CONVINCING NON-SPECIALISTS TO CANCEL THEIR SMALL ITEM INSURANCE

Master Thesis: Behavioral Economics

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1. Introduction

The question of consumer rationality has become one of increasing importance in economics, with research from academics Dan Ariely and Richard Thaler offering accessible insights into human behavior, for example through the books *Predictably Irrational* (Ariely, 2008) and *Nudge* (Thaler & Sunstein, 2008).

Insurance purchases are of particular interest. There has been a rule of thumb that if you cannot afford to replace an item in case of loss, then, and only then, insurance should be purchased. For many items, such as a home or health, insurance then is called for. In some instances, for example car, the purchase of insurance (or at least third-party insurance) is required by law. However, in recent years the increase in popularity of items like smartphones and portable computers has also seen a rise in insurances for small items. Often small items fail the rule of thumb test mentioned above, and consumers have the means to replace them in case of loss. Still, however, they insure them which can be viewed as economically irrational behavior. As a result, this research aims to convince consumers to cancel insurances of small items (assuming they indeed can afford to replace the item in case of loss) and implements this through six one-on-one interviews. The interviews were designed as an iterative process, i.e. the results from one interview lead to an improved design for subsequent interviews. In this way, arguments against the insurance purchase could be developed and tested to see if they were effective.

The structure of the interviews used a methodology from clinical psychology, an unusual step for an economic paper. However, the process of Motivational Interviewing, which addresses ambivalence towards change, has relevance for this research. Interviews were conducted with clients who had purchased insurance for their smartphones. They were paying between €9.99-€15.99 per month, and raised multiple arguments in favor of the purchase.

For this research, the researcher will refer to herself as the consultant and to those she interviews as her clients. This terminology, common in decision analysis, attempts to bridge the gap between academics and consumers, and also reflects the intention to improve the consumer's welfare.

The rest of the paper is structured as follows. Section 2 discusses the relevant literature for background, section 3 provides the methodology used and interview design, section 4 explains the results from the interviews, and section 5 discusses the results and their limitations while section 6 concludes the paper.

2. Literature Review

2.1 Decision Theory

In decision theory, a distinction is made between normative and descriptive decision theories. Normative theory describes how decisions ought to be made whereas descriptive theories detail how decisions are made in reality (Hansson, 2005). In this paper, the difference between the normative and descriptive theories will be analyzed, with a particular focus on the gap between the two, focusing on the counter arguments that non-specialists evoke to defend their insurance purchase. Of relevance here is the prescriptive approach. For the prescriptive model, the aim is to "meet design specifications (normative goals), based on descriptive constraints of human judgmental abilities" (Keller, 1989), i.e. to bring decisions closer to the normative model but acknowledging that the normative model cannot be obtained. Prescriptive approaches are known for a "pragmatic value, that is, by their ability to help people make better decisions" (Bell, Raiffa, & Tversky, 1988, p. 18).

In decision under uncertainty, the expected utility model has long been the leading decision-making model, traced back as a solution to the St. Petersburg paradox (Bernoulli, 1738) (Von Neumann & Morgenstern, 1944). It translates the given outcomes into subjective utility. However, in order to satisfy expected utility an individual must meet three conditions; namely, completeness and transitivity, continuity and independence.

With regard to insurance purchases, there has been much discussion around deviation from the standard expected utility model. For example, Wakker, Thaler and Tversky (1997) showed that with a probabilistic insurance policy, where there is a chance the claim will not be paid, people want more than a 20% reduction to offset a 1% default risk, findings that are inconsistent with the standard model. This is due to the overweighting by consumers of the risk of the claim not being paid. In the text *Advances in Behavioral Economics* (Camerer, Loewenstein, & Rabin, 2004), it is argued that given such overweighting, decision-weighting models may be best suited to explain consumer's insurance decisions.

2.2 Decision Analysis

A key starting point for designing the interview process was decision analysis, defined as "a systematic procedure for transforming opaque decision problems into transparent decision problems by a sequence of transparent steps" (Howard, 1988, p. 680). Decision analysis involves multiple goals and is seen as prescriptive (Keeney & Raiffa, 1993, p. xi). A decision maker may have to choose between a particular number of options, with each option having multiple attributes. The formalization of the decision-making process is stressed, with decision trees being a popular way to illustrate the various choices.

There are many varied examples of decision analysis being used in practice. In Mexico City, authorities wanted to know the best way to develop airport facilities, both for the location of the airport, the divide of services between any new airports and the current one and the timing of the development (Keeney & Raiffa, 1993, pp. 436-472). Several constraints were present, in particular the high altitude of the city reduced airplane maneuverability in the hot climate as well as high cost involved in expanding the existing airport. Over a three-month period, six objectives were defined and an iterative process looked at the objectives and derived utility functions for each. Sixteen dynamic options were derived, based on the level of commitment both to a new airport site and to the current site. In the end, a phased development of a new airport was deemed the optimal solution, contrary to an earlier report by the same department favoring a strong early commitment to the new airport. The type of consulting done by decision analysis is highly relevant for this study, where a consultant will also try to break down the objectives and barriers to the issue, namely convincing the clients to cancel their small item insurance.

2.3 Dutch Book

Of particular relevance is the notion of a Dutch book, the concept that a person enters into a trade, or sequence of trades, with another party that leaves him strictly worse off, also referred to as arbitrage. Wakker (2010, p. 26) argues that at the individual level, being Dutch-booked constitutes irrationality. The Dutch book argument is similar to the three fruits argument (Cubitt & Sugden, 2001): Imagine a person with intransitive preference, such that she prefers a pear to an apple, an apple to a banana and a banana to a pear. Traditional arguments say that the aforementioned person would be exploited in the market as a 'money pump' to the point of bankruptcy. However, there are several arguments against this. Kahneman, Knetsch and Thaler (1991) offer a thoughtful counter with the example of insurance. Given that people face many small risks, money pumpers may be tempted to create one large insurance policy to cover all the risks at a high cost. However those who are myopically loss-averse are risk neutral for large bets bundled together. Instead the people would be willing to pay very high insurance premiums for individual policies on a small scale. The authors argue that this is what happens in reality, giving examples of consumers preferring low deductible options or taking extended warranties on household appliances. They conclude by stating “myopic loss averters are subject to many short Dutch chapters in their lives, but not to Dutch books” (p. 228). Indeed, this would apply to the case of insuring small items at a high cost. The aforementioned efficiencies are commonplace and overcoming them presents a challenge that this paper aims to address.

2.4 Law of Large Numbers

The law of large numbers is a theorem stating that an increasing number of observations of a random variable brings the average outcome closer to the expected value. For insurance companies, this principle is applied in terms of the number of people holding a particular policy. The larger the number of policy holders the closer payouts will be to the average, therefore reducing uncertainty for the company. For consumers, it means that having multiple insurance policies covering several items will often result in the consumer paying more than the item is worth over time. As the law of large numbers is a concept that is easier to explain to non-specialists than the Dutch book argument this will be used as one of the core arguments in favor of clients cancelling their insurance policy.

2.5 Moral Hazard & Adverse Selection

The two interlinking topics of moral hazard and adverse selection are often discussed in relation to insurance. Moral hazard arises when the insured takes more of a risk once possessing insurance. Arrow (1963) argues that ideally the likelihood of the event occurring should not be influenced at all by the actions of the insured, in reality factors such as carelessness often contribute to the probability of the insured event occurring. When applying the concept of moral hazard to small item insurances, perhaps many consumers feel that by buying insurance they will not have to be concerned about taking care of the item to the same extent that they would if they did not insure it. Given that such items are used on an everyday basis one anticipated argument is that the effort involved in being careful with their bicycle or smartphone justifies the cost of the insurance.

Adverse selection relates to the information asymmetry between insurers and the insured, where the consumers with a higher risk profile are more likely to purchase insurance to protect against a risk level. This will in turn increase the cost of premiums, potentially deterring consumers with a lower risk profile from purchasing the insurance. Some insurance companies attempt to avoid discouraging customers by offering different deductible amounts, with the option to pay a higher premium in return for a lower deductible in case of a claim. It has been found that those who choose a higher deductible are lower risk customers (Puelz & Snow, 1994). Adverse selection negatively impacts insurance customers by driving up the price of premiums. While varying the deductible cost may reduce the premium rise slightly, the choice still lies with the customer as to which deductible level they prefer, and therefore which premium they pay. It is possible that higher risk customers are still willing to choose insurance plans with high deductibles to benefit from the lower premium cost.

Both moral hazard and adverse selection topics may prove very relevant when conducting the interviews as the consultant should keep in mind that clients may discuss their behavior with insurance.

2.6 Over-insuring

When discussing over-insurance here, there are several empirical studies examining the concept of over-insurance. Sydnor (2010) analyzed the deductible level that consumers chose for their home insurance. In this case the deductible amount was considered as the monetary loss, and looking at 50,000 random insurance policies it was found that consumers were risk averse to the modest risk of having to pay a higher deductible. As a result, they paid five times more in premium cost than the lower deductible was worth.

Kunreuther and Pauly (2006) argue that consumers view insurance purchases as an investment, and reducing the deductible amount maximizes the ‘return’, even though the increased premium cost surpasses saving in the deductible cost many times over. Sydnor (2010) gave several possible explanations for this phenomenon, the main being that people greatly overestimate the risk of the insured event occurring. Pauly (1974) argues that imperfect information, in particular regarding moral hazard and adverse selection mean that consumers are more likely to over-insure, and recommends government intervention through providing firms with information about consumer behavior in order to make optimal decisions. Fels (2015) also points out that mental accounting (discussed in detail below), loss aversion and misunderstanding probabilities leads to several examples of over-insurance, in particular choosing a lower deductible amount and purchasing extra warranties on items.

We can see that the reasons consumers over-insure are many and may be complexly intertwined. One aim of this study is to understand the reasons clients give for their over-insurance, with particular regard to the logic of those who cannot be convinced to cancel small item insurances.

2.7 Insuring small items

There are some empirical studies that claim that people prefer to insure high probability, low cost (HPLC) events over low probability, high cost (LPHC events (Slovic, Fischhoff, Lichtenstein, Corrigan, & Combs, 1977) (Browne, Knoller, & Richter, 2015). Brown, Knoller and Richer (2015) analyzed data from an insurance company and compared the rates of those adding bicycle cover (a HPLC event) and flood cover (a LPHC event) to their home insurance. The confirmed that consumers do prefer to insure HPLC events over PLHC events. However, there have been some examples of consumers underweighting low probability events (Ungemach, Chater, & Stewart, 2009), therefore there is still some debate regarding this point.

Although there is an lack of academic research into small item insurance, there has been much analysis on the popularity of small items with consumers. For example, the main item of focus for this research is smartphone insurance. In Ireland, 86% of Irish consumers have access to a smartphone (Deloitte, 2016, p. 8), rising to 92% for the 25-34-year-old segment (p. 6).

2.8 Two systems of thinking

Acknowledging that decision-making capacity is limited, Kahneman (2003) proposes a two-system way of thinking. This is summarized in the table below. To distinguish when a decision can be categorized as a system 1 or 2 decision the level of effort taken should be analyzed. System 1 decisions occur without much effort and are automatic. The ability to make System 1 decisions is an important one, as our lives consist of many decisions that giving all of them consideration and effort would take up most of our time. It also allows multi-tasking to take place, for example crossing a busy street while holding a conversation. The intuitive judgements of system 1 bring much convenience to our lives. However, the automation of thinking can lead to suboptimal decisions. When presented with the opportunity to purchase insurance, for example, consumers may not conduct a thorough cost-benefit analysis and can be persuaded to purchase a particular insurance by a sales assistant.

	Perception	**Intuition System 1**	**Reasoning System 2**
Process	Fast, parallel, automatic, effortless, associative, slow-learning, emotional		Slow, serial, controlled, effortful, rule-governed, flexible, neutral
Content	Percepts, current stimulation, stimulus-bound	Conceptual representations, past, present and future, can be evoked by language	

Table 1: Three cognitive systems, taken from Kahneman (2003, p.1451)

2.9 Heuristics and Biases

The psychologists Tversky and Kahneman introduced the concept of heuristics and biases in their seminal 1974 paper, (Tversky & Kahneman, 1974). Since then there have been lengthy academic discussions about the biases affecting decision making. Although there are many possible biases and heuristics, the focus here is on those with the most relevance to the topic at hand. One of the most relevant ones is anchoring, where a person uses an initial value as a reference point that influences their decision-making process. For example, when one purchases a new smartphone they may keep the price paid as what the phone is worth, even though smartphones depreciate in value quickly.

Another is the heuristic of representativeness, particularly the insensitivity to prior probability of outcomes. Many people may disregard the base-rate frequency of a probability when they acquire some piece of information. For example, if a close family member or friend have their smartphone stolen, a person may believe that it is more likely that they will also have their smartphone stolen.

The endowment effect (Kahneman, Knetsch, & Thaler, 1991) is when a person values an item higher simply because they own it. For example, one experiment (Lowenstein & Kahneman, 1991) found that when conducting a simple game involving pens and tokens. Half of the participants were given pens and the other half given a token for a gift. After the first step they were offered the choice between a pen and two chocolate bars. 56% of those endowed with a pen at the start of the experiment chose a pen in the final decision, compared to 24% of those endowed with a token. The endowment effect may have an effect on convincing clients to cancel their insurance as even though the arguments are against them continuing with the insurance purchase, the endowment effect may mean that they value their insured item more than the market price.

The status quo bias may also affect consumers of small item insurance. Premium payments are often monthly, deducted by direct debit or other automated payment. As a result, consumers may often not review or consider this payment as it is simply the status quo. As well, the fact that cancelling the insurance may be a process that is frustrated by the insurance company, for example long waiting times to speak to a customer service representative, or completing an onerous amount of paperwork. An implication of the status quo bias for the interviews means clients may simply have a preference for keeping things the way they currently are.

Finally, the phenomenon of loss aversion (Tversky & Kahneman, 1991) is often discussed in relation to behavioral economics and can be used to explain many of the anomalies of decision making in this section. Loss aversion can be defined as "the impact of a difference on a dimension is generally greater when that difference is evaluated as a loss than when the same difference is evaluated as a gain" (p. 1040) . The concept that the relative pain of a loss is larger than gains has wide ranging implications for decision making. Particularly, it can increase the willingness-to-pay of a consumer to avoid a loss, such as the phenomenon of insurance customers to pay relatively more in their premium for a reduction in the deductible cost (Fels, 2015).

2.10 Libertarian Paternalism

Cass Sunstein, who together with Richard Thaler wrote the book *Nudge* in 2008 has since given guidelines on what exactly constitutes a nudge. The main element is that nudges should maintain freedom of choice- many nudges are based on the idea of presenting a default option, however Sunstein maintains that people should have the opportunity to choose whichever option they prefer (Sunstein, 2014). Libertarian paternalism, closely related to soft paternalism, has been defined as "an approach that preserves freedom of choice but that authorizes both private and public institutions to steer people in directions that will promote their welfare” (Thaler & Sunstein, 2003, p. 179). One of the main arguments in favor of libertarian paternalism is that a choice always has to be made- even ignoring any implications of behavioral science is a choice in itself. Therefore, Sunstein and Thaler argue that it is best to make the choice that maximizes welfare those who make errors of judgements, while minimizing costs for rational agents.

In recent years there has been an increased focus on using liberal paternalism by governments using nudging and other behavioral techniques outside of academic settings. Such government intervention has mainly focused on setting up ‘nudge units’ for public policy means, for example the Behavioral Insights team in the UK, the Social and Behavioral Sciences Team (SBST) in the US and many others globally. For example, the Behavioral Insights team, by changing the wording in the letters people received, were able to increase payments of tax debts which, if rolled out nationally, would amount to £160mn in a six-week period. The infamous study proved the worth of applying behavioral insights within public policy. The initiatives are often focused on the population at large, where subjects are anonymous and randomized into a treatment or control group in order to test hypotheses. While the aforementioned approach gives robust results, there has to date been a lack of focus on how to effectively communicate with citizens on a one-to-one level in order to ‘nudge’ them to improve their welfare. This paper aims to develop techniques and test them with non-specialists in order to further develop the aforementioned area.

However, despite the extensive application of libertarian paternalism in recent years, Li, Li and Wakker (2014) argue that there are often situations where preferences do not conform to normative theory yet they are expressed clearly by the consumer. In the non-conforming examples, should decision analysts go against the stated preferences in order to improve decisions? It is a very relevant question, as it may be the case that many clients express a preference for small item insurances, even though it is not in their best interests to purchase them. In such scenarios Li, Li and Wakker (2014) argue that paternalism is sometimes the only option and that respecting expressed preferences is not always possible. The purpose of the research at hand is to find some middle ground between libertarian paternalism (e.g. nudging people to cancel small item insurances) and pure paternalism (banning small item insurances).

2.11 Mental Accounting

The phrase mental accounting was developed by Richard Thaler, defined as “the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities” (Thaler R. , 1999, p. 183). Mental accounting incorporates the framing of gains and losses: building on the value function from Kahneman and Tversky’s (1979) prospect theory. Thaler (1999, p. 184) argues that consumers experience both acquisition (value relative to stated price) and transaction (difference between amount paid and reference price) utility from a purchase. Another element of mental accounting involves the opening and closing of accounts, in particular the idea of converting a ‘paper’ loss to a ‘realized’ loss.

A key aspect of mental accounting is budgeting, i.e. the idea that consumers divide their available resources into different accounts for specific purposes. In applying mental accounting to insurance, Fels (2015, p. 18) argues that the budgeting aspect of mental accounting leads people to believe they could not cover the loss if they didn’t have insurance. The consumer believes that they cannot self-insure as they do not have the money in their mental ‘small item’ account, but if they did not engage in mental accounting budgeting practice they could afford it. This finding is an important consideration for conducting client interviews, as a key criterion for interview is that the client could cover the loss of the item without insurance. However, if their mental ‘account’ for the small item is empty they may tell the consultant they could not afford to replace the item, when in fact they could.

2.12 Ethical Considerations

As the purpose of this paper is to convince clients to change their purchasing behavior, it is imperative to consider the ethical implications of such actions. In particular, some may consider the actions of the interview as manipulation of a client’s choice. Sunstein (2015) argues that simply trying to change behavior does not count as manipulative, but instead defines a manipulative action as “if it attempts to influence people subconsciously or unconsciously, in a way that undermines their capacity for conscious choice” (p. 35) and goes on to argue that many examples of manipulation, for example subliminal advertising, take advantage of people’s System 1 processing. The purpose of the research is not to do anything that may be considered unconscious or weakening conscious choice; in fact the opposite is the case as the consultant wishes to make the insurance decision as salient as possible in order for clients to articulate their reasons in favour of it.

In conclusion, the author here justifies the research as ethically sound because:

- It aims to maximize client welfare; only those who can afford to replace the item without insurance are given the arguments in favor of cancelling it.
- Autonomy is maintained: clients are free to disagree with the consultant and keep their insurance policy.
- Instead of exploiting system 1 thinking the aim here is to bring the insurance to a system 2 frame of mind so that client can consciously consider their decision as well as listening to arguments against the insurance.

2.13 Motivational Interviewing

A study like the research at hand is not typically done by experimental economists, finding an appropriate framework for structuring the interview presented difficulties. However, one-on-one interviews are common practice in psychology, and therefore the author decided to use a well-established and tested methodology from clinical psychology, motivational interviewing (MI). The MI method has limited applications in economics and therefore may not be entirely suited for the type of study being conducted here. However given that the purpose of motivational interviewing is to address ambivalence towards change it may prove very useful for behavioral economists who understand the System 1-System 2 way of thinking leads to suboptimal decisions.

Introduction

MI can be described as “a collaborative conversation style for strengthening a person’s own motivation and commitment to change” (Miller & Rollnick, 2012, p. 12). At the core of MI is addressing the issue of ambivalence towards change. The technique was conceived by American clinical psychologist William Miller, who first used it in the context of alcohol addiction (Miller, 1983) in the 1980s. Miller then begun a collaboration with clinical psychologist Stephen Rollnick and together they released three editions of the book ‘Motivational Interviewing’. By the second edition of the book the focus had shifted to behavior change in general (Miller & Rollnick, 2002).

The Motivational Interviewing Process

There are four stages within the MI process. The first stage, engaging, involves opening the conversation and building an initial relationship with the client. It can take the form of exchanging pleasantries, thanking the client for taking the time to talk or asking some background questions. Miller (2012) acknowledges that engaging is important in many situations beyond MI but that it is particularly important to build a rapport with the client in order to maximize the effectiveness of the following stages. The conversation then moves to focusing, where the exact topic to be discussed is brought up. The aim of this stage is to 'clarify direction' (Miller & Rollnick, 2012, p. 27). The clarification allows the client to understand how the conversation will proceed.

Thirdly, the evoking stage allows the client to articulate their reasons for change. Evoking embeds the change in their intrinsic motivation, as opposed to a suggestion or directive from the specialist. By developing motivation within the client it is hoped that the behavior change will be more effective. This will be the longest stage in in the interviews, as it involves the consultant and client debating certain aspects of the client's insurance. The consultant's aim is to have the client articulate their motivation for purchasing the insurance as clearly as possible. Finally, the planning stage involves working with the client to decide how the change behavior agreed upon, if any, will be implemented. Planning is critical for clinical psychologists in order to ensure that their client follows through with plans discussed. However, for the purposes here it may seem pedantic to go into a lot of detail with the client with regard to how exactly they will cancel their phone insurance. Therefore, the planning stage for the interviews will be kept to a minimum.

As well as the four-stage structure, Miller and Rollnick use a framework which they describe as the 'Spirit of MI', covering the concepts of partnership between specialist and client, evocation of a client's intrinsic motivation, acceptance and compassion. The 'spirit' framework aims to guide specialists to act in the client's best interests as well as steering them away from the traditional 'directing' counselling style popular before the development of motivational interviewing. The 'spirit' guidelines are useful for those seeking to implement MI outside of the clinical psychology sphere as they are more general than the four-step process.

Advantages of Motivational Interviewing

MI has been increasing adopted by psychologists over the past thirty years. As a result there have been many studies carried out to analyze its effectiveness. In a meta-analysis of 119 studies on MI, Lundahl et al. (2010) concluded that "adopting MI is very likely to produce a statistically significant advantage for clients and may do so in less time" (p. 152). They also found that the impact of MI was durable, with research confirming MI effects lasting for two years after intervention and beyond, although the authors did call for further research on long term effects (p. 152).

Given that motivational interviewing may happen over the course of multiple counselling session it is important to look at the effectiveness of short interventions. Another meta-analysis found that 64% of MI engagements of less than 15 minutes had an effect (Rubak, Sandbæk, Lauritzen, & Christensen, 2005). The aforementioned result is encouraging for this study as time with the client is limited.

Criticisms and Limitations of Motivational Interviewing

Given the rapid and widespread adoption of MI since the 1980s, it is unsurprising that there have been criticisms of the methodology. One major criticism is that MI is manipulative in nature (Passmore, 2013) however Miller and Rollnick (2009) maintain that personal autonomy is a key foundation of MI, fitting with the spirit of libertarian paternalism.

Some ethical guidelines for MI have been established, outlining that MI is inappropriate when implementing the process would be harmful or ineffective to the client, clients are uncomfortable with the process, when the interests of client and specialist are different and when coercive power is used (Miller & Rollnick, 2012).

One of the key disadvantages of MI is that time constraints can limit the impact of the methodology. MI was initially developed for use in clinical psychological settings, where specialists meet with clients regularly over a medium to long time frame. However, it has been noted that often specialists do not have the time available for long term intervention, for example a general practitioner would on average have 7-10 minutes with a client (Emmons & Rollnick, 2001). In response to time constraints, several brief adaptations of MI have been created, ranging from 5-30 minutes (Senft, Polen, Freeborn, & Hollis, 1995) (Heather, Rollnick, Bell, & Richmond, 1996) with some success (Rubak, Sandbæk, Lauritzen, & Christensen, 2005).

Applications of Motivational Interviewing

Examples of the application of MI techniques outside of clinical psychological settings are far reaching. In 2000, the technique was used to improve behavior regarding safe water treatment in rural Zambian villages when compared with standard health education initiatives

(Thevos, 2000). Generally, however, the application of MI has been limited to the healthcare field.

Applying Motivational Interviewing to Economics

There are very limited applications of MI in the economic sphere. One study examined the cost effectiveness of telephone motivational interviewing versus print communication, however the desired outcome in the study was to improve health outcomes of participants (van Keulen, et al., 2010). As a result, one aim of the research at hand will be to implement MI and evaluate its suitability for economists in communication with non-specialists and driving motivation for change. While the four-stage process will be used the more general guidelines outlined under the 'Spirit of MI', i.e. partnership, evocation, acceptance and compassion, will also be considered.

In conclusion, the research question of this paper is:

How can we convince non-specialists to cancel their small-item insurance?

Through one-on-one interviews, non-specialists can voice their arguments in favor of purchasing insurance and counter arguments to reasons why they could cancel. Through an iterative process the aim is to compile a list of the counter arguments and explain how economists can best overcome them.

3. Methodology

With the research question, the interview structure was designed to try and convince clients to cancel their small item insurance. In the following section the relevant framework is discussed, as well as the initial interview design.

3.1 Client Selection

Listed below are several criteria to be met by clients in order to be eligible for the interview process.

- The client should hold some form of small item insurance. Popular examples include insuring bicycles, smartphones, tablets or household appliances.
- The client should be paying for the insurance themselves. In some instances a third party, for example an employer, may be paying for the insurance, as an employee benefit for example. In this example it is rational to take the insurance as there is no cost involved.
- The client can afford to replace the item from their savings if they do not hold insurance. There may be some cases where potential clients do not have the cash flow to replace the item if it were lost or damaged, perhaps due to a lack of financial discipline or simply because the item is too expensive. Here it is rational to protect the loss and the clients should not be convinced to cancel the insurance.

Clients were recruited through asking on social media and through the consultant's personal network. As a result, all clients interviewed were from Ireland, the consultant's home country.

3.2 Interview Design

In order to maximize the opportunity for clients to discuss their reasons for purchasing the insurance the interview was semi-structured. The consultant allowed the clients to articulate their thoughts and, based on the arguments brought up, certain counter arguments will be brought up.

It is very important that the client does not feel criticized or pressurized into agreeing with the consultant. Some clients may feel criticism more easily than others, and it is important that the consultant recognizes any discomfort during the interview. Some strategies to overcome this include:

- Building a rapport with the client so that they feel they can speak freely and without judgement. Establishing a relationship is also emphasized as an important part of the Motivational Interviewing process. In the interview pre-screening stage, the consultant asks several questions that have no direct relevance to the research but are used to introduce the topic and ease into the interview.
- Reminding the client that what they say is anonymous and that there are no right or wrong answers, even though the consultant has a definite purpose in mind, and the consultant's main focus is listening to what they have to say.
- Telling the client they can stop the interview at any time if they wish.

The consultant should also note that many clients may have a different expectation of what will happen during the interview. If they have participated in academic research before they may have completed a survey, played a game or given their opinions on a topic. Knowing that participating in the interview is in pursuance of completing a Master's thesis, they may expect something similar but the interview here is different from those research methods.

The first stage of the interview is a prescreening stage where age and other background questions are asked. As mentioned above, the purpose of the questions is simply to help clients feel comfortable as the interview commences. The two critical questions are:

- *Do you pay for the insurance yourself*? It is important that the client answers yes. If another person, such as an employer as part of a benefits package, pays for the insurance then the client should take the insurance as it is at no cost to them.
- *Could you afford to cover the loss if the item was damaged/stolen and you didn't have insurance?* The answer to this question should also be yes. If not, the interview should terminate. If the client is not in a position to replace the item, then it may be rational to have purchased the insurance.

For the initial interview design the following arguments have been developed.

- Law of large numbers: the most critical argument. The example of the more often a die is rolled the more often the average is closer to 3.5 may be used to explain the concept to clients. In insurance, it means that the longer people have a policy, and the more policies they have, the closer the payments get to the actual value of the item. The aggregate cost of payment multiplies quickly, particularly if multiple small items are insured. If the client is able to cover the cost of the item regardless of having an insurance policy, then it is irrational to continue paying into the policy.

- Cost of insurance over time: a secondary argument. Take the monthly premium and calculate it over the course of two years of payments. The consultant can compare the total premium cost with the cost of the item and discuss with the client if they realize how much the insurance costs in the long term.
- Probability of theft: a secondary argument. If the clients are stressing their fear of theft the consultant can establish if the clients are overestimating the likelihood of damage or theft and discuss with them if they are. With this step it is important that the client does not feel criticized for overestimating the likelihood of theft- focusing on the variation of figures and the difficulty in estimating it will hopefully overcome any discomfort but the initial argument may need to be adjusted in subsequent interviews.
- Education of behavioural biases: an experimental argument. During the first number of interviews the consultant will test the idea of trying to educate the clients about the biases that can affect decision making. The consultant initially chose the phenomenon of insensitivity to the prior probability of outcomes to communicate to clients, giving the example of the entrepreneur that is convinced that his business will succeed, despite the fact that statistics show that most new ventures fail. The consultant brings an example to the participant and discusses how he or she may feel that they are more likely to experience theft or damage to their phone which they feel justifies the insurance purchases. However, the education about behavioral biases should be removed from the structure if it confuses clients or has no effect.

The interview design was adjusted as the interviews take place and counter arguments need to be included. Iteration is a central aim to this research, i.e. to understand how clients justify their insurance purchase, developing arguments countering the justifications and assessing whether a client can be convinced to cancel their insurance.

The arguments developed in subsequent interviews are discussed in section 4 of the paper.

4. Results of Interviews

In this section the results of the six interviews conducted are presented. A summary is presented in Table 2 to give an overview of what was brought up and is presented in detail in section 4.1.

Argument in favor of insurance	**Clients who brought it up**	**Most successful counter arguments**
A: It provides me with peace of mind/I'm afraid of the item being stolen or damaged	All	H: Law of large numbers
B: My smartphone is an expensive item	2, 3	H: Law of large numbers, I: Deductible costs
C: I prefer to pay a small amount monthly to protect against the risk of loss	1, 3, 5	K: Opportunity cost
D: I'm afraid of the item being stolen or damaged	2, 3, 4	H: Law of large numbers
E: The sales assistant strongly recommended it at time of purchase	4, 5	L: Argument against impulse purchases
F: Many people have it	3, 5	H: Law of large numbers
G: I can be careless	1, 2, 4	J: Moral hazard/adverse selection

Table 2: Summary of results

4.1 Interview Arguments

A: Peace of mind

By far the most common argument in favor of the insurance was the security it provided to clients. For example, in justifying his insurance Client 1 stated that he has a 'bad track record' with phones, including an incident where he left the phone on the roof of his car and drove away. Client 2 cited her son, for whom she was insuring, as a young, active person 'out and about'.

For many, a smartphone is an item that is in constant use during their day and it brought with them wherever they go. The saliency of the item to clients means that they consider the risk of loss or damage frequently, which reinforces the necessity of the insurance for them.

B: Expensive Item

Even though clients could afford to replace their smartphone if they didn't have insurance they still considered it an expensive item and did not like the prospect of having to replace it. Clients also didn't take into account the depreciation of their device. As new models are released every year the value of smartphones fall quickly. However, even with clients whose smartphones were two years old considered the value of the phone to be what they paid initially. They justified the difference in value by arguing that if they did have to purchase a new phone it would be the updated model, yet the insurance company would replace the model they insured.

C: Prefer to pay small amount over time

Related to point B, many clients felt that even if the insurance premium cost met, or even exceeded, the value of the smartphone they would still prefer to have paid the smaller amount in a monthly premium than the full cost of the smartphone all at once.

D: Perception of risk of loss

Many clients reported that they thought it was very likely that they would claim on their insurance. In particular, they felt that damages like a screen breaking could easily occur accidentally.

E: Role of impulse purchases

After several interviews, it became apparent that purchasing a small item insurance was often an impulse decision made in the retail store with a persuasive sales assistant. Even if clients do not purchase on the spot, they are told that they need to sign up to the insurance policy within 14 days of purchasing the smartphone. A time constraint creates a sense of urgency to purchase the insurance. Sydnor (2010) argues that the role of impulse purchases is a possible reason for insurance of items over the expected value. For example, client 4 said her reasons for buying the insurance was her fear of theft, loss or damage but did admit that the insurance purchase was a last-minute decision at the store.

F: Many people have it

Several clients defended their insurance purchase by saying that many other people have insurance for their smartphone. For client 3, the salesperson in the retail store told her that the majority of people take out insurance on new purchases, however the client herself admitted that she didn't know many others who had insured their smartphone. On the other hand, client six could cite many people she knew who had a similar insurance but over the course of the conversation began to doubt if she really needed it, describing herself as cautious and careful in nature, and therefore less likely to be at risk of damage than others she knew with insurance.

G: I can be careless

Many clients felt that insurance was necessary as they were inconsiderate when protecting their smartphone. Client 1 detailed previous events where he damaged or lost his smartphone, whereas other clients felt that even when they hadn't damaged their smartphone in the past, they have several 'near miss' incidents, for example dropping the phone but it wasn't damaged. These clients felt that the insurance protected against their current, or future, carelessness.

H: Law of large numbers

In general the law of large numbers was an effective argument in convincing people to reconsider their insurance purchases. Client 2 in particular agreed that the arguments presented by the consultant had valid points, especially given that she had multiple small item insurance policy (she also has a policy for her carper steam cleaner), however she still liked the security that the policy provided for her son. In the end she decided against purchasing the insurance policy for herself.

I: Deductible Costs

Over the course of the interviews it became apparent the client may not consider the deductible cost when purchasing the insurance. Client 1, for example, talked about what would happen if he needed his screen replaced, a common damage to a smartphone. The cost of screen replacement is around €100, depending on the phone model. However, the insurance deductible per claim for client 1 was €70, so in the end the company only covers

€30 of the screen replacement. It appears that the deductible cost never factored into the client's cost-benefit analysis when purchasing the insurance. Mentioning deductible costs to clients was a very effective way to get them to consider their insurance. As discussed in section 2, consumers can dislike paying the deductible, to the extent that they will pay far more in a premium to reduce the deductible cost (Fels, 2015). Particularly for small items the proportion of the deductible cost to the cost of damage can be very high, as illustrated by the broken screen example above. In the above scenario, client's aversion to deductibles worked in favor of convincing them against insurance.

However, it is possible that in the future insurance offerings for small items will become more sophisticated and that the customer may have the option to choose their deductible cost.

J: Moral Hazard/Adverse Selection

Client 1 himself brought up his tendency to be careless with his smartphone, and pointed out that this was a major factor in deciding to take out insurance. Client 1 mentioned that he couldn't recall anyone he knew who also had phone insurance. He said he thought that he was more likely to damage or lose his phone than other people, giving the example of his parents who are retired and stay mainly around the family home.

An addition after the first interview was the argument where the consultant explained that sometimes simply by purchasing insurance you are more likely to be less careful than you might otherwise. The point that if everyone who buys the insurance takes less care then there will be more claims for the insurance company, which drove up the price of the premiums for everyone was also added. Therefore, you are not just paying to cover your own behavior but also the negative behavior of others. Not insuring also gives clients an extra opportunity to be more careful and reduce their risk further, for example by simply being more aware of their smartphone or by additional measures, for example by purchasing a sturdy case.

K: Opportunity Costs

Several clients were spending nearly €200 per year on phone insurance. When the combined total was mentioned to Client 1 he began to talk about what he could do with that money if he didn't spend it on the insurance. In particular he couldn't afford private health insurance (quite popular in Ireland, as waiting times to see medical specialists in the public system are long) but would like to. As a result, in the subsequent interviews the consultant elicited a discussion on the opportunity cost of the insurance by suggesting that the client put the same amount of money aside to cover any loss.

L: Arguments against impulse purchases

An argument against the role of impulse purchases of small item insurance is that although it can be an impulse decision to sign up for the insurance, it is an ongoing (usually monthly) payment. As a last resort, the consultant could also encourage the client to investigate the policy, and competing policies, in more detail, if it is the best value and if it covers everything they want. Other points of note that arose from the interviews include:

- *Other risk reducing techniques*
    - In the first few days client 2 felt very afraid of damaging the phone but then purchased a cover to protect it. Since she bought the protective cover she said she may not purchase the insurance.
    - Client 5 also purchased a cover for her smartphone and felt that this protected it considerably.
- *Service from insurance companies*
    - Client 1 complained about the service received from the insurance companies. In particular, when claiming his second phone he received a refurbished phone as opposed to a new one. He felt that only receiving a refurbished phone was unfair, given what he was paying for the insurance. He also felt that trying to contact the company is difficult in two ways. Firstly, when phoning the customer service team the phone number is very expensive to call. Secondly, he can often be left on hold for lengthy periods while waiting to talk to an agent.

4.2 Types of insurances

The first three clients paid €15.99 per month to insure their smartphones with a €70 deductible. Client 4 purchased her policy though her phone network operator, costing €12.99 per month with a €65 deductible. Clients 5 and 6 had the same policy with their network provider, costing €9.99 per month that was added to their monthly bill, and neither could say exactly how much the deductible for the policy was. Only Client 1 had ever made a claim on his insurance policy, and the other clients had been paying for the policy for up to two years without any claims.

4.3 Cancellation Rates

The success in convincing to cancel insurance was mixed. For those clients with newer phones, many agreed with the arguments presented but were not willing to cancel the insurance immediately.

- Client 1: When presented with the arguments against insurance the client seemed convinced, saying that he had not considered the insurance in the long-term before. He said he would cancel his insurance. However, given the client's experience with the customer service of the insurance company, it is possible that he will not follow through with cancelling.
- Client 2: By the end of the interview the client said she would consider cancelling the policy for her son's phone when the phone had depreciated in value. Following up with the client after the interview revealed that she did not proceed with taking out insurance for her own phone which she purchased the week before the interview.
- Client 3: In trying to convince the client to cancel her insurance, it became apparent that in relation to her phone she is extremely risk averse and that no currently developed argument would convince her to cancel.
- Client 4 said she would consider cancelling when she has had the phone for longer, but given that it is a relatively new purchase she wanted to keep it insured for the moment.
- Client 5 was very convinced by the arguments presented by the consultant and said she would cancel her insurance.
- Client 6 agreed that there was merit to the consultant's argument. As she was unaware of the deductible cost she said she would investigate to see what the charge was as it had not entered into her cost-benefit analysis.

Delayed cancelling

For many clients, the purchase of a smartphone is initially a big investment and many of those interviewed who had recently purchased their phone would not consider immediately cancelling the insurance.

Therefore, if a client cannot be convinced to cancel the insurance immediately the consultant could try to convince them to cancel the insurance at a later stage when the phone is older and newer models have been released, meaning the model they purchased has depreciated in value. A new model will usually be released on a yearly basis; therefore, the consultant can try to convince the client to cancel the insurance after one year. Unfortunately the time constraints on finishing this paper mean that follow up with clients to see if they do indeed cancel the insurance. Agreeing to cancel the insurance in the future is typical of a prescriptive model, where the normative action (i.e. cancelling the insurance) cannot be achieved but a result closer to the normative approach (i.e. delayed cancelation) is.

5. Discussion and Limitations

Additional Arguments

One argument developed after the conclusion of the interview was a ‘change of mindset’ argument. This involves discussing with clients that worrying about their item being stolen or damaged is something you do to yourself, and can even be encouraged by insurance companies, who have a vested interest in ensuring you continue to pay the insurance premiums. Worrying is not an effective way to prevent loss, and by changing their mindset to understanding what strategies can best avert a loss, clients will lose an argument in favour of insurance. Such a reason for cancelation may be effective in countering arguments A and C raised by clients.

Another point is that when clients say that many people they know also have insurance the consultant can respond by saying that now they have better advice on whether to purchase the insurance or not, and that perhaps they could pass the advice on to others.

Role of behavioral anomalies

In many instances, clients articulated that they were willing to pay more than the expected value for the insurance, which can be explained by many theories as discussed in Section 2 for example loss aversion and the endowment effect. Such biases are substantial and often persistent. Client 3, for example, even when made aware that her insurance purchase was irrational still could not be convinced with any argument to cancel it. A persistence of irrationality will produce both personal and market inefficiencies, and economists should be aware of any relevant biases and attempt to account for them when making public policy guidelines.

Education of behavioral biases

An experimental aspect of the interview design was to educate clients about the behavioral biases they might have, and to investigate whether it would have any effect on persuading clients to cancel their insurance. Education of the representativeness bias with Client 2 only prompted confusion and as a result it was cut from the interview design. However, education about System 1 and system 2 decisions was understood by clients, and all could self-identify that their insurance purchase was a system 1 decision as it is automatically charged to them every month and they do not give it effortful consideration. While they were interested in learning about the theory it did not have any effect in their decision to cancel or retain their insurance.

As a result, while educating clients about behavioral theories may interest them, it does not allow them to see their own decisions as irrational to the point of behavior change. There is the possibility that education may impact future decisions but that is a matter for future research.

Timing of Intervention

One major, and unexpected, finding from the interviews was the role of impulse purchases and sales assistants in the decision for the client to purchase the insurance. Once clients purchased the insurance they became accustomed to the security it provided. Therefore, they were reluctant to let it go and even though they acknowledged the merits of the arguments of the consultant. The timing of the interview presents a problem as it is possible that had the consultant had a discussion with clients before making the purchase the outcomes may have been different. Client 3 illustrates the aforementioned point; having purchased insurance for her son's smartphone before the interview she decided to keep it even when the arguments against the insurance were presented. However, the week before the interview she had purchased a new smartphone for herself and was debating taking out insurance but had not committed to doing so at the time of the interview. When the consultant followed up with the client she said she had decided not to proceed with the insurance for herself. Therefore, one recommendation going forward would be for economists to educate people about small item purchases in advance in the hope that when they go to purchase a new small item that they do not buy the insurance in the first place.

Suitability of Motivational Interviewing for Economists

Finally, I review the effectiveness of the MI framework for economists. In general, the MI framework is an excellent starting point for economists wishing to engage with non-specialists and address change. The client-centered approach which encourages the client to lead the conversation is a helpful way for them to express their motivations and for economists to understand them in-depth.

MI also addresses ambivalence to change, which also ties in well with the theory of System 1 and System 2 thinking. MI could be described as a conversation framework to analyze System 1 decisions with a System 2 frame of mind in order to initiate change behavior. Therefore, broadening the scope of MI to include economic conversations is entirely possible.

In conclusion, the author has the following recommendations for economists wishing to adopt the MI framework:

- Determine whether the desired outcome is to initiate a behavior change in the client. If so, MI is a useful toolkit for structuring conversations.
- The final planning stage may not be as relevant for economists as for clinical psychologists, as interventions in the clinical setting usually involve multiple meetings over a longer period of time. However, for economists the time frame is shorter, meaning planning and following up is more difficult to do.

Ethical Concerns

A key consideration at the beginning of designing the interview process was the ethical aspect. For example, is it moral that academics attempt to influence consumer choice so directly? Proponents of libertarian paternalism would argue that once the choice to keep the insurance always remains and that overall welfare is improved, the research would be ethical. However, it is easy to imagine a backlash from those who feel that the researchers are stepping outside their bounds. It is also worth contemplating if this study, or indeed future studies, would provoke a reaction from the insurance industry? As small item insurances are lucrative for them it is possible they would be against such a study. In the opinion of the author the pursuit of financial gain at the expense of consumer's welfare is in itself unethical, therefore any further studies to convince consumers to cancel their small item insurance on a large scale is to be welcomed. The results here suggest that not all subjects will cancel their insurance immediately but many said they would reconsider at some point. Education and debate with consumers should be encouraged, even if insurance companies have strong objections.

Ensuring client's comfort

At the beginning of the interview design process, one important consideration was to ensure that the client did not feel criticized for purchasing small item insurances. In practice, the level of discomfort during the interview varied between clients. Many had no issues engaging in a debate about the merits of their insurance, however, Client 3 became defensive when challenged on her reasons for keeping the insurance. To overcome this resistance, the consultant relied on intuition and eventually called the interview to a close when all counter arguments were presented but it became obvious that the client would not cancel her insurance. Going forward, it is recommended that consultants are always aware of the tone and language used by clients, and if they become defensive to remain calm and not to use pressurizing language as well as reminding clients of their concern for their welfare and their freedom of choice.

5.1 Limitations

Sample size

As the nature of this study was qualitative in nature there was less of an emphasis on gathering many data points and verifying results statistically. The small sample size also means that different client characteristics such as gender, age or income are not studied. Would certain arguments work best against a female or young client, for example? The opportunity to personalize the arguments given to particular clients is an interesting one. Limited sample size is a major limitation here but the author hopes that the results obtained here will be used to form a replicated version that can be scaled up and a larger sample gathered.

Representativeness of sample

The study here was intended to provide insight into small item insurance, and the assumption is that the arguments presented would be relevant for all types of small item insurance. However, all clients interviewed had purchased smartphone insurance. As a result, people with other types of insurance (e.g. bicycle insurance) may have justifications other than those documented here for purchasing their insurance. Further research into whether there are any differences is recommended.

The representativeness of the sample was also limited in terms of gender. Only one client was male, who was also the first client, who did not benefit from arguments against smartphone insurance developed later in the interview process. As discussed above, analyzing arguments effectiveness regarding gender is beyond the scope of this work, however gender may have limited the type of arguments that arose. It is possible that men have different reasons for purchasing small item insurance than women, and by only talking to one man the consultant may have not heard all of the aforementioned reasons.

Finally, the study representativeness was limited in terms of nationality. All clients were Irish, as Ireland is the author's home country. It is possible that a broader and/or different range of arguments would have been presented if the clients had been from multiple countries.

All of the above limitations present an opportunity for future research to be carried out on the topic of cancelling small item insurances, particularly with regard to broadening the number and diversity of clients.

Nature of Study

From the perspective of the client, being interviewed and challenged about their insurance spending could be an intense experience. Some may naturally be averse to conflict and were therefore unwilling to challenge what the consultant was saying.

6. Conclusions

This paper has been a departure from the traditional experimental economic research approach of defining hypotheses, gathering a large number of data points and applying statistical tests. Without discounting the value of that methodology, the author firmly believes in the potential of the approach designed here. Drawing on previous work done in decision analysis to design a consultancy approach gave clients the scope to express their motivations and engage in a discussion, which is a worthwhile endeavor as it allows economists to understand the thinking of non-specialists.

It is entirely possible for economists to apply the findings from this paper to everyday life, in conversations with friends or family members. In doing so, economists have the opportunity to improve the welfare of non-specialists with minimal effort.

7. Bibliography

Ariely, D. (2008). *Predictably Irrational.* Harper Collins.

Arrow, K. (1963). Uncertainty and the Welfare Economics of Medical Care. *Am. Econ. Rev*, 941-74.

Bell, D. E., Raiffa, H., & Tversky, A. (1988). *Decision making: Descriptive, normative, and prescriptive interactions.* Cambridge University Press.

Bernoulli, D. (1738). Exposition of a new theory on the measurement of risk. *Econometrica: Journal of the Econometric Society*, 23-36.

Border, K. C., & Segal, U. (1994). Dutch books and conditional probability. *The Economic Journal*, 71-75.

Browne, M. J., Knoller, C., & Richter, A. (2015). Behavioral bias and the demand for bicycle and flood insurance. *Journal of Risk and Uncertainty*, 50(2), 141.

Camerer, C. F., Loewenstein, G., & Rabin, M. (2004). *(Eds.). (2011). Advances in behavioral economics.* . Princeton University Press.

Camerer, C., Issacharoff, S., Loewenstein, G., & O'Donoghue, T. (2003). Regulation for Conservatives: Behavioral Economics and the Case for" Asymmetric Paternalism". *University of Pennsylvania Law Review*, 151(3), 1211-1254.

Cubitt, R. P., & Sugden, R. (2001). On money pumps . *Games and Economic Behavior*, 37(1), 121-160.

Deloitte. (2016). *Global Mobile Consumer Survey: Ireland.* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/TechnologyMediaCommunications/Global_Mobile_Consumer_Survey2016.pdf

Emmons, K., & Rollnick, S. (2001). Motivational interviewing in health care settings Opportunities and limitations. *American Journal Of Preventive Medicine*, 20(1), 68-74.

European Commission. (2014). *Quality of Transport Report.* Retrieved February 25, 2017, from http://ec.europa.eu/public_opinion/archives/ebs/ebs_422a_en.pdf

Fels, M. (2015). *Mental Accounting, Access Motives, and Overinsurance.*

Google Trends. (2017, May 27). *Google Trends.* Retrieved from https://trends.google.com/trends/explore?date=all&q=phone%20insurance

Hansson, S. O. (2005). *Decision theory: A brief introduction.*

Heather, N., Rollnick, S., Bell, A., & Richmond, R. (1996). Effects of brief counseling among male heavy drinkers identified on general hospital wards. *Drug Alcohol Review*, 15:29–38.

Howard, R. A. (1988). Decision analysis: practice and promise. *Management Science*, 34(6), 679-695.

Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. . *The American economic review*, 93(5), 1449-1475.

Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica: Journal of the econometric society*, 263-291.

Kahneman, D., Knetsch, J., & Thaler, R. (1991). Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias. *The Journal of Economic Perspectives*, 5(1), 193-206.

Keeney, R. L., & Raiffa, H. (1993). *Decisions with multiple objectives: preferences and value trade-offs.* . Cambridge University Press.

Keller, L. R. (1989). The Role of Generalized Utility Theories in Descriptive, Prescriptive, and Normative Decision-Analysis. *Information and Decision Technologies*, 15(4), 259-271.

Kunreuther, H., & Pauly, M. (2006). Insurance decision-making and market behavior. *Foundations and Trends® in Microeconomics*, 1(2), 63-127.

Li, C., Li, Z., & Wakker, P. P. (2014). If nudge cannot be applied: a litmus test of the readers' stance on paternalism. *Theory and decision*, 76(3), 297-315.

Lowenstein, G., & Kahneman, D. (1991). Explaining the Endowment Effect, working paper, . *Department of Social and Decision Sciences, Carnegie Mellon Uni- versity,*.

Lundahl, B. W., Kunz, C., Brownell, C., Tollefson, D., & Burke, B. L. (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practise*, 20 137-160.

Miller. (1983). Motivational interviewing with problem drinkers. *Behavioural Psychotherapy*, 11, 147-172.

Miller, W. R., & Rollnick, S. (2009). Ten things that motivational interviewing is not. *Behavioural and cognitive psychotherapy*, 37(02), 129-140.

Miller, W., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York, Guildford Press.

Miller, W., & Rollnick, S. (2012). *Motivational Interviewing: Helping People Change.* New York: Guildford Press.

Passmore, J. (2013). Motivational Interviewing: Reflecting on ethical decisions in MI.\. *The Coaching Psychologist*, 9(2), 112- 116.

Pauly, M. (1974). Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection. . *The Quarterly Journal of Economics*, 88(1), 44-62.

Puelz, R., & Snow, A. (1994). Evidence on Adverse Selection: Equilibrium Signaling and Cross-Subsidization in the Insurance Market. *Journal Of Political Economy*, 102(2), 236-257.

Rabin, M., & Thaler, R. (2001). Anomalies: risk aversion. *The Journal of Economic Perspectives*, 15(1), 219-232.

Rubak, S., Sandbæk, A., Lauritzen, T., & Christensen, B. (2005). Motivational interviewing: a systematic review and meta-analysis. *British Journal of General Practice,*, 55(513), 305-312.

Senft, R., Polen, R., Freeborn, D., & Hollis, J. (1995). Drinking patterns and health: a randomized trial of screening and brief intervention in a primary care setting. *Portland, OR: Center for Health Research*.

Slovic, P., Fischhoff, B., Lichtenstein, S., Corrigan, B., & Combs, B. (1977). Preference for insuring against probable small losses: Insurance implications. . *Journal of Risk and Iinsurance*, 237-258.

Sunstein, C. (2014). Nudging: A very short guide. *Journal of Consumer Policy*, 37(4), 583-588.

Sunstein, C. (2015). Nudging and Choice Architecture: Ethical Considerations. *Yale Journal on Regulation*, Forthcoming.

Sydnor, J. (2010). (Over) insuring modest risks. . *American Economic Journal: Applied Economics*, 2, 177-199.

Thaler, R. (1999). Mental accounting Matters. *Journal Of Behavioral Decision Making*, 12(3), 183-206.

Thaler, R. (1999). Mental Accounting Matters. *Journal of Behavioral Decision Making*, 12(3), 183-206. .

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. . Yale University Press.

Thaler, R., & Sunstein, C. (2003). Libertarian Paternalism. *American Economic Review*, 93(2), 175-179.

Thevos, A. (2000). Motivational Interviewing enhances the adoption of water disinfection practices in Zambia. *Health Promotion International*, 15(3), 207-214. .

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. . *Science*, 185(4157), 1124-1131.

Tversky, A., & Kahneman, D. (1991). Loss Aversion in Riskless Choice: A Reference-Dependent Model. *The Quarterly Journal of Economics*, 106(4), 1039-1061.

Ungemach, C., Chater, N., & Stewart, N. (2009). Are probabilities overweighted or underweighted when rare outcomes are experienced (rarely)? *Psychological Science*, 20(4), 473-479.

van Keulen, H. M., Bosmans, J. E., van Tulder, M. W., Severens, J. L., de Vries, H., Brug, J., & Mesters, I. (2010). Cost-effectiveness of tailored print communication, telephone motivational interviewing, and a combination of the two: results of an economic evaluation alongside the Vitalum randomized controlled trial. . *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 64.

Von Neumann, J., & Morgenstern, O. (1944). Theory of games and economic behavior. .

Wakker, P. (2010). *Prospect Theory: For Risk and Ambiguity.* Cambridge University Press.

Wakker, P., Thaler, R., & Tversky, A. (1997). Probabilistic Insurance. *Journal of Risk Uncertainty*, 15: 7-28.