ATTITUDES TOWARDS INSURANCE FOR PERSONAL ASSETS: ANTECEDENTS AND CONSEQUENTS.

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ABSTRACT

Several streams in literature try to explain and predict consumer behavior towards risk reduction and, particularly, insurance. Individuals do not strictly follow economic models when perceiving risk and making decisions, and they are influenced by cognitive biases generated by: (i) emotional, (ii) contextual, and (iii) situational factors. We developed and tested a model to understand the influence of such variables in attitudes towards insurance (ATI), based on the critique of the normative theories about decision making under risk. We verified that ATI can be affected by different heuristic processes and cognitive biases, such as: i) trust in the industry; ii) perception of risk in relation to the good/asset; and iii) personal concern with finance. ATI helps explain willingness to pay for insurance, and this explanation is especially relevant in cases where individuals own expensive goods, such cars or houses.

KEY WORDS: insurance; risk; structural equation modeling; decision making; partial least squares; attitude; willingness to pay.

1. INTRODUCTION

Insurance industry has an important role in the economic development of a country, making risky operations viable, that in the event of an accident could jeopardize the entire business of a firm or the financial stability of an individual. Insurance has a social function by allowing the transfer of risk within an economy, reducing risks for other industries and enabling businesses and people to maintain a more consistent standard of living. The Brazilian insurance industry grew from 0.5% to 4% of gross domestic product in 25 years, reaching a total of US$ 85.4 billion in 2015 (National School of Insurance Foundation, 2016). Even with such growth, there is development potential for insurance in Brazil when comparing the share of gross domestic product of this industry to the global average (6.2% in 2014). One indication of this reality is that the insurance market cannot keep abreast of the movement of many Brazilians to more affluent classes. For example, only 25% of the population has health insurance, even though this is one of the most popular types of insurance in the country. Factors that hinder the development of this market in Brazil are: (i) improper and unethical sales, which generate questions by customers; (ii) high commission rates; (iii) poor service quality; and (iv) the difficulty of firms ensuring that customers fully understand and see the value in products they buy (KPMG, 2014).

Several streams in literature try to explain and predict consumer behavior in relation to risk reduction and, particularly, insurance. They try to understand how people are affected by non-rational factors when taking decision on issues that are, in principle, purely monetary (Hsee & Kunreuther, 2000). Classical economics, for example, argues that the decision making of an individual is normative, based solely on reason and logic (Thaler, 1980). Positive theories, on the other hand, assume that individuals do not strictly follow economic models when perceiving risk and making decisions, and they are influenced by cognitive biases generated by: (i) emotional, (ii) contextual, and (iii) situational factors (Harrison & Ng 2016; Heaton, 2002; Kahneman & Tversky, 1984). Furthermore, people tend to simplify decision-making processes through heuristics (Grapentine & Weaver, 2009; Thaler & Sunstein, 2008). Analyzing the cognitive biases and heuristic processes that people use to make decisions can help understand the behavior of individuals in relation to risk and therefore insurance. Many studies have focused on the importance of certain variables on the behavior of individuals in relation to insurance, such as emotions, status quo, and loss aversion (Hsee & Kunreuther, 2000; Johnson et al., 1993; Kahneman, 2011; Kahneman & Tversky, 1979; 1984; Kahneman et al., 1982). This study, however, aims to understand how emotional, contextual, and situational factors influence attitudes towards insurance. It investigates some antecedents that impact individuals to have a positive attitude towards insurance, as well as the consequences of such attitudes on the willingness to buy insurance, based on the critique of the normative theories about decision making under risk (Kahneman & Tversky, 1979; 1984; Thaler, 1980; Grapentine & Weaver, 2009).

2. THEORY AND HYPOTHESES

Studying how consumers behave and make decisions addresses both normative and positive questions. Classical economics, for example, assumes that the decision-making of an individual in situations of risk is based on reason and logic; that is, in a normative manner (Thaler, 1980). Positive or descriptive theories that form the basis of behavioral economics seek to analyze the determinants that drive people's decisions according to their beliefs and preferences, which does not always follow perfect rationality (Kahneman & Tversky, 1979; 1984). Behavioral economics assumes that individuals make their decisions based on cognitive biases linked to emotional factors, contexts, and situational issues; and they use heuristic processes to simplify decision-making processes (Grapentine & Weaver, 2009). Such cognitive biases are mental and emotional filters that people rely on when absorbing and responding to external stimuli. For example: (i) in situations of risk, it is common for people to make decisions based on emotional reactions rather than purely cognitive assessments (Loewenstein et al., 2001); (ii) loss aversion (Kahneman & Tversky, 1984); (iii) cognitive optimism (Harrison & Ng 2016; Heaton, 2002); (iv) framing of outcomes (Kahneman & Tversky, 1984); (v) status quo (Samuelson & Zeckhauser, 1988); (vi) endowment effect, making the willingness to accept a good/asset greater than the willingness to pay for it (Kahneman et al., 1991).

Psychological factors, that contribute to the perception and decision-making, affect the bounded rationality of economic agents (Coe et al., 2014). If these factors were well understood they could be treated as refined forms of reasoning, since the maximization of results can be treated subjectively by individuals to avoid frustrations and negative feelings and, in these cases, one can agree to pay more or achieve smaller financial results (Kahneman, 2011). The willingness to pay is one of the variables in consumer behavior that is influenced by psychological factors and may have a large heuristic component. According to range theory, people use the range of remembered price experiences to define the minimum and maximum price expectation for good/assets and services. Thus, the attractiveness of a market price is a function of its position within this range. This reference price has been much discussed as a key factor in a person's buying behavior (Huang et. al., 2004). The perception that a person has of the price of a product is related to the satisfaction or frustration with the performance of the product. Circumstances in which product performance is not known or cannot be envisaged by the consumer produce some degree of uncertainty, which have a key role in determining whether to purchase a particular product (Voss et. al., 1998). The price perception involves the interpretation of price into cognitions that are meaningful and relevant to the consumer; it is a construction of an image produced by a number of factors: (i) comparison with other products; (ii) information received in relation to the service and the environment that surrounds the purchasing decision; (iii) the opportunity to save money—this can be done by purchasing the lowest priced service or by not contracting a service. This complex cognitive process leads consumers to the decision of accepting (or not) the price, thereby defining their notion of a fair price (Zeithaml, 1984). As people have different reactions when encountering risk—that is, different perceptions or capacities to deal with the risk—a fair price and the willingness to pay for products or services vary among individuals (Loewenstein et. al., 2001).

Insurance is a contract that generates economic protection to offset an uncertain need for loss recovery. However, having no incident or injury during the period covered by the insurance may frustrate consumers, creating a feeling that contracting the service is not worth (Platteau, 1997). This hypothesis was reinforced by Schmidt (2016) who demonstrated the preference of people to contract insurance for risks with higher probabilities of occurrence, often paying more than would be fair from an actuarial point of view. The performance of the insurance service is not only uncertain but also causes frustration for some

customers who do not use it. Therefore, the price perception individuals have for insurance may be decisive in their willingness to pay (Coe et al., 2014; Voss et al., 1998), since the perception of a fair or acceptable price can be the result of processing all available information and estimates of future results in relation to risks being run and the quality of insurance services (Zeithaml, 1984; Voss et al., 1998; Loewenstein et al., 2001; Huang et al., 2004).

Positive attitudes towards insurance

Since the assumption of bounded rationality (Simon, 1955), social psychologists and economists have shown that people use intuitive shortcuts to make decisions and judgments (Kahneman & Tversky, 1979). Often, people base their impressions of objects on experiences or pre-existing perceptions, and they can change their attitude or opinion whenever new information or a heuristic process alters perception. Following this perspective, individuals' attitudes are driven by beliefs built in memory and are accessed to guide certain behaviors. The type and number of beliefs that are accessed varies with: (i) the different motives of the individual; (ii) the ability to process relevant information; and (iii) the context (Ajzen & Fishbein, 2000). The theory of planned behavior proposes the use of the term "attitude," which can be defined as a person's degree of favorability in relation to an object, idea, or behavior. This evaluation associates the object to given attributes. The attitude in relation to an object is determined by subjective values that an individual gives to the attributes of the object and by the intensity with which the associations between products and attributes are made (Ajzen & Fishbein, 2000; Beck & Ajzen, 1991).

Attitude is based on information someone has about an object and may be influenced by new information, mainly in the form of persuasive communication. The way people receive and accept this new information can lead to the construction of, or change in, attitude (Ajzen & Fishbein, 2000). Moreover, attitude influences intention and willingness, which leads to behavior. Thus, it can be said that a positive attitude towards a product leads to a greater willingness to consume it (Huang et al., 2004). Insurance is a service that has attributes with a particularly utilitarian approach to risk reduction. The willingness to pay an amount of money for insurance can be analyzed as an attitude to reduce one's own risk. Therefore, we assume that a positive attitude towards insurance can lead to a greater willingness to pay for it, leading to H1:

H1: Positive attitudes towards insurance increase the willingness to pay for it.

Trust in the brand of insurer and (honesty of) the industry

Research on the concept of trust in the field of social psychology is derived from analysis of personal relationships, since trust between individuals is considered essential to any social interaction. Trusting someone or a brand gives a sense of security based on the belief that the behavior of the partner is guided and motivated by favorable and positive intentions in relation to the welfare and interests of the other partner (Delgado & Munuera, 2001). Thus, the lower the doubt that a partner's intentions are questionable, the lower the risk in the relationship and the greater the ease of creating a relationship of value. Another common definition of trust is a "general expectation" of how the other party in the relationship will behave in the future (Selnes, 1998). This "general expectation" is derived from (i) a cultural context that creates an expectation of how participants should behave in a transaction and (ii) past experiences in relationships between these participants.

Having limited information and cognitive resources at their disposal, consumers seek to reduce uncertainty and complexity in the buying process by using mental shortcuts or heuristic processes. Trust, therefore, functions as an efficient complexity reduction mechanism when dealing with uncertainty (Matzler et al., 2008). When carrying a positive response to consumer expectations, a brand reduces uncertainties that are generated during the product purchasing process. This makes individuals feel more motivated to seek trusted brands to avoid risks. It is common for a customer to seek a trusted brand rather than risking an unsatisfactory experience. To trust a brand or business partner is a good option when information is not easily accessible or it costs much to obtain (Selnes, 1998).

In the health insurance market, trust can be described in three dimensions: (1) trust in service providers (doctors), their competence, and ability to work in customers' interests; (2) trust in the insurer and its reputation; (3) control and regulation mechanisms of public bodies should ensure that contracts are fulfilled (Mechanic, 1998). For the insurance industry, regulation and control are important because there is a difference between the bargaining power of insurers and the insured, as insurers write the contract terms and agreements are negotiated at a time when the insured is vulnerable—that is, after accident (Asmat & Tennyson, 2014; Meyr & Tennyson, 2015). This situation coupled with a lack of adequate information about this market can generate a sense of mistrust of this industry and the good faith of insurers in dealing with its policyholders is often doubted (Karl & Wells, 2016). It is possible, however, to build a good reputation in the insurance industry by demonstrating expertise, responding quickly to consumers and guaranteeing quality services (Schneider, 2004). The reputation of an insurer and the trust that people have in a firm is important in building positive attitudes towards insurance. However, complex and opaque contracts, a lack of adequate regulation, and the difficulty of comparing products can generate a climate of distrust, affecting attitudes towards insurance (Meyr & Tennyson, 2015; Asmat & Tennyson, 2014; Mechanic, 1998). In this way, both trust in the brand of the insurer and confidence in the regulation, ethics, and honesty of the insurance industry can lead to more positive attitudes towards insurance. Thus:

H2: Trust in the brand of the insurer positively impacts attitudes towards insurance.

H3 Trust in (honesty of) the industry positively impacts attitudes towards insurance.

Importance of the asset the owner

According to the consolation hypothesis, the greater a person's appreciation of an object, the greater the pain if it is lost and, therefore, the greater the need for compensation to mitigate such pain. Only compensation can bring some consolation. In this sense, insurance is an investment in future consolation (Hsee & Kunreuther, 2000). These early emotions impact attitudes in the present, because they generate expectations that there may be frustration or negative feelings about the loss of a good in the future. This would explain why people tend to have a positive attitude of insurance today, thus avoiding future blame or frustration (Loewenstein et al., 2001; Hsee and Kunreuther, 2000).

Emotions can influence the use of heuristic in the decision processes to acquire insurance (Jaspersen & Aseervatham, 2015). Individuals have pre-established positive or negative emotions in their decision-making processes. It is as if life learnings lead to positive or negative feelings, marking experiences that are tied directly or indirectly to somatic and bodily states. The suspicion is that somatic markers increase the speed and efficiency of the information analysis processes. Thus, people would use a "affect heuristic" to make judgments, as if in each case decisions are taken by accessing a pool (conscious and unconscious) of positive and negative feelings associated with the situation (Finucane et al., 2000). Therefore, the greater the importance given to an asset (good), the more positive the owner's attitude to insurance for this good will be, leading to H4:

H4: The importance of an asset to the owner positively impacts attitudes towards insurance of this asset.

Risk perception (in relation to an asset)

Contracting insurance can be regarded as a decision by a person that faces a risk that has a distribution of probability of loss. To reduce risk, the individual pays a premium and is compensated in the event of a loss. A rational person who is neutral to risk contracts insurance coverage at an actuarially fair price. However, in practice decisions are not taken rationally and can be skewed or manipulated. For example, people may distort perceptions regarding the extent of the consequences or the probability of the risks they face, or may not have knowledge about the value of the benefits or the costs of insurance (Johnson et al., 1993). Studies show (Zavadil, 2015; Tselentis et al., 2017) that there is a relationship between contracting insurance with better coverage and a higher frequency of accidents or major damage, showing that people contract insurance coverage without adequate information and can be based on perceptions of risk, which are often misguided.

In everyday situations, people have to make decisions without always having all the relevant information needed to maximize expected results. Under conditions of insufficient information people determine choices using arguments that are not necessarily in accordance with theory or economic models. In the case of purchasing a product without a extended warrantie, one could emphasize the reputation of the manufacturer's brand ("*A good manufacturer means a guarantee is not necessary*") or would prefer to feel completely safe ("*I sleep better at night knowing that I have a guarantee*"). Therefore, decision process not necessarily are not in accordance with cost-benefit principles or classic economic models (Hogarth & Kunreuther, 1995).

Decision-makers face high costs to meet the real probabilities of events, and the rarer the event the harder is its perception. When making decisions regarding risk protection, people tend to simplify their options to "yes" or "no" instead of analyzing the variety of probabilities. Normally, before a disaster or accident happens, small risks are seen as close to zero for decision-makers, "*This will not happen to me*." However, after a disaster risk is seen as almost 1, "*This will happen to me.*" Thus, the risk does not change—it is the perception of people that changes (Kunreuther, 2001). The cost of accessing and processing information can affect attitudes towards insurance (Kunreuther & Pauly, 2004). Therefore, people with the perception that their assets are at greater risk tend to have more positive attitudes towards insurance, emerging H5:

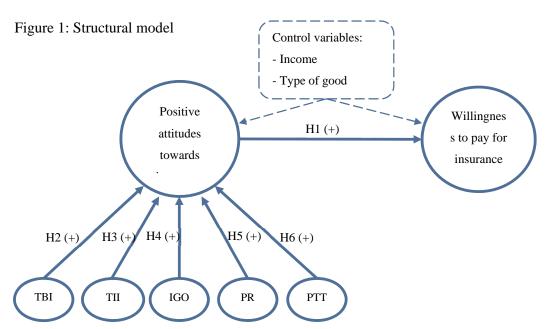**H5: The perception of risk in relation to an asset positively impacts attitudes towards insurance.**

Personal concern with finances

In predictive behavioral theories relating to scenarios of risk, it is assumed that individuals with a high degree of concern about risk tend to use more data at their disposal to analyze risks, because they delve deeper into the problem before taking a decision. This makes it easier to predict the behavior of people with higher levels of concern in different conditions and situations involving risk (Schade & Kunreuther, 1999).

Concern is an important characteristic of psychopathological disorders that is based on anxiety. When viewed in the context of psychopathology, it is seen as an unwanted, uncontrollable, cognitively aversive activity associated with negative thoughts and some sense of emotional discomfort. However, in other contexts, concern can be seen as a practical, constructive, and suitable process that contributes to solving problems and reducing anxiety (Davey et al., 1996). An increased level of concern leads to the prioritizing of actions to reduce risk (Baron et al., 2000). Therefore, people with higher levels of concern tend to use risk reduction methods more frequently, seeking to mitigate the probability of possible damage or loss. As insurance is a method to reduce financial risk, more positive attitudes towards insurance can be influenced by the individual's level of concern about their financial issues. Therefore:

H6: Personal concern with finances positively impacts attitudes towards insurance.

The hypotheses developed here are illustrated in the theoretical model, shown in Figure 1.

Figure 1: Structural model

Caption: TBI = trust in the brand of the insurer; TII = trust in (honesty of) the industry; IGO = importance of good to the owner; PRG = perception of risk in relation to the good/asset; PCF = personal concern with finances. Note 1: The control variable "type of good" was divided into two groups: (A) car or home; (B) other good. Note 2: Indicators were omitted to make the model clearer.

3.   METHOD

For data collection, an online survey was sent to 363 respondents in July-August 2016. A total of 223 complete responses (a response rate of 61%) was obtained. The sampling was non-probabilistic, made up of respondents aged over 24 years old with a minimum family income of US$ 700 (classes A, B, and, C by so-called "Brazil criteria," a social class segmentation that is common in Brazil). The survey consisted of a brief explanation of the research and its motives. The first question determined the asset that would be the focus of the following questions, a type of filtering to ensure that the respondents had at least one item (means of transport, house or apartment, or an electronic device). The asset determined by each respondent was then the focus of research. In the development of the questionnaire, we performed a pre-test with 18 professionals from the insurance industry in Brazil and respondents from the population, to adapt the scales to the Brazilian market, to validate the wording of each question, as well as to measure the total time required to finish the questionnaire. Eight questionnaires were discarded as they contained inconsistent responses, resulting in a final sample of 215 responses. The filter question was about the object of insurance and if the respondent had any means of transport, house or apartment, or an electronic device. All other questions relating to the scales were answered based on the object of insurance. The scales are presented in Table 1.

TABLE 1: Scales of constructs.

Scale	Description	Source
Fair price perception	A base value determined by the lowest possible average payout for each goods category was suggested. Respondent were asked what they thought of the price using a semantic differential scale: *"It is not a fair price"; "It is a fair price"; "It is very expensive"; "It is very cheap."*	Voss et al. (1998)
Willingness to pay for insurance	Respondents were answered whether they thought they were getting a good deal to pay the same base value, as measured by a 7-point Likert scale ("*strongly disagree*" to "*strongly agree*").	
Positive attitudes towards insurance	7-point semantic differential scale. This measures the attitudes of a person in relation to different products and brands, analyzing the perception of the hedonic and functional values of a product. Here, we only used functional values.	Voss et al. (2003)
Trust in the brand of the insurer	7-point Likert scale. Only four items related to brand trust were considered.	Chaudhuri & Holbrook (2001)
Trust in (honesty of) the insurance industry	7-point Likert scale with four items (for the dimensions of honesty and general integrity). It measured the perception of an individual in relation to ethical standards prevailing in the industry (the code of ethics of the American Marketing Association served as a guide for the conceptualization and creation of items).	Vitell et al. (1993)
Importance of good/asset to the owner	Personal Involvement Inventory (PII), a 7-point semantic differential scale, aimed to measure the degree of involvement that an individual has with a particular object/asset.	Lord et al. (1994)
Perception of risk in relation to good/asset	7-point Likert scale with five items, measuring the degree to which a person perceives the risk of using a service. It was measured the perception of risk in not acquiring the insurance.	Thelen et al. (2011)
Personal concern with finances	The Worry Domains Questionnaire (WDQ) is a tool to study the level of concern of people in six areas: relationships, lack of confidence, aimless future, work, and financial issues. We used the domains relate to financial issues, with 7-point items ranging from 0 = "*nothing*" to 4 = "*extremely.*"	Tallis et al. (1992)

Confirmatory factor analysis was performed to evaluate the constructs convergent validity, discriminant validity, and reliability. The structural model was estimated through partial least squares path modeling (PLS-SEM). This research has used the tool named SmartPLS 3. The choice of this method was justified by the possibility of predicting and explaining the variance of a target construct by the relation of other exogenous latent variables. In addition, it is possible to test the relationship between latent variables without the assumption of multivariate normality (Hair et.al., 2012). For this model, which has five predictor variables, to obtain an average effect size ($f^2 = 0.15$), the sample of 215 cases resulted in statistical power of 0.99 (Hair et.al., 2013). All indicators were assigned to their constructs as reflective indicators, assuming constructs were correlated.

4. RESULTS

The final sample was composed as follows: 62% female, 73% with at least a college education, average age of 34 years (minimum: 25 years; maximum: 64), 7% with monthly income less than US$700, 43% between US$700 and US$1,500, 33% between US$1,500 and US$3,000, and 17% above US$3,000. A total of 47% said they have insurance and 64% said they have had insurance at some point. In terms of the object, 37% answered for the criterion house, 42% for cars, 4% for motorcycles, 11% for cell phones, 0.5% for tablets, and 4% for computers.

All constructs showed high internal consistency with Cronbach's alpha and composite reliability values above 0.8. We used the following criteria for convergent validity: (i) assessment of the factor loadings of each latent variable (all were above 0.76); (ii) standardized factor loadings of each indicator (there was no need to withdraw any item because all indicators presented factor loadings above 0.59); (iii) average variance extracted (AVE), which shows, on average, how much of the indicators' variance can be explained by the construct (all constructs had AVEs above 0.5). Discriminant validity was also deemed appropriate and followed two criteria: (i) for the cross-loading matrix, each indicator presented a higher loading factor for their associated construct than for other constructs; (ii) Fornell-Larcker criterion: in Table 2 it can be observed that the diagonal values (square root of the AVE) are greater than the off-diagonal values (correlations for the constructs). To evaluate multicollinearity, we used variance inflation factor (VIF) criterion (less than 5 for all indicators). The low correlations among the constructs also suggests no multicollinearity in the model (Kock & Lynn, 2012).

Table 2: Correlation matrix for the constructs

Constructs	ATI	TII	TBI	IGO	PCF	PRG	WPI
ATI	**0.881**						
TII	0.305	**0.842**					
TBI	0.385	0.337	**0.915**				
IGO	0.216	0.117	0.207	**0.818**			
PCF	0.404	0.019	0.238	0.257	**0.768**		
PRG	0.356	0.179	0.460	0.119	0.124	**0.872**	
WPI	0.272	0.259	0.214	0.086	0.095	0.232	**0.859**
Average Variance Extracted (AVE)	0.777	0.709	0.838	0.669	0.589	0.760	0.737
Composite reliability	0.945	0.907	0.954	0.910	0.876	0.940	0.893
Cronbach's alpha	0.927	0.862	0.936	0.875	0.827	0.921	0.840
Mean	5.4	4.2	5.4	6.3	5.3	4.8	4.2
Standard deviation	1.58	1.54	1.48	1.32	1.72	1.97	1.96
Coefficient of variation	29%	37%	27%	21%	33%	41%	47%

Caption: (ATI = attitudes towards insurance; TII = trust in (honest of) the industry; TBI = trust in the brand of the insurer; IGO = importance of good/asset to the owner; PCF = personal concern with finances; PRG = perception of risk in relation to good/asset; WPI = willingness to pay for insurance.

Note 1: The diagonal matrix values are AVE square roots, and these values are larger than the off-diagonal values (correlations), indicating that no discriminant validity for the constructs.

Evaluating the structural model

Besides the six hypotheses, we included control variables in the model, which was analyzed in stages: (i) only the effect of the control variables; (ii) without the control variables; and (iii) the complete model with control variables. In the first model, two control variables were tested and their effects on "attitudes towards insurance" (ATI) and "willingness to pay for insurance" (WPI) were analyzed. The control variables were:

(i) Type of good: car and housing have higher ratio of price of asset / price of insurance, when compared motorcycle, bicycle or electronic devices. There is also a greater perception of risk in car and housing since they are at greater risk of damage or theft. This explains why insurance for cars, houses/apartments represent more than 75% of all insurance for damage to individual assets in Brazil (Superintendência de Seguros Privados, 2014);

(ii) Income: in Brazil, there is a great variation between different social classes, and it is also assumed that income influences consumer behavior toward insurance.

From Table 3, only "car and house ownership" had a significant effect on ATI (0.207; p <0.01) and WPI (0.405; p <0.01), but observing model 2 (no variable control) and model 3 (full model with control variable) for the two latent variables (ATI and WPI), "car and house ownership" has a small effect on the variance of ATI (QR^2 <0.01), with model 3 presenting no significant effect on ATI (0.020; p> 0.76). However, for WPI, the control variable "car and house ownership" had a QR^2 > 0.11 when comparing models 2 and 3, a significant effect (0.369; p<0.01). Model 3 was used to analyze the results of the hypotheses' testing.

Hypotheses H1, H3, H5 and H6 were confirmed, but H2 and H4 were not. Structural model 2 shows a relationship between positive attitudes towards insurance - ATI and willingness to pay for insurance - WPI without the effect of the control car and house ownership". It can therefore be concluded that ATI help explain the variance of WPI (0.327; p <0.01), but its effect alone on WPI can be considered low (R^2 = 10.7%). However, model 3 shows that ATI controlled by "car and house ownership" has a considerable effect on the variance of WPI (R^2 = 22.7%).

Table 3: Standardized regression coefficients of the structural models

	Structural models	Structural coefficient	2.5%	Average	97.5%	standard error	T-Value	P-Value	R²
1	Car or home -> WPI	0.405	0.284	0.408	0.520	0.060	6.754	0.000	18.7% (1)
	Income -> WPI	0.107	-0.011	0.109	0.225	0.060	1.792	0.073	
	Car or home -> ATI	0.207	0.076	0.213	0.350	0.070	2.958	0.003	4.5% (1)
	Income -> ATI	-0.077	-0.229	-0.079	0.075	0.077	0.998	0.318	
2	ATI -> WPI (H1)	0.327	0.209	0.339	0.466	0.065	4.996	0.000	10.7%
	TBI -> ATI (H2)	0.128	-0.020	0.123	0.261	0.073	1.756	0.079	
	TII -> ATI (H3)	0.214	0.103	0.216	0.329	0.057	3.720	0.000	
	IGO -> ATI (H4)	0.061	-0.035	0.068	0.178	0.055	1.111	0.267	33.5%
	PRG -> ATI (H5)	0.213	0.101	0.219	0.343	0.062	3.417	0.001	
	PTT -> ATI (H6)	0.326	0.208	0.328	0.441	0.059	5.501	0.000	
3	ATI -> WPI (H1)	0.238	0.112	0.244	0.374	0.068	3.493	0.000	22.7%
	Car or home -> WPI	0.369	0.238	0.370	0.487	0.064	5.753	0.000	
	TBI -> ATI (H2)	0.127	-0.023	0.123	0.264	0.074	1.723	0.085	
	TII -> ATI (H3)	0.211	0.104	0.213	0.322	0.055	3.813	0.000	
	IGO -> ATI (H4)	0.058	-0.037	0.066	0.184	0.056	1.040	0.298	33.6%
	PRG -> ATI (H5)	0.209	0.094	0.216	0.343	0.064	3.263	0.001	
	PTT -> ATI (H6)	0.326	0.214	0.328	0.440	0.058	5.616	0.000	
	Car or home -> ATI	0.020	-0.115	0.016	0.142	0.066	0.296	0.767	

ATI = attitudes towards insurance; TII = trust in (honesty of) the industry; TBI = Trust in the brand of the insurer; IGO = importance of good/asset to the owner; PCF = personal concern with finances; PRG = Perception of risk in relation to good/asset; WPI = Willingness to pay for insurance; **Note 1:** The R² value for WPI was 17.6% and 3.9% for ATI when only the control variable "car and home ownership" in model 1 was retained; **Note 2**: The significance was estimated by bootstrapping with N = 215 cases and 5,000 repetitions.

Multi-group analysis

According to structural model 3 (Table 3), the independent variables TII, PRG, and PTT positively influenced ATI in general, but through a multi-group analysis we observe whether this positive attitude also occurs for people who never had an insurance. The same analysis can be done for WPI. The moderation of insurance ownership shows how the independent variables impact ATI for those who currently own an insurance or for those who had owned it in the past. Each respondent was asked to answer whether they currently had insurance or had contracted insurance in the past for a particular asset. The model was estimated separately for two groups: (i) individuals who own an insurance or have owned it in the past— 64% of the sample; and (ii) individuals who had never taken out insurance - 36% of the sample. To evaluate whether the measurement model is invariant, measurement invariance of composite models (MICOM), a three-step procedure, is suggested to: (1) guarantee invariance in the configuration of the model across groups; (2) establish invariance in the composite model for the two groups; (3) assess whether there is equality for mean values and mean variance for the groups. At this stage, it appears that the standardized coefficients of the structural models are comparable across groups, so it is possible to aggregate data from the two groups in a single model (Henseler, 2012).

Step 1 was confirmed, as the same questionnaires were randomly distributed to all participants and, therefore, have identical indicators, the same data processing, and the same algorithmic configuration. To analysis steps 2 and 3 of the MICOM, a permutation test for multi-group analysis using SmartPLS 3 was done (table 4) (Henseler, 2015; Ringle et. al., 2015).

Table 4 – Permutation test – MGA

Stage 2				
Construct	Correlation Permutation Mean	5,0%		Invariance in the composition of the model?
WPI	0,97	0,92		Yes
ATI	1,00	1,00		Yes
TBI	1,00	1,00		Yes
TII	0,99	0,97		Yes
IGO	0,96	0,85		No
PRG	1,00	0,99		Yes
PCF	0,99	0,96		Yes
Car or home	1,00	1,00		Yes
Stage 3.a				
	Mean - Permutation Mean Difference	2,5%	97,5%	Equal average values?
WPI	0,00	-0,28	0,28	Yes
ATI	0,00	-0,28	0,27	Yes
TBI	0,00	-0,27	0,28	Yes
TII	0,00	-0,28	0,28	Yes
IGO	0,00	-0,26	0,27	Yes
PRG	0,00	-0,26	0,27	Yes
PCF	0,00	-0,26	0,28	Yes
Car or home	0,00	-0,26	0,28	Yes
Stage 3.b				
	Variance - Permutation Mean Difference	2,5%	97,5%	Equal variances?
WPI*	0,01	-0,31	0,33	Yes
ATI*	0,02	-0,49	0,54	Yes
TBI	0,02	-0,42	0,45	Yes
TII*	0,01	-0,38	0,41	Yes
IGO	0,03	-0,75	0,91	Yes
PRG*	0,00	-0,31	0,33	Yes
PCF*	0,01	-0,45	0,49	Yes
Car or home*	0,01	-0,37	0,43	Yes

ATI = attitudes towards insurance; TII = trust in (honesty of) the industry; TBI = Trust in the brand of the insurer; IGO = importance of good/asset to the owner; PCF = personal concern with finances; PRG = Perception of risk in relation to good/asset; WPI = Willingness to pay for insurance;
Note 1: The permutation test was estimated by bootstrapping with N = 215 cases (people who has owned insurance = 137 cases e who have never taken out insurance = 78 cases) e 5,000 repetitions in the SmartPLS 3,
Note 2: * p-value < 0,05

In the multi-group analysis the PLS-MGA approach was used (Table 5), since it does not assume that the distribution of data has to be normal and, therefore, it is more appropriate to apply to a structural model (Henseler, 2012). Multi-group analysis shows that there is no significant difference in the model for those who own or had owned insurance and those who never had insurance (p-value > 0.05). This result suggests that ATI and a WPI do not differ for those who own/owned or never had owned insurance. When analyzing respondents willing to pay for insurance but never contracted it, other factors can affect ATI and WPI and therefore deserve further study: (i) how sensitive consumers are to insurance´s price; (ii) how consumers prioritize their spending to reduce risk through insurance.

Table 5 - PLS – MGA

	Path Coefficients-diff	**p-Value**
ATI -> WPI*	0,069	0,676
Car or home -> WPI*	0,083	0,736
TBI -> ATI	0,006	0,508
TII -> ATI *	0,017	0,450
IGO -> ATI	0,036	0,618
PRG -> ATI *	0,096	0,225
PCF -> ATI *	0,074	0,281
Car or home -> ATI*	0,046	0,375

ATI = attitudes towards insurance; TII = trust in (honesty of) the industry; TBI = Trust in the brand of the insurer; IGO = importance of good/asset to the owner; PCF = personal concern with finances; PRG = Perception of risk in relation to good/asset; WPI = Willingness to pay for insurance;
Note 1: Significance was estimated by bootstrapping with N = 215 cases (people who has owned insurance = 137 cases e who have never taken out insurance = 78 cases) e 5,000 repetitions in the SmartPLS 3,
Note 2: * p-value < 0,05

We analyzed the impact of the relative importance and performance of each predictor variable on ATI and WPI (Völckner et al., 2010). This assessment provides a map of priorities that can be adopted by market professionals, public policymakers, and scholars, as it can identify individuals' perception in relation to the variables, as well as the relevance of each variable in explaining the target construct. In Table 6 it is possible to see that PCF has achieved a relatively high performance (73.14) compared to ATI. It is also the variable with the greatest impact on ATI (0.33). This result suggests that people in the sample have a relatively high personal concern with finances, which can help improve ATI. This result supports the idea that the greater the concern that individuals have, the greater their desire to reduce risks (Baron et al., 2000; Schade & Kunreuther, 1999; Sjöberg, 1998). TII (trust in honesty of the industry) and PRG (perception of risk in relation to the good/asset), which have a performance of (52.04) and (63.69) and a total effect of (0.21) and (0.21), respectively, are also able to positively impact ATI. So respondents can feel insecure in future financial issues and this positively impacts the insurance industry (Kunreuther, 2001; Kunreuther & Pauly, 2004). Thus, the industry`s agent could, for example, prioritize communication about the benefits that insurance brings in relation to financial instability due to accident or injury. Similar actions also apply to people's concerns in relation to the risk they perceive for themselves and their assets. In addition to market agents, policymakers could comprehend impacts due to the increase of the number of consumers in this industry and a reduction in financial fluctuations arising from severe material losses (Medders et al., 2014). As for trust in the insurance market, agents of this industry should focus more on minimizing the perception of people that it is poorly regulated and that contracts are not properly fulfilled, as this issue proved to be relevant in more positive attitudes towards insurance (Meyr & Tennyson, 2015; Asmat & Tennyson, 2014; Mechanic, 1998; Karl & Wells, 2016).
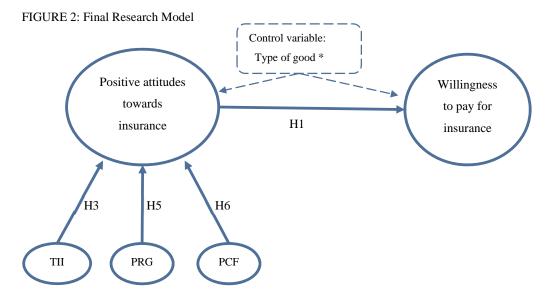
Table 6: Importance-performance map

Construct	ATI		WPI	
	Importance (total effect)	Performance	Importance (total effect)	Performance
ATI *			0.24	74.27
TII *	0.21	52.04	0.05	52.04
TBI	0.13	73.27	0.03	73.27
Car or home *	0.02	79.07	0.37	79.07
IGO	0.06	88.15	0.01	88.15
PCF *	0.33	73.14	0.08	73.14
PRG *	0.21	63.69	0.05	63.69

Caption: ATI = attitudes towards insurance; TII = trust in the industry; TBI = trust in the brand of the insurer; IGO = the importance of the good to the owner; PCF = personal concern with finances; PRG = perception of risk in relation to good; WPI = willingness to pay for insurance.   **Note 1:** * P-value <0.05

The importance-performance map (Table 6) demonstrates how car or house ownership (control variable) has a large impact on WPI (0.37). ATI also have a considerable impact on WPI (0.24), confirming that positive attitudes can generate a greater willingness to pay for insurance (Huang et al., 2004; Beck & Ajzen, 1991). The map also shows that the performance of the sample is relatively high (74.27), which may mean that there is already an awareness in relation to paying for insurance to reduce risk, but there are still other variables in explaining the variance of WPI. The final structural model after the hypotheses testing is shown in Figure 2.

FIGURE 2: Final Research Model

TII = trust in (honesty of) the industry; PRG = perception of risk in relation to the good/asset; PCF = personal concern with finances.

5. FINAL REMARKS

This study investigated the antecedents of positive attitudes towards insurance and their consequences, based on the critique of normative theories of decision-making in relation to risk (Kahneman & Tversky, 1979; 1984; Thaler, 1980; Grapentine & Weaver, 2009). Our structural model demonstrates that respondents in the sample make use of certain heuristic processes (Grapentine & Weaver, 2009; Thaler & Sunstein, 2008; Huang et al., 2004; Kahnemann & Tversky, 1974) and can be guided by different perceptions, behaviors, feelings, and cognitive biases (Harrison & Ng 2016; Heaton, 2002; Loewenstein et al., 2001; Samuelson & Zeckhauser, 1988; Kahneman & Tversky, 1984) in taking action towards risk reduction (in the specific case of this research, ATI and WPI). ATI can be affected by different heuristic processes and cognitive biases, such as: (i) trust in the industry (Karl & Wells, 2016; Meyr & Tennyson, 2015; Asmat & Tennyson, 2014; Schneider, 2004 Mechanic, 1998); (ii) perception of risk in relation to the good/asset (Zavadil, 2015; Kunreuther & Pauly, 2004; Kunreuther, 2001; Hogarth & Kunreuther, 1995; Johnson et al., 1993; Arrow, 1982); and (iii) personal concern with finances (Baron et al., 2000; Schade & Kunreuther, 1999; Sjöberg, 1998; Davey et al., 1996). Such ATI helps explain WPI, and this explanation is especially relevant in cases where individuals have a car or house.

There is a positive relationship between the exogenous variables "trust in the industry," " perception of risk in relation to good," and "personal concern with finances" with ATI. In this scenario, the study suggests that respondents in the sample i) have a relatively high degree of trust in this industry (performance = 52.04), ii) understand that their assets/goods are at considerable risk (performance = 63.69), and iii) tend to be aware of financial issues (performance = 73.14).

The study confirms the theory that trust in the insurance industry is an important issue for people to believe that insurance is a good solution in reducing one's risks. A lack of trust can be given for a number of reasons, such as: (i) complex and difficult to understand contracts; (ii) a lack of regulation; and (iii) the difficulty of comparability (Meyr & Tennyson, 2015; Asmat & Tennyson, 2014; Mechanic, 1998). These conditions can affect the development of this market as there is a direct relationship with attitudes towards insurance, and it is therefore important that insurance industry agents take measures to reduce these perceptions. This result could also be assessed by managers of public policies in order to understand the reasons for such distrust, as well as considering that industry regulation would be improved (Meyr & Tennyson, 2015). Moreover, this work demonstrates that a higher perception of risk in relation to a good also has a significant effect on positive attitudes towards insurance (Zavadil, 2015; Kunreuther & Pauly, 2004; Kunreuther, 2001; Johnson et al., 1993), strengthening literature on this topic and showing that insurance tends to be one considered option in an attempt to reduce risk. Results also indicates that people show high levels of concern with their own finances and tend to look for actions that help reduce the chances of being affected by changes to their financial situation (Baron et al., 2000; Schade & Kunreuther, 1999). This represents a good opportunity for the insurance industry as an insurance contract has the function of preventing losses that generate such financial fluctuations.

Another point relates to there being no significant influence of income on attitudes towards insurance or the willingness to pay for insurance. Although Brazil's economic growth and income increases are regarded as two of the main factors influencing the development of this market in recent years (KPMG, 2014). That is, it is assumed that other issues connected to heuristic processes and cognitive biases are more relevant in explaining people's connection to insurance, which does not support the hypothesis that income tends to control the relationship of these variables. One suggested line of study from this result is to evaluate whether increases in income can change people's perception of risk or generate a greater concern with finances over time. Speculation here is that the more things an individual has, the greater their perception of risk or concern with maintaining a standard of living will be (KPMG, 2014). Thus, increases in income could have an indirect impact on attitudes towards insurance.

Results suggest that type of asset/good respondents have does not significantly influence attitudes towards insurance. However, when it comes to the willingness to pay for insurance, the fact that a person owns a car or a house has a relevant impact. Positive attitudes towards insurance influences a greater willingness to pay for it (Huang & Hsun 2004; Ajzen & Fishbein, 2000; Beck & Ajzen, 1991), but such relationship is strengthened when the respondent owns a car, a house, or an apartment. For the insurance industry in Brazil this fact becomes important because insurance for cars and houses comprise the majority of sales volume when considering insurance for damage to personal property (CNSeg, 2014). Results also suggests that both positive attitudes towards insurance and a willingness to pay for it are independent from a person having had or owning insurance. That is, the behavior raised by predecessor variables TII, PCF, and PRG, controlled by the variable "own a car/house," can positively impact attitudes towards insurance for people who have already owned insurance as well as for those who had never had it. The same happens for the variable ATI controlled by "own a car/house" in relation to the willingness to pay for insurance. The fact that there are individuals who have willingness to pay for insurance but never contracted it implies that additional factors are having a significant impact, which can be further studied.

Management implications

Our research addressed points that allow insights for insurance brokers that can lead to more effective communication with customers and society. The efficient use of insurance can decrease any future financial problems, thus helping people reduce their concerns about financial issues, given unwanted changes (Baron et al., 2000; Schade & Kunreuther, 1999; Zavadil, 2015; Kunreuther & Pauly, 2004; Kunreuther, 2001; Johnson et al., 1993). Also, we may observe need for action by industry agents to reduce mistrust from Brazilian society, which can be generated by (a) improper and unethical sales that lead to questions from clients, (b) sales with high commission rates, (c) the difficulty of firm to ensure that customers understand the contracts and see value in the products they buy, because these misgivings also impact the development of the market (Meyr & Tennyson, 2015; KPMG, 2014; Mechanic et al., 1999). In a more insured society, citizens are better able to fulfill liabilities of any damage to third parties and have more predictability in relation to variations in wealth when accidents occur, generating fewer costs for the State and helping economic development (Outreville, 1990; Medders et al., 2014). Therefore, better understanding the behavior of people in relation to risk can help in public policies and encourage the prevention of accidents and insurance contracts.

Limitations and future research

In the questioning of the importance that respondents give to their own goods in the current study, there was no comparison between goods. When analyzing Table 1, it is possible to see that the response average for the importance of the good for each person was 6.3, with a variation coefficient of only 21% (on a scale from 1 to 7)—that is, a high overall score with low variation. Thus, it is possible to speculate that, for a person, a good is always considered important, and the effective degree of importance can only be assessed in comparison with other goods. Further studies could use other ways to measure the degree of importance that a good may have for someone. With the results observed in this study, other studies could address: (i) reasons why individuals do not have insurance and whether they have positive attitudes towards insurance; (ii) how trust in the brand of an insurer affects the willingness to pay for insurance; (iii) factors that increase the perception of risk and, consequently, attitudes towards insurance; (iv) how individuals prioritize spending to reduce risks through insurance; (v) the price elasticity of insurance when deciding upon coverage, especially for people who already have positive attitudes towards insurance; (vi) the behavior of low-income individuals in relation to insurance, specially in emerging markets like Brazil.

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