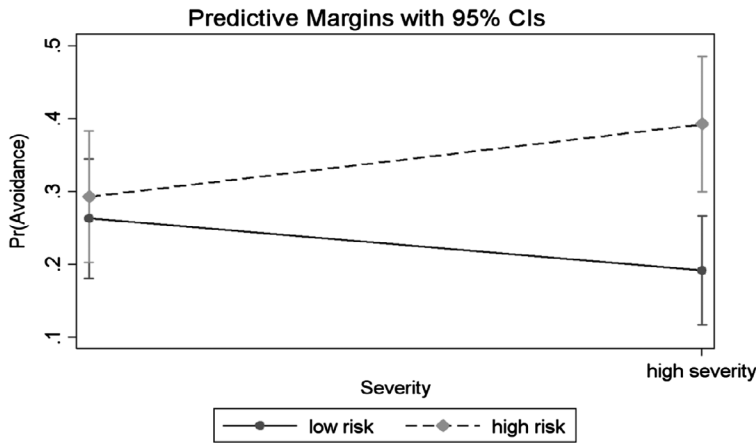


Figure 2. Figure 2. Interactions for threat severity and the relative level of risk. Source: own compilation.

financial risk (odds ratio [95% CI] of 3.912 [1.059, 14.452], $p = 0.041$). This interaction is presented in Figure 2.

Specifically, participants avoided financial risk information more often when the threat was more serious and the relative probability of the threat was high. The marginal effect of high relative risk on the probability of avoiding financial risk information when threat severity is high, is 0.21 ([0.091, 0.3301], $p = 0.001$).

Result 3 (No relationship between rational information processing style and risk information avoidance): We found no support for hypothesis 2a, i.e., rational information processing style does not predict risk information avoidance.

Result 4 (Coping style and locus of control predict risk information avoidance): Conversely, we did find support for hypotheses 2b and 2c. Participants with a blunting coping style avoided risk information more often (1.073 [1.004, 1.148], $p = 0.039$). Similar behaviour was displayed by participants with an external locus of control (1.99 [1.161, 3.413], $p = 0.012$).

Result 5 (Inconsistent relationship between risk attitudes and risk information avoidance): Based on our data we found no support for hypotheses 2d(i) and 2d(ii), i.e., there seems to be no relationship between risk attitudes as captured by the incentivised paired lottery choice task and the general risk question. Furthermore, all but one of DOSPERT domains are also not statistically significant predictors. Curiously, more risk-loving subjects in the health domain avoided risk information less often (0.957 [0.916, 0.998], $p = 0.042$). In other words, more risk-averse subjects avoided the information more often, which is opposite to what we hypothesised.

Result 6 (Anticipated emotional reaction to unfavourable outcome predicts risk information avoidance): As we expected (hypothesis 3), the less negative was the anticipated reaction to losing money in the experiment, the more likely were the participants to avoid risk information (1.817 [1.292, 2.554], $p = 0.001$).

Result 7 (Sex is associated with risk information avoidance): We also found a relationship between sex and information avoidance, i.e., men are more likely to engage in information avoidance (1.777 [1.032, 3.060], $p = 0.038$). Similar results were reported by Sicherman et al. (2016), where men were more likely to 'behave as ostriches'.

The experiment was conducted in Poland where behavioural human subject experiments in economics are not classified as clinical trials and do not require Institutional Review Boards' (IRB) approval. Nevertheless, we did our best to protect subjects and the study was designed and conducted under supervision of experienced researcher certified with NIH 'Protecting Human Research Participants'. We also ensured that the experiment posed no more than minimal risk to participants. While not legally required, subjects signed consent form. All collected data were stored on a secure server.

4. Findings

In our data, avoidance of information about financial risk is independent of financial characteristics of the threat. Surprisingly, percentage of money that participants could lose (threat severity), information about their relative risk of losing it, and effectiveness of prevention had no statistically significant impact on decisions to avoid financial risk information. We detected no main effects with the exception of an interaction between threat severity and relative risk. Our study shows that in the case of small financial losses (i.e., low threat severity), information about individuals' relative risk does not influence their propensity to avoid financial risk information. However, when severity of losing money is high, relative financial risk becomes salient and drives people to avoid information about financial risk. This result is consistent with studies by Galai and Sade (2006) who found that investors avoid risky situations and pretend that a threat does not exist if they do not see it.

A couple of reasons may explain why we did not find any main effects in cases of financial characteristics. First, the stakes in our experiment were relatively low. We suspect that increasing the amount of money the participants risked losing in the experiment would have strengthened their responses. Second, the study might have been relatively underpowered to detect subtler treatment effects.

5. Conclusions

The key contribution of this study is demonstrating that many decision-makers do, in fact, engage in financial risk information avoidance. The close relationship between locus of control, coping style, and financial risk information avoidance suggests that risk information behaviour is not driven by strictly financial factors, but rather by emotional self-regulation. This result is consistent with Brunel and Pichon's (2004) findings that information avoidance is a behaviour driven by emotions. Importantly, while emotions can sometimes lead to favourable outcomes (Seo & Barrett, 2007), avoidance of risk information in this experiment was a strictly suboptimal decision. By showing that some financial decisions result from the avoidance of immediate negative emotions at the cost of long-term gains, we provide insight into why some, seemingly irrational, financial decisions are made. This result also contributes to the explanation of why economic bubbles occur despite publicly available information warning against investing in a given asset.

Given the dearth of research on financial risk information avoidance, we encourage others to study this important phenomenon further. Previous research on risk preferences shows that individuals display different risk attitudes depending on the domain; for example, the same person may be more risk-averse in financial, health, medical, and safety decisions than in recreational, ethical, and social ones (Blais & Weber, 2006; Butler et al., 2012; Rosman,

Garcia, Lee, Butler, & Schwartz, 2013; Weber, Blais, & Betz, 2002). Studies of risk information avoidance focused on those domains would enable us to critically evaluate our findings and greatly contribute to modelling the relationship between risk information avoidance, risk attitudes, and emotions.

Findings presented in this article suggest financial risk information avoidance might be a fertile ground for future research. Investigations of the roles of emotions, anticipated regret, framing, and context would be beneficial to improving our understanding why people seek certain types of information and avoid others. By introducing the construct of risk information avoidance into the domain of financial decision-making and studying it in incentivised experimental setting, we built strong foundations for others to continue research in this area.

Note

1. We asked participants to identify themselves using Polish national identification number called PESEL. The first six digits in PESEL are the date of birth. By comparing this information with the age provided by subjects in the demographics questionnaire we were able to identify those participants who were untruthful about their age.

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