

NHH



The effect of default options on financial risk-taking for oneself versus others

Ole Kristian Skaar

Supervisor: Alexander W. Cappelen

Master Thesis in Finance

NORWEGIAN SCHOOL OF ECONOMICS

This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible – through the approval of this thesis – for the theories and methods used, or results and conclusions drawn in this work.

Abstract

This thesis is a study of the effect of default options on financial risk-taking for oneself versus others. The purpose of the thesis is to see if there is a significant difference in risk-taking for oneself versus for others both when the default is the safe option as well as when the default is the risky option, making it a 2x2 design with four treatment groups. The thesis builds on research on individual risk-taking and on research on default effects.

The study was performed as an incentivized survey posted on the topline web-bus of NORSTAT. One thousand respondents were given one of 4 questions giving a total of 250 respondents per treatment. All participants were selected randomly from a large pool of respondents and all respondents were randomly assigned to one of the four questions.

Previous research has shown a significant bias towards the default in risk-taking for oneself. The default effect has, as far as I know, not been tested on risky decisions for others. My study shows that there is a default bias also for risky decisions for others although slightly less distinct than in the first case.

The results of my study indicate that there is a significant default effect both when choosing for oneself and others. This indicates the importance of framing when posing questions and an opportunity for creating biases that must be handled with caution.

Preface

This document is a master thesis written in the final year of the Master of Science in Economics and Business Administration at the Norwegian School of Economics (NHH). As the author of this thesis I specialize in finance (FIE) and the thesis accounts for 30 credits within my major.

The field of study for this thesis is behavioral economics in general, and risk-taking behavior more specifically. My goal is to examine whether the framing of options as defaults have effects and if so if these are significantly different when choosing for oneself versus when choosing for others.

My broad interests didn't lead me directly into this topic on my own, but after a meeting with Professor Alexander Wright Cappelen, I learned a little bit about his research and was very intrigued by it, especially with the opportunity to explore the effect of defaults on decisions for others – a field that so far seems to be unexplored.

Due to some unfortunate events I got a very late start, but thanks to Professor Alexander Wright Cappelen and his Colleague Caroline Bonn I got some very valuable input and constructive feedback that made it possible for me to direct my energy and attention in the right direction.

I would also like to thank The Choice Lab for their financial contribution that made it possible to carry out the survey. I have learned a great deal both about theoretical concepts and about methodological procedures during this process.

Bergen, Juni 2016

Ole Kristian Skaar

Content

Introduction	9
Literature review.....	12
Methodology.....	17
Results and analysis	20
Discussion and conclusion	24
References	25
A.1 The survey.....	28
A.2 The survey in Norwegian	29
A.3 Design choices	30
A.4 Ethical considerations.....	32
A.5 Descriptive statistics	34
A.6 Statistics on risk-taking behavior.....	40
A.7 Validity.....	67
A.8 Reliability	70
A.9 Information from NORSTAT in norwegian.....	71

Figures from external sources

Risk preferences (<http://www.policonomics.com/lp-risk-and-uncertainty2-risk-aversion/>).....Page 12

Prospect theory (https://www.researchgate.net/figure/236624776_fig2_Fig-2-Prospect-Theory-'s-value-function).....Page 14

Introduction

Most decisions entail some degree of risk. Decisions are made by people and people are different with regards to preferences, also with regards to risk-preferences. Different risk-preferences will therefore have different effects on the choices people make with regards to risky decisions (MacCrimmon and Wehrung, 1990).

Most people are biased towards being risk averse (Yates and Stone, 1992). There is however an increasing literature on the effect of defaults, that shows that the framing of an option as a default can create a bias towards the default both when the default is the safe option as well as when the default is the risky option (Johnson et al., 2012; Sunstein, 2014). It is believed that the default option creates a new reference point for the decisions maker that again leads to a bias towards the reference.

In this thesis I investigate the effect of defaults on risky decisions for oneself and others. To be able to formulate a hypothesis on what to expect from such an experiment, I have looked into existing research on the default effect and on risky decisions. On the basis of this I have designed a survey. Designing and performing the survey has given me control over both the sample structure and the primary data and thereby increased my confidence that the data is matching the objectives of my study (Easterby-Smith, Thorpe and Jackson, 2008).

The study was incentivized with real money although not in choices but as a reward for answering the question. Incentivized studies are seen to increase validity of results. My main finding was that the default effect was also present in decision-making for others. The tendency was only slightly weaker for risk-taking for others compared to risk taking for oneself.

My findings indicate that people are slightly less biased towards the default when it comes to decision-making for others compared to decision-making for oneself. This slight difference may come from the fact that the framing of an option as a default may have less impact when people are making decisions for others, compared to when they are making decisions for oneself. A possible explanation for this may be that social influences are more important for us when we make decisions for others compared to when we are making decisions for ourselves.

I haven't found any research that studies the effect of default options on risky decisions for others, so I hope my contribution may lead to further studies and increased knowledge on this subject.

Background and motivation for the thesis

The topic of this thesis started to form after a meeting with professor Alexander W. Cappelen in January this year. We seemed to share an enthusiasm for human behavior and how different factors can affect it. The conversation quickly led us onto the theme of defaults and how defaults can affect choices both for oneself and for others. As a finance major with some insight into capital asset management the idea of coupling this theme with financial advisory seemed intriguing to me.

Research question and topic

My aim with this thesis is to look into whether the default effect has different impacts on risk-taking for oneself versus for others. My research question will therefore be:

Are there differences in the effects of default options on risk taking for oneself versus risk-taking for others?

I have chosen to direct my research into financial decisions in particular. Combined with the research question this leads up to the following topic for my thesis:

“The effect of default options on financial risk-taking for oneself versus others”

The domain of the study will therefore be risky decisions within finance in general and investments more specifically.

Structure of the thesis

The thesis is divided into five sections or chapters. The first chapter starts out with an introduction to the field of study, continues with the background and motivation for the study and ends up with defining the research question and the topic for the thesis. The second chapter starts with a literature review of existing theory and research within relevant areas and ends up in a hypothesis based on the literature review. The third chapter presents and defends a methodology for investigating the hypothesis. The fourth chapter presents results from my investigation through statistical analysis. The fifth chapter starts with a discussion and a summary of the results presented and ends with some suggestions for future research.

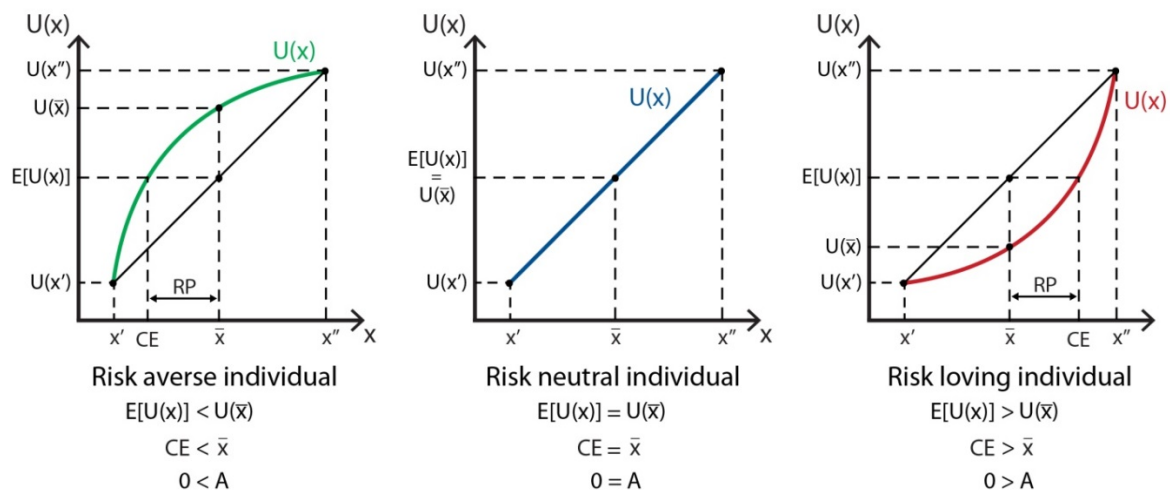
Literature review

This chapter is a review of theories and results from behavioral economics that I have found relevant for my study. The purpose of the literature review is to create a foundation of knowledge that will help in the forming of a hypothesis to my research question.

Expected utility theory

Expected utility theory is the dominant theory of decisions under risk. The theory states that people can be characterized by their degree of risk aversion. The theory illustrates the degree of risk aversion with a utility function that is more or less concave for risk-averse people and more or less convex for risk-loving people (Weber et al., 2002).

The utility u is a function of x . X can be anything of value for the individual, but most often x is measured in monetary terms. In the graphs below utility is measured on the y-axis, while value is measured on the x-axis. Two important concepts in this model are the certain value and the expected value. A certain value is one distinct value with 100% probability, while an expected value is a weighted average of two or more values where the sum of probabilities is 100%. The expected value is usually taken as a bet that can result in a low value with probability x and a high value with probability $1-x$. A risk neutral person assigns the same value to the certain value as the expected value, a risk averse person assigns higher value to the certain value, while a risk-loving person assigns higher value to the expected value. This results in a linear function for the risk-neutral person, a concave function for the risk-averse person and a convex function for the risk-loving person. Studies have shown that most people are considered to be risk-averse (Arrow, 1965; Pratt, 1964; Ross, 1981).



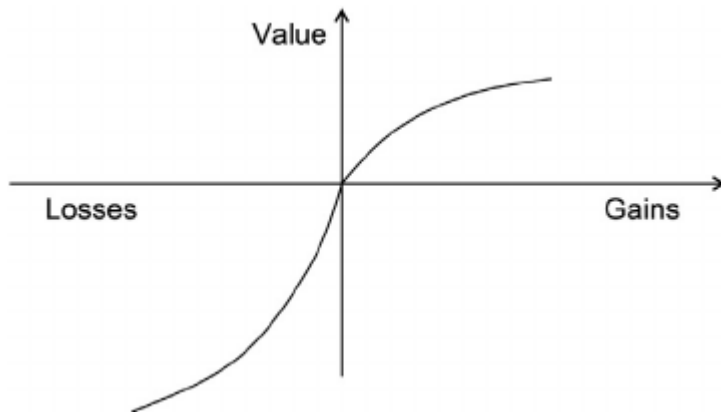
The aforementioned literature demonstrates a general attitude towards risk in people. It would be interesting to test whether there is any influence from context on risk-attitudes. In (Dohmen et. al., 2011), the authors examined responses to a large scale German survey abbreviated the SOEP carefully constructed to be representative of the German population. Part of this study was dedicated to individual's attitudes towards risk. Subjects were asked to rate their willingness to take risk on a scale from 0 to 10 both in general and within five specific contexts. Within each of these contexts the subjects are also asked to answer one domain-specific question which was thought to signify a larger degree of risk-taking in that context.

In their study Dohmen et al. (2011) found that being tall and/or a man made you relatively more willing to take risk in general than being short and/or a woman. They also found that general willingness to take risk increased with parent's education and decreased with age and number of children. Within the specific contexts they found that each general factor contributed to different degrees while the domain-specific context-questions were the strongest risk measure in that context. The study also found that the general risk question had explanatory power for choices in financial lotteries. The findings in this study were verified in a complementary, incentive-compatible field experiment.

Prospect theory

Prospect theory challenges some of the findings of expected utility theory. Based on empirical studies Kahneman and Tversky (1979) found that people's preferences were not always rational and consistent, but that people tended to put more weight on certain outcomes than on expected outcomes (The certainty effect). They also found that people tended to simplify choices by overlooking similarities between them and focusing on the differences (The isolation effect). Not only did these effects differ between people, but different framings of the situation could also produce different isolation effects for the same person (Kahneman and Tversky, 1979).

Prospect theory starts out from a reference point. Based on the individual's reference point, the individual classifies the outcome as a loss or as a gain and assigns a value to the expected outcome. As seen below the graph is concave in the gain-domain, indicating risk aversion, and convex in the loss-domain, indicating risk seeking behavior. A loss of the same size as a gain, will have an absolute value that is larger than the corresponding value of the gain. The graph indicates that the value is decreasing both with higher gains and with higher losses. Evidence has seemed to indicate that risk-seeking behavior is especially strong when the probability of a loss is high (Kahneman and Tversky, 1984; Kahneman et al., 1991).



Although prospect theory was found to lack predictive power for experienced people in a study by List from 2004, its predictive power for the inexperienced still remains unrefuted (List, 2004).

The existence of a reference point is an important part of prospect theory. Gains and losses are measured relative to the reference point, which means that influences on the formation of a reference point will have important impact on valuation and thereby the choices that we make (Levin, Schneider and Gaeth, 1998).

Several sources on influence on the formation of reference point (also termed anchoring) have been uncovered through the years. Kahneman and Tversky demonstrated in 1981 that a relative more positive framing of one alternative compared to another resulted in a bias towards the positive framed alternative even though the expected values of each alternative was equal.

Another finding is that people tend to favor an alternative framed as the status quo. Several explanations for this have been put forward, ranging from fear of losses associated with switching to the other alternative (loss aversion), transaction costs (monetary and non-monetary), fear of regret, perceiving the status quo option as a recommendation to procrastination (sticking with the status quo because of laziness). Another cause of status quo bias is the endowment effect where being given the ownership of an item raises your valuation of it relative to the alternative and makes you less willing to give it up for the alternative. The status quo option has often been termed the default option (Kahnemann and Tversky, 1991).

When people are asked to give their consent, it has been demonstrated that people tend to stick with the consent framed as a default option. There is also a strong tendency of people to stick with a presumed consent (Thaler & Sunstein, 2008).

In (Madrian & Shea, 2000) a study was performed on the 401(k) savings behavior of employees in a large U.S. Corporation before and after a change to automatic enrollment into a default savings program. The study demonstrated a strong tendency for participants to stick with both the default option and its contribution rate. The default behavior appeared to be a result of procrastination by individuals and/or the power of suggestion by the company. The automatic enrollment greatly increased both the 401(k) participation rate and the fraction exhibiting default savings behavior (contribution rate and investment allocation).

In (Johnson & Goldstein, 2003) a study was performed on different organ donation regimes. The study demonstrated that opt-out regimes with automatic enrollment into organ donation (presumed consent) led to a significant increase in donors compared to regimes practicing opt-in (explicit consent). Neutral regimes where respondents were required to choose with no prior default option demonstrated donation rates similar to that of opt-out regimes.

Social impacts on risky decisions for oneself

Individual's risky decisions are not only influenced by their own attitudes towards risk, but also by social influences from others. Social influences can manifest themselves indirectly by comparing ourselves with others or by reflecting on how our decisions will be evaluated by others, or directly where our decisions have consequences for others and their decisions or where other's decisions have consequences for us and our decisions (Trautmann & Vieider, 2012).

When people make risky decisions they have a tendency to compare their situation to similar situations experienced by others with an emphasis on to what degree their process is fair compared to the others, to what degree the outcome is acceptable with regard to a social reference point or an aspiration level and the degree of conformity their decisions have with the majority as long as there is no chance of social regret (Trautmann & Vieider, 2012).

Making decisions for others

Within decision-making for others most studies show that there is a tendency of altered risk aversion for decision makers (Trautmann & Vieider, 2012).

In (Füllbrunn & Luhan, 2015) the authors conducted an experiment on risk taking for oneself, oneself and others and others. In the experiment they controlled for accountability by anonymizing the money manager and his decisions, avoided effects of repetition by having only one decision, controlled for anchoring (discussed in the next section) by revealing information only at the end of the experiment, controlled for order effects by implementing an AB/BA design and varied the money manager's payoff to control for fairness issues. The study concluded that decision makers act according to what they believe are their client's risk preferences when investing for others and that they weigh these preferences against their own risk preferences when investing both for themselves and for others.

Other studies of social influences on risky decisions have revealed that people get more risk averse with greater responsibility for others and with the anticipation of being evaluated by others (Trautmann & Vieider, 2012).

Forming a hypothesis

Previous research has proven a significant bias towards the option framed as the default. These studies have looked into the effect of defaults on decisions for oneself. I have not been able to find any studies on the effect of defaults on risky decisions for others. Existing research on risky decisions for others suggests that there is a tendency for decision-makers to weigh their own preferences against their client's preferences and that people get more risk averse with greater responsibility of others. This may indicate a bias towards the default that is somewhat smaller than the bias of decisions for oneself. My hypothesis is therefore that:

Defaults have significant but less effect on decisions for others than decisions for oneself.

Methodology

The aim of my study is to try to find out if default effects also are present when making risky decisions for others. This entails uncovering any significant bias towards choosing the default if this bias exist in my results. I have chosen to perform an experiment in the form of a survey instead of a field study. The main advantage of an experiment compared to a field study is that you eliminate potential noise from factors outside your study (Haslam and McGarty, 2004).

Survey design

The survey is part of a so-called web-bus consisting of questions from different actors. The participants are either already registered and have participated in previous web-busses, or are new participants that need to register and share some background information about themselves. The background information includes age, region, urbanization of living area, education, income, number of children and household size. The background variables make it possible for me to rule out or discover secondary explanations to results and increase the probability of revealing a true causal relationship. Last and not least the respondents are informed that all answers are given anonymously and confidentially.

The survey itself is a 2x2 design consisting of four questions. Each respondent is given only one of the questions. Each of the questions has two answer-alternatives where one is framed as the default. The answer-alternatives are the independent variables affecting risk-taking behavior which is the dependent variable.

The four questions consist of two questions where the respondent is choosing on own behalf (1 and 2) and two questions where the respondent is choosing on behalf of others (Question 3 and 4). Question 1 and 2 for choosing on own behalf are different only in the fact that the default is the safe option in the first and the risky option in the second. Question 3 and 4 for choosing for others are also only different in the same way. This design makes it possible for us to uncover any change in bias between 1 and 2, 3 and 4, 1 and 3 and 2 and 4 if these biases exist in the results and are significant.

The survey is incentivized in the way that participants are given points for each question answered which can be turned into an equal amount of NOK. Incentivized experiments are usually believed to be more reliable and valid as most people are shown to respond more truthfully when they are paid for their opinion. The drawback of incentivized experiments is that respondents may be motivated by the pay and not care about whether their answers reflect their true opinion. The downside with not having

an incentivized survey is that the answers can be distorted by self-serving biases, inattention and strategies motives among others (Dohmen et al, 2011).

I have decided to give each respondent only one of the four questions. The reason for this is that the framing of one option as a default, by using the endowment effect and loss aversion, creates a reference point that may create a bias towards the default. If one includes more questions with opposing defaults the different defaults may influence on each other and the answers are then in a way contaminated.

By framing one of the two answer-alternatives as a default, I am trying to prove that people are less than completely rational and that they are evaluating and making decisions relative to a reference point. The framing of an option as a default creates ownership to the default through the endowment effect and a fear of loss when not sticking with the default. I have put emphasis on making the transactions costs from changing from one answer to the other as low as possible in order to keep the default bias as free as possible from the effects of other variables than the endowment effect and loss aversion(Thaler & Sunstein, 2008)..

The background information provided by the participants makes it possible to perform statistical test on effects from other variables as well as controlling that these variables are not exerting influence on the main dependencies that we are trying to measure.

If the framing of an option as a default had no effect, there should be no significant difference between answers given when the default is the safe option versus when the default is the risky option. Likewise, if choosing for oneself versus choosing for others were thought to have no effect, then there would be no significant difference in risk-taking behavior between question 1 and 3 and 2 and 4. If both defaults and who you choose for were thought to have no effect, then the product of these two factors would have no significant effect on the default.

My hypothesis is that there will be a default effect in all treatments however smaller in choosing for others.

Survey execution

Online surveys have many advantages over lab experiments. There are usually templates and built in structures that makes them easy to setup and change rapidly. You need less space and people to perform the experiment and you can more easily gain access to an adequate number of respondents which makes it easier to generalize from the sample to the population. Participants can answer the

questions in an environment in which they feel more comfortable and less stressed (Duersch, Oechssler and Schipper, 2009).

In order to be able to conclude anything with a sufficient degree of confidence you need to have a large enough sample size. The sample size necessary depends on the desired level of statistical significance, the statistical power and the expected effect size. Statistical power can be seen as the probability of having a true effect when it exists. Since power analysis involves a number of simplifying assumptions, it will not provide a 100% correct answer (Cohen, 1992).

Since the effect of defaults on choices for others seems to be unexplored to date, I was not sure what size of effects to expect. Estimating the sample size with a significance level of 0,05 and a statistical power of 0,8 however I came to the conclusion that I would be able to detect medium-sized effects with a sample size of 250 respondents in each of the four questions. The calculations were performed firstly with the sample size calculator at ClinCalc.com (<http://clincalc.com/Stats/SampleSize.aspx>) and later verified with the software G*Power (<http://www.gpower.hhu.de/en.html>).

The survey itself was performed by NORSTAT – a company specializing in surveys. The respondents were selected randomly from NORSTAT's large pool of respondents from all over the country. NORSTAT members are recruited through country-representative phone surveys. Some of the respondents may be rather new to surveys, while others may be more experienced. This could be a potential source of error.

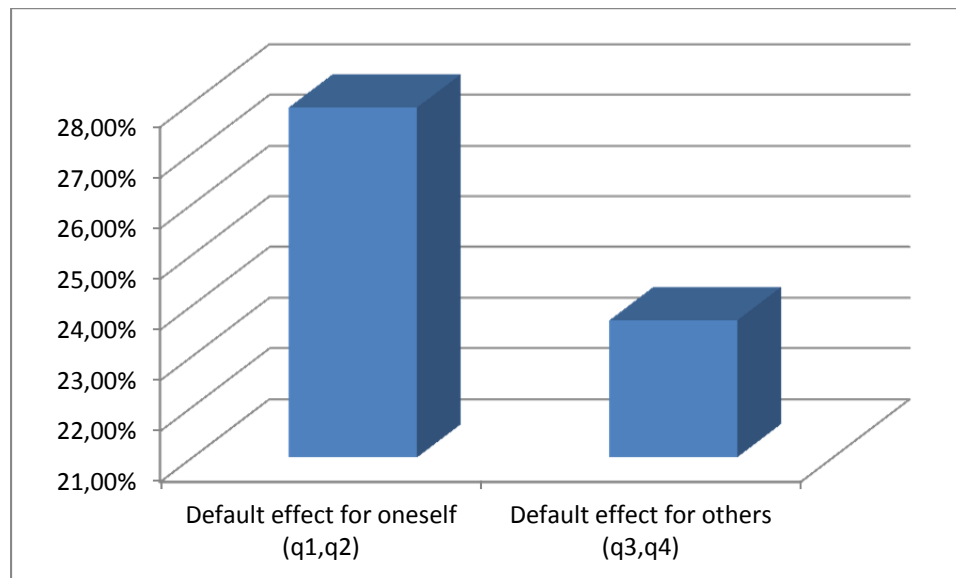
NORSTAT stopped the survey when reaching a total of 250 respondents on each of the questions ensuring that I reached the desired level of respondents necessary to detect medium-sized effects. The total sample consisted of 483 men and 517 women.

Results and analysis

This chapter analyses the results of the study up against my research question. It starts out with some results on the main effect across all background variables, before moving on to a discussion on the effects from the background variables. Lastly I verify some of the results through a regression analysis. The default effect is measured as the difference in the percentage of respondents selecting the risky option between the questions where the default option is the safe option and the questions where the risky option is the default option.

Default effect for oneself and others

The following graph shows the default effect for oneself compared to the default effect for others.



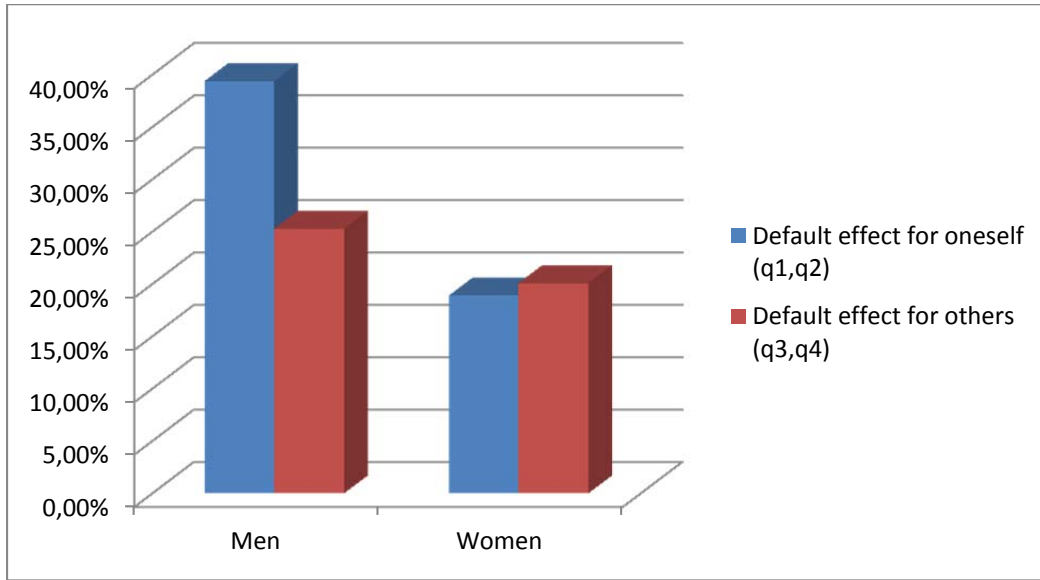
I wanted to test whether the default effects were significantly different from zero. I did this by performing z-tests (t-tests where appropriate) of the difference in proportions. I used zero difference between the proportions as null hypothesis (<https://onlinecourses.science.psu.edu/stat414/node/268>).

Default effect for oneself (q1,q2)	27,90 %	Default effect for others (q3,q4)	23,70 %
s.e. (q1,q2)	4,09 %	s.e.(q3,q4)	4,27 %
z-value (q1,q2)	6,82	z-value (q3,q4)	5,55
p-value	0,00 %	p-verdi	0,00 %

As the table shows, there was a significant default effect both when choosing for oneself and when choosing for others.

Default effect on background variables

I carried out tests of the default effect on all background-variables given by NORSTAT. Both genders clearly demonstrated a significant default effect although the effect was more than twice as strong for men than women when choosing for oneself. When choosing for others the difference in effects were not that large.



	Men	Women		Men	Women
Default effect for oneself (q1,q2)	39,40 %	18,90 %	Default effect for others (q3,q4)	25,30 %	20,10 %
s.e.(q1,q2)	5,92 %	5,08 %	s.e.(q3,q4)	5,98 %	6,08 %
z-value(q1,q2)	6,65	3,72	z-value(q3,q4)	4,23	3,31
p-value	0,00 %	0,02 %	p-verdi	0,00 %	0,09 %

Vestlandet, Østlandet, age-group 50+, household size of 2, no children, income of 300k-400k, income of 500k-900k, city 50k+, city 5k-50k, rural, and education on bachelor- and master-level all showed a significantly larger default effect when choosing for oneself versus others.

The graphs showed some adverse effects for the largest families, the participants with the most children, the participants with the lowest income and the participants with the lowest education. These adverse effects were, however, not significant, both for t-tests and z-tests.

Midt-Norge, Oslo, age-group 30-39, household size of 1, 2 kids, income of 400k-500k, small town and high-school education, had defaults effects for others that were larger than the default effect for oneself.

However Oslo, age-group 30-39 and household income of 400k-500k all failed one of the significance tests, so Midt-Norge, household size of 1, 2 kids, small town and high school education remained as the factors where the default effect of others were larger and both effects were significant.

Results from regression analysis

In order to further verify the significance of the default effect both when choosing for oneself and for others, I ran a regression with the risky choice as a dependent variable against the two questions for oneself and others where the default option is the risky option (q2 and q4). I included gender, age-group, region (landsdel), household size, number of children, household income, urbanization (city size) and education level as control variables.

Source	SS	df	MS	Number of obs	=	1,000
Model	29.5254601	10	2.95254601	F(10, 989)	=	14.11
Residual	207.01854	989	.209321072	Prob > F	=	0.0000
				R-squared	=	0.1248
				Adj R-squared	=	0.1160
Total	236.544	999	.236780781	Root MSE	=	.45752

risky_choice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
q2	.2408018	.0355617	6.77	0.000	.1710168 .3105868
q4	.2619267	.0356384	7.35	0.000	.1919912 .3318622
gender	-.1841748	.0294623	-6.25	0.000	-.2419907 -.126359
age_group	.0329223	.0125917	2.61	0.009	.0082128 .0576319
landsdel	.0188419	.0102147	1.84	0.065	-.001203 .0388868
household_size	.0073522	.0050629	1.45	0.147	-.0025831 .0172875
household_children_u18	.0255828	.0185153	1.38	0.167	-.0107511 .0619166
NO_household_income	-.0007813	.0004342	-1.80	0.072	-.0016334 .0000708
NO_city_size	-.0006234	.0026978	-0.23	0.817	-.0059175 .0046706
NO_educationLevel	-.0003576	.0008978	-0.40	0.691	-.0021194 .0014043
_cons	.3430299	.080129	4.28	0.000	.1857874 .5002723

The results clearly show that both risky default have a significant effect on the risky choice and they are both of comparable magnitude. The regression also shows that gender, age-group and region all have significant effect on the risky choice. Gender has a negative effect which can be attributed to the fact that women have a smaller default effect than men.

In order to compare these results with the effect of safe defaults on the risky choice I ran a new test of risky choice against the questions with a safe default (q1 and q2).

Source	SS	df	MS	Number of obs	=	1,000
Model	17.184	2	8.592	F(2, 997)	=	39.05
Residual	219.36	997	.22002006	Prob > F	=	0.0000
Total	236.544	999	.236780781	R-squared	=	0.0726
				Adj R-squared	=	0.0708
				Root MSE	=	.46906

risky_choice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
q1	-.296	.0363335	-8.15	0.000	-.3672988 -.2247012
q3	-.216	.0363335	-5.94	0.000	-.2872988 -.1447012
_cons	.512	.0209771	24.41	0.000	.4708356 .5531644

The results clearly demonstrate that there is an adverse effect from the safe default questions on risky choices.

Discussion and conclusion

My results confirm prior studies that show a significant bias towards the default option for oneself. In addition my results demonstrate a significant bias towards the default also in risk-taking for others.

My hypothesis stated that we would see a smaller though significant default effect when choosing for others. My results confirm my hypothesis. The smaller default effect when choosing for others could be attributed to the impact of social influences on individual decision-making or could be caused by completely different factors. The reasons behind the differences in the default effects between oneself and others should be investigated further with repeated and/or larger samples in order to uncover some of the factors influencing them.

When it comes to background variable I found gender, age-group and region to have a significant effect on my results. Since background variables are subsamples with fewer observations, these effects should be tested further on larger samples in order to confirm or reject the relationships.

My results show that it is possible to affect people's choices for others through the framing of an option as a default. This has implications for businesses, organizations or individuals that want to influence decisions. Default effects might for instance be a powerful tool in marketing. Because of its power, the default effect should be handled with care and people should be attentive to the possible framing of options not only when they are choosing for themselves, but also when they are choosing for others.

Limitations

With a higher budget I could have increased the sample size and/or done an incentivized study also in the choices. A larger sample would have improved the power of my analysis and could have made it possible to establish more firmly or reject some of the relationships with the background variables.

Since my findings are related to a specific context, they should be tested in other contexts and for other kinds of samples and populations in order to confirm or reject its robustness and generalizability.

Hopefully my findings will catch attention and lead to further research on the topic.

References

- Arrow, K. J., 1965. Aspects of the Theory of Risk Bearing. Helsinki: Yrjo Jahnssonis Saatio.
- Bryant, S.M., Hunton, J.E., and Stone, D.N., 2004. Internet-Based Experiments: Prospects and Possibilities for Behavioral Accounting Research. *Behavioral Research in Accounting*, 16, pp. 107-129.
- Cohen, J., 1992. Statistical Power Analysis. *Current Directions in Psychological Science*, 1(3), pp. 98-101.
- Dandurand, F., Schultz, T.R., and Onishi, K.H., 2008. Comparing online and lab methods in a problem-solving Experiment. *Behavior Research Methods*, 40(2), pp. 428-434.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, 9(3), 522-550.
- Duersch. P., Oechssler. J., and Schipper, B.C., 2009. Incentives for subjects in internet experiments. *Economics Letters*, 105, pp. 120-122.
- Easterby-Smith, M. P., Thorpe, R., and Jackson, P., 2008. *Management research: theory and research*.
- Füllbrunn, S., & Luhan, W. J. (2015). Am I my peer's keeper? Social responsibility in financial decision making.
- Ghauri. P., and Grønhaug, K., 2010. *Research Methods in Business Studies*, fourth edition, Prentice Hall, Financial Times
- https://www.bogleheads.org/wiki/Historical_and_expected_returns
- Johnson, E. J., & Goldstein, D. G. (2003). Do defaults save lives?. *Science*, 302, 1338-1339.
- Johnson, E. J., Shu, S. B., Dellaert, B. G., Fox, C., Goldstein, D. G., Häubl, G. and Weber, E. U., 2012. Beyond nudges: Tools of a choice architecture. *Marketing Letters*, 23(2), pp. 487-504.
- Kahneman, D. and Tversky, A., 1979. Prospect theory: an analysis of decision under risk. *Econometrica*, 47, pp. 263-291.
- Kahneman, D., and Tversky, A., 1984. Choices, values, and frames. *American Psychologist*, 39(4), p. 341.

Kahneman, D., Knetsch, J. L., and Thaler, R. H., 1991. Anomalies: The endowment effect, loss aversion, and status quo bias. *The Journal of Economic Perspectives*, pp. 193-206.

Kahneman, D., Knetsch, J. L., and Thaler, R. H., 1990. Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy*, 98(6), pp. 1325-1348.

Levin, I. P., Schneider, S. L., and Gaeth, G. J., 1998. All frames are not created equal: A typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes*, 76(2), pp. 149-188.

List, J. A., 2004. Neoclassical theory versus prospect theory: Evidence from the marketplace. *Econometrica*, 72(2), pp. 615-625.

Litwin, M. S., 1995. *How to measure survey reliability and validity* (Vol. 7). Sage Publications.

MacCrimmon, K.R., and Wehrung, D.A., 1990. Characteristics of risk-taking executives. *Management Science*, 36, pp. 422-435.

Madrian, B. C., & Shea, D. F. (2000). The power of suggestion: Inertia in 401 (k) participation and savings behavior (No. w7682). National bureau of economic research.

Mook, D. G., 1983. In defense of external invalidity. *American Psychologist*, 38(4), 379.

Personvernombudet for forskning (NSD). <http://www.nsd.uib.no/personvern/>

Pratt, J. W., 1964. Risk aversion in the small and in the large. *Econometrica: Journal of the Econometric Society*, pp. 122-136.

Rademacher, J.D.M., and Lippke, S., 2007. Dynamic online surveys and experiments with free open-source software dynQuest. *Behaviour Research Methods*, 39 (3), pp. 415-426.

Ross, S. A., 1981. Some stronger measures of risk aversion in the small and the large with applications. *Econometrica: Journal of the Econometric Society*, pp. 621-638

Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of risk and uncertainty*, 1(1), 7-59.

Saunders, M. N.K., Lewis, P., and Thornhill, A., 2009. *Research methods for business students*, 5/e. Pearson Education.

Schmidt, U., and Traub, S., 2001. An experimental test of loss aversion. *Journal of Risk and Uncertainty*, 25(3), pp. 233-249.

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

Thaler, R. H. & Sunstein, C. R. (2008). *Nudge. Improving decisions about health, wealth and happiness.*

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

Trautmann, S. T., & Vieider, F. M. (2012). Social influences on risk attitudes: Applications in economics. In *Handbook of risk theory* (pp. 575-600). Springer Netherlands.

Vinogradov, D., and Shadrina, E., 2013. Non-monetary incentives in online experiments. *Economics Letters*, 119, pp. 306-310.

Yates, J.F., and Stone, E.R., 1992. The risk construct. In *Risk-taking Behavior*, Wiley series in human performance and cognition, pp. 1-25. Oxford, England: John Wiley & Sons.

A.1 The survey

Imagine a situation where you have inherited 1 million kroner in the form of money in a savings account. You are asked to choose what to do with the money. Your options are to keep the money in the savings account or invest it in a global stock fund managed by your bank. What would you do?

- A. I would keep the money in the savings account.
- B. I would invest the money in the stock fund.

Imagine a situation where you have inherited 1 million kroner in the form of money invested in a global stock fund managed by your bank. You are asked to choose what to do with the money. Your options are to keep the money in the stock fund or place it in a savings account. What would you do?

- A. I would keep the money in the stock fund.
- B. I would place it in a savings account.

Imagine a situation where an acquaintance has inherited 1 million kroner in the form of money in a savings account. He/she asks your advice about what to do with the money. The alternatives are to keep the money in the savings account or to invest the money in a global stock fund managed by your bank. What would be your advice?

- A. To keep the money in the savings account.
- B. To invest the money in the stock fund.

Imagine situation where an acquaintance has inherited 1 million kroner in the form of money in a global stock fund managed by your bank. He/she asks your advice about what to do with the money. The alternatives are to keep the money in the stock fund or to place the money in a savings account. What would be your advice?

- A. To keep the money in the stock fund.
- B. To place the money in a savings account.

A.2 The survey in Norwegian

Vi vil at du tenker deg en situasjon hvor du har arvet 1 million kroner i form av et innskudd på en sparekonto. Du blir bedt om å ta stilling til hva du ønsker å gjøre med pengene. Hva ville du valgt dersom du måtte velge mellom å beholde pengene på sparekontoen eller å investere pengene i et globalt aksjefond som banken din forvalter?

- A. Jeg ville beholdt pengene på sparekontoen
- B. Jeg ville investert pengene i aksjefondet.

Vi vil at du tenker deg en situasjon hvor du har arvet 1 million kroner i form av en andel i et globalt aksjefond som banken din forvalter. Du blir bedt om å ta stilling til hva du ønsker å gjøre med pengene. Hva ville du valgt dersom du måtte velge mellom å beholde pengene i aksjefondet eller å sette pengene inn på en sparekonto?

- A. Jeg ville beholdt aksjefondet.
- B. Jeg ville satt pengene inn på en sparekonto.

Vi vil at du tenker deg en situasjon der en bekjent av deg har arvet 1 million kroner i form av et innskudd på en sparekonto. Han/hun søker ditt råd for hva han/hun bør gjøre med pengene. Alternativene er å beholde pengene på sparekontoen eller å investere pengene i et globalt aksjefond som banken deres forvalter. Hva ville du rådet ham/henne til?

- A. Å beholde pengene på sparekontoen.
- B. Å investere pengene i aksjefondet.

Vi vil at du tenker deg en situasjon der en bekjent av deg har arvet 1 million kroner i form av en andel i et globalt aksjefond som banken deres forvalter. Han/hun søker ditt råd for hva han/hun bør gjøre med pengene. Alternativene er å beholde pengene i aksjefondet eller å sette dem inn på en sparekonto. Hva ville du rådet ham/henne til?

- A. Å beholde pengene i aksjefondet.
- B. Å sette pengene inn på en sparekonto.

A.3 Design choices

Control variables

In order to be able to detect possible other explanations to my results it was necessary to some control variable. The studies that I reviewed all included an array of control variables, in which some of them were common across several studies. NORSTAT's own control-variables covered most of the factors mentioned in my studies. Since I was on a tight budget I chose not to include additional control-variables.

The control-variables that were included by NORSTAT were sex, origin (part of the country), age-group, household size, number of kids, household income, urbanization (number of inhabitants at home-place), and level of education.

Design process

The design-process took the form of a discussion between me, Alexander Cappelen and Caroline Bonn. At first I had included a couple of follow up questions regarding investment behavior and risk-profile. However, since our budget was rather tight I had to exclude these questions in order to meet the budget constraint.

With regards to the answer alternatives, NORSTAT suggested to include a Don't-know-alternative, for each question. Since I didn't want my respondents to choose the Don't know-option due to procrastination, I chose not to follow this suggestion.

Together with the use of a simple language and common wording, a convenient and tidy layout is thought to make it easier to avoid misunderstandings and confusion among the respondents (Ghuri and Grønhaug, 2010). Being a professional survey company, I trusted NORSTAT's layout to be sufficiently convenient and tidy for my purpose.

Pre-test

There was no pre-testing of the survey due to time- and budget-considerations.

Representativeness

Information and enquiries answered by NORSTAT made me confident that sufficient measures had been taken to make sure that the sample were as representative as possible for the Norwegian population and that all users were distinct.

Feedback from the participants

NORSTAT includes a feedback form at the end of each web-bus. There was no feedback related to any of my questions.

Quality assurance

Since each of our respondents were given only one question it was difficult to detect whether they had given a reflected and well-founded response to my questions or if they had been careless and just selected a random answer. I therefore chose to include all answers.

A.4 Ethical considerations

During the work with this thesis I have made sure that sufficient ethical considerations and measures have been taken to make sure that both respondents and the readers' needs are taken care of. My findings, methods and instruments have been reported as accurately and honestly as possible, in order to make the readers make their own judgments about the reliability of my findings (Ghauri and Grønhaug, 2010).

Informed consent

According to the information given to me by NORSTAT the respondents are informed by that the survey is voluntary, that their data are kept confidential and that responses to questions are anonymous. The respondents are asked to give their consent to NORSTAT to scientific and commercial use of their answers.

Debriefing

Respondents are asked to give feedback on each web-bus. No feedback has been transferred to me from NORSTAT regarding my questions and I don't consider this an important issue in my research, since there are no deceptions or undisclosed information in the study. Hence, I do not consider my survey to provide any harm, distress or confusion on the participants (Ghauri and Grønhaug, 2010).

Restricted populations

NORSTAT is the party enforcing restrictions to make sure that respondents meet the necessary requirements to participate in their surveys.

Compensation

The respondents are given points for their answers, where 1 point is equivalent to 1 NOK.

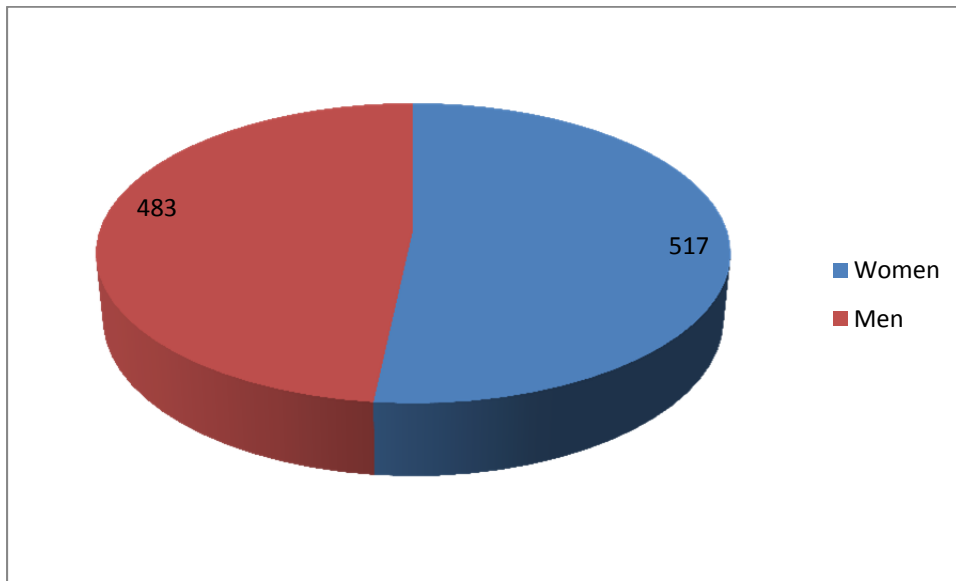
Confidentiality

From the respondents' perspective, a guarantee of anonymous treatment of responses will be reassuring and may influence the participant to take the survey seriously. This will hopefully encourage participants to provide genuine data, which is crucial for our research (Ghauri and Grønhaug, 2010).

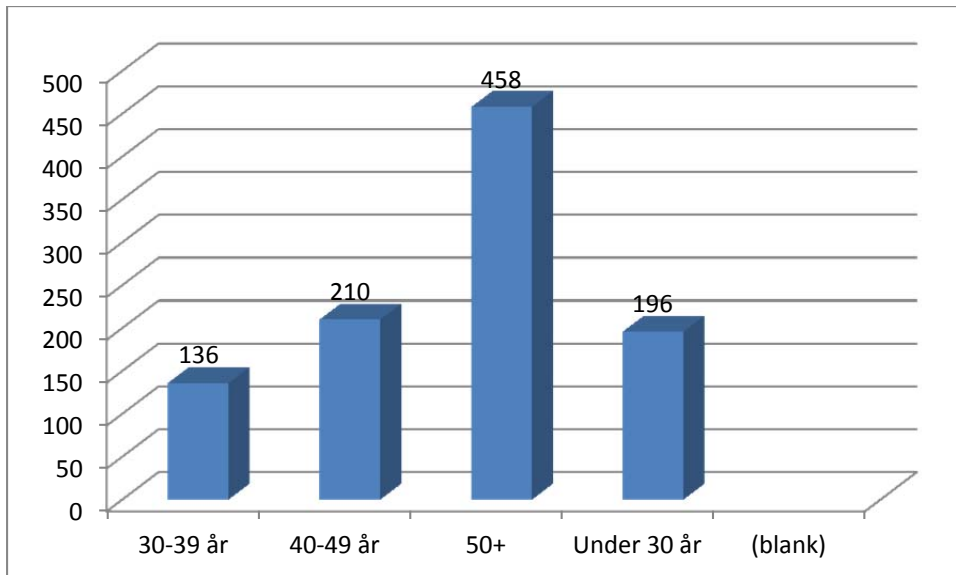
NORSTAT is in charge of confidentiality. Information passed on to me by NORSTAT declares that no information that may help identify the respondent is stored with the dataset. I therefore conclude that my study satisfies the confidentiality policies outlined by "Personvernombudet" (Personvernombudet for forskning, 2015).

A.5 Descriptive statistics

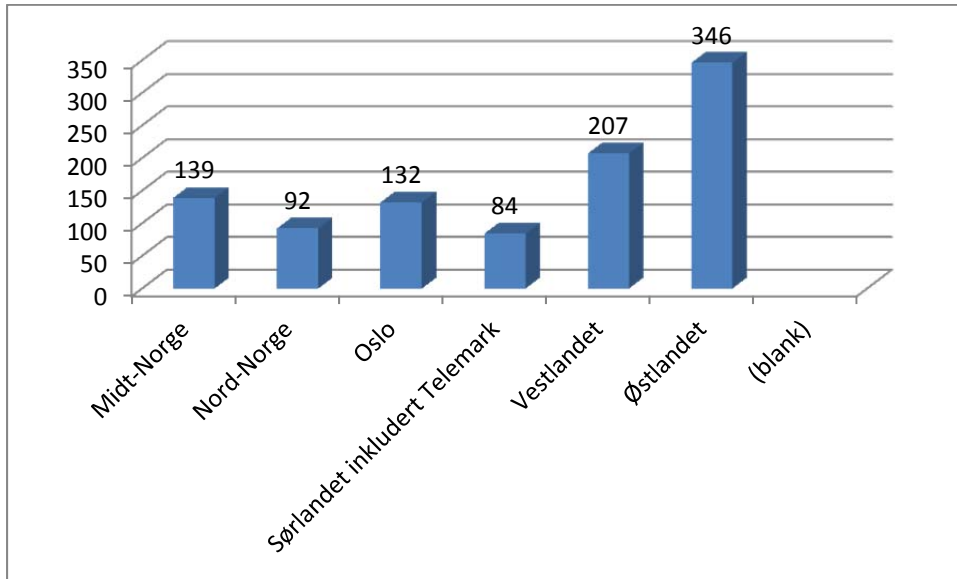
Gender



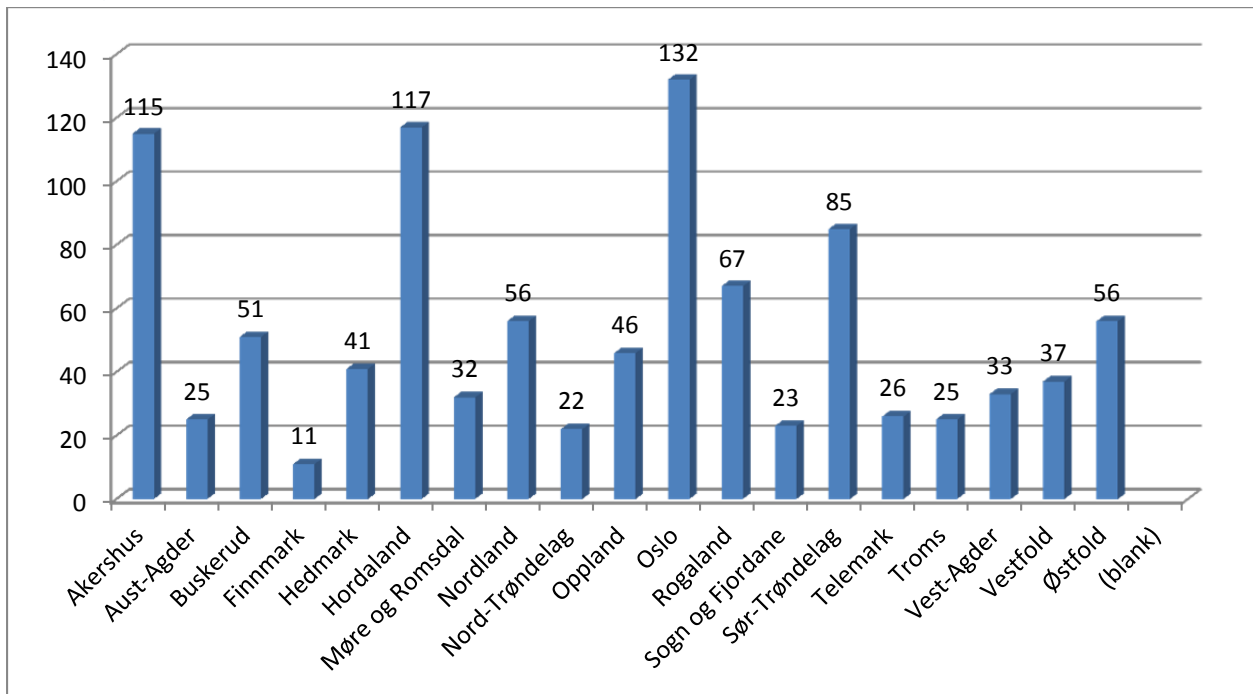
Age-groups



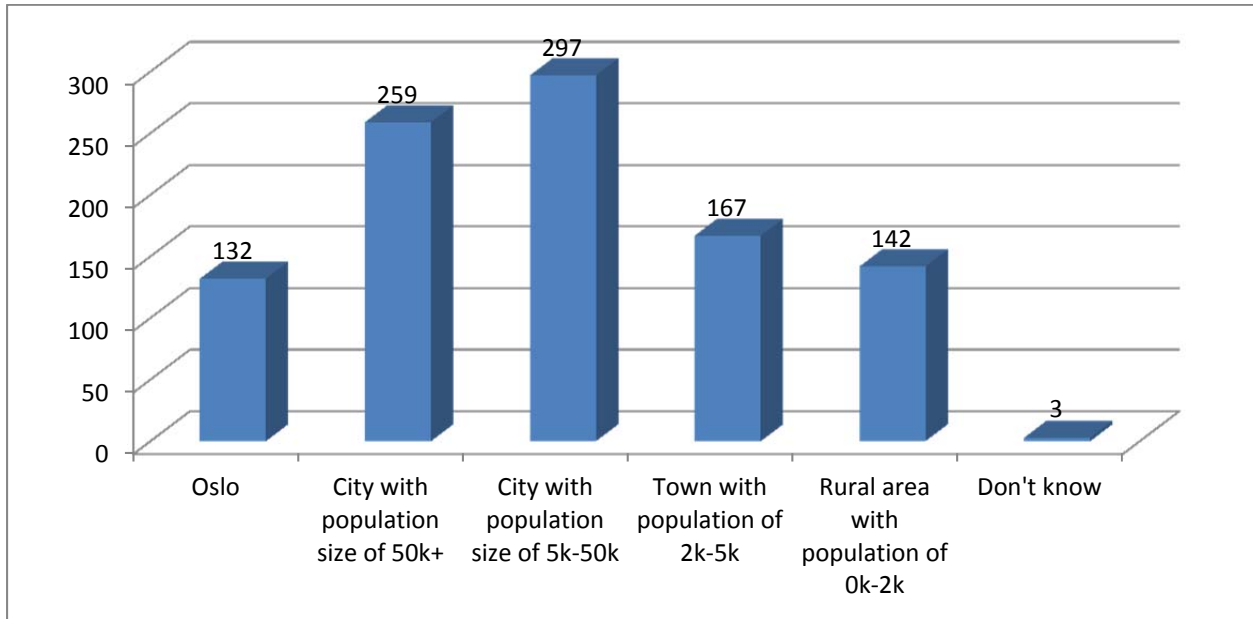
Region



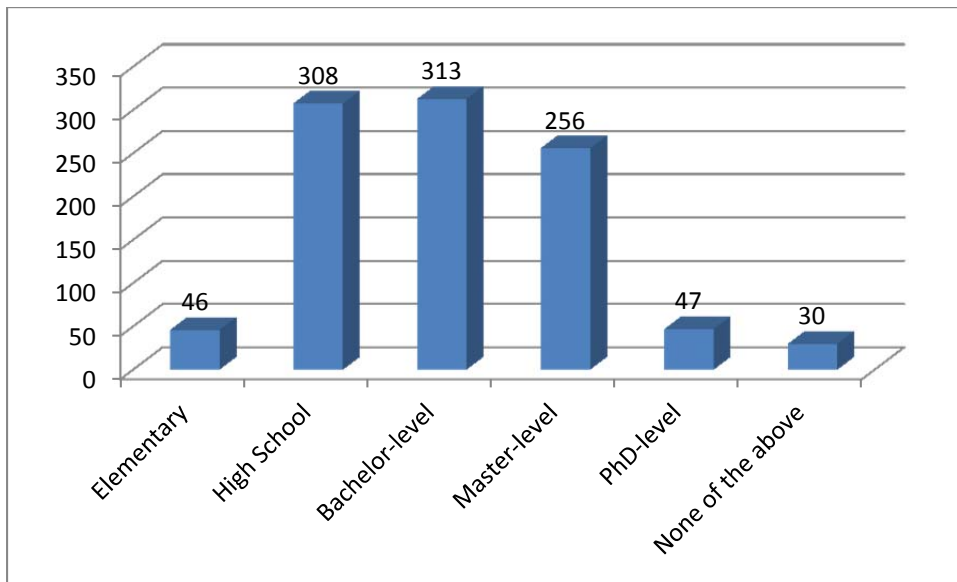
County



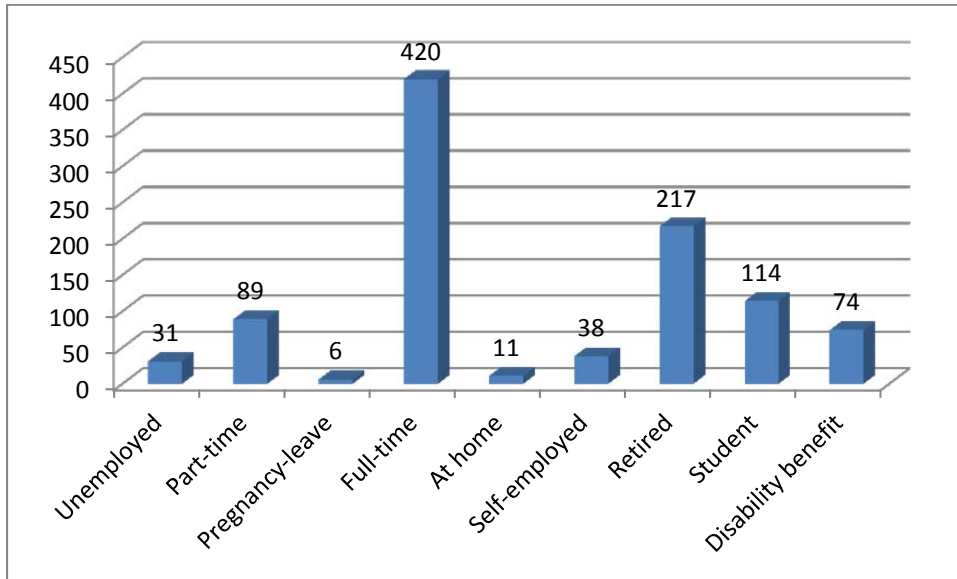
Urbanization



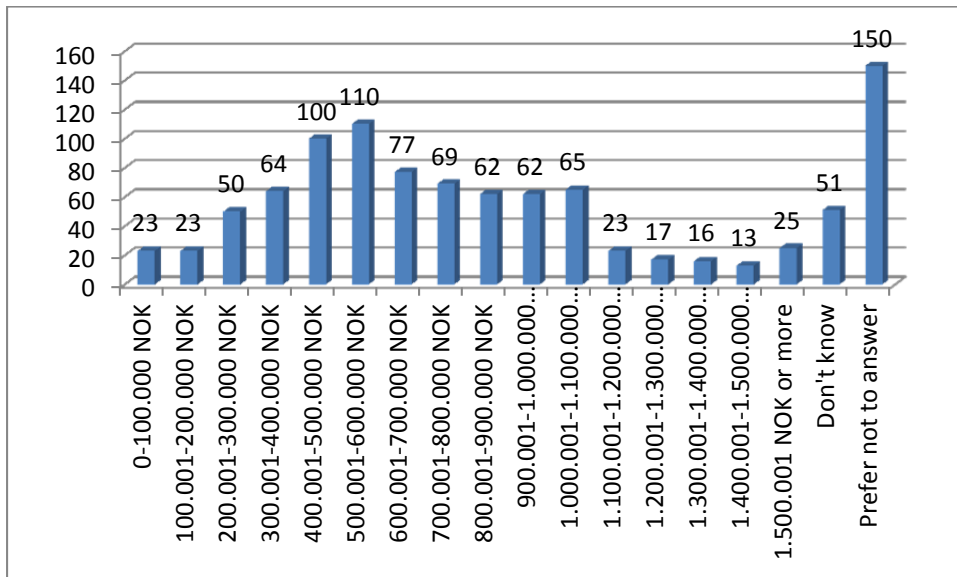
Education



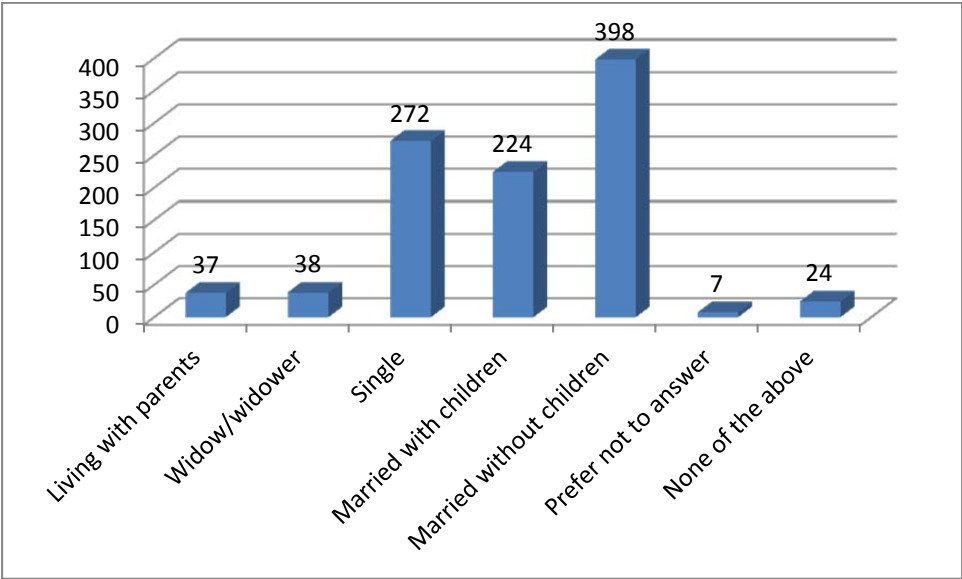
Occupation



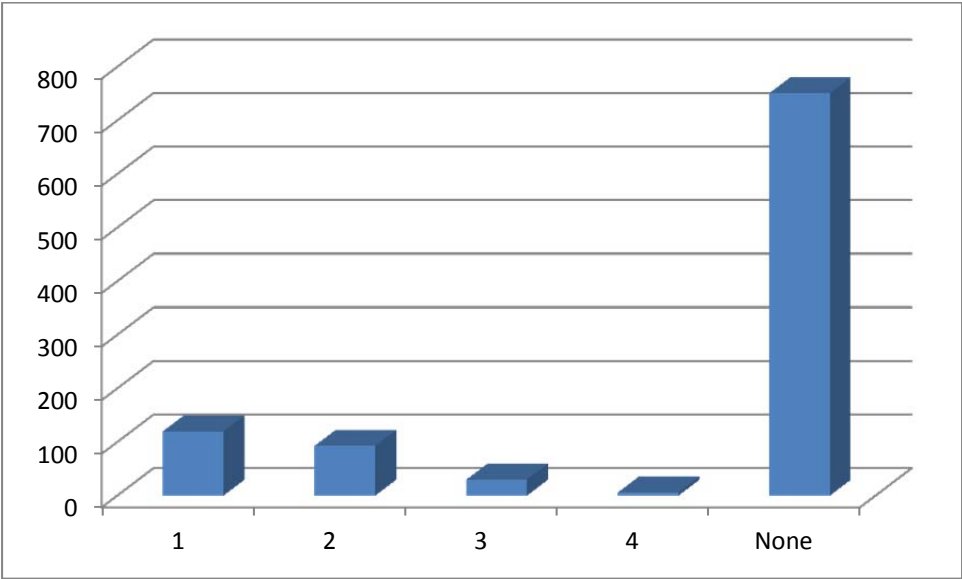
Household income



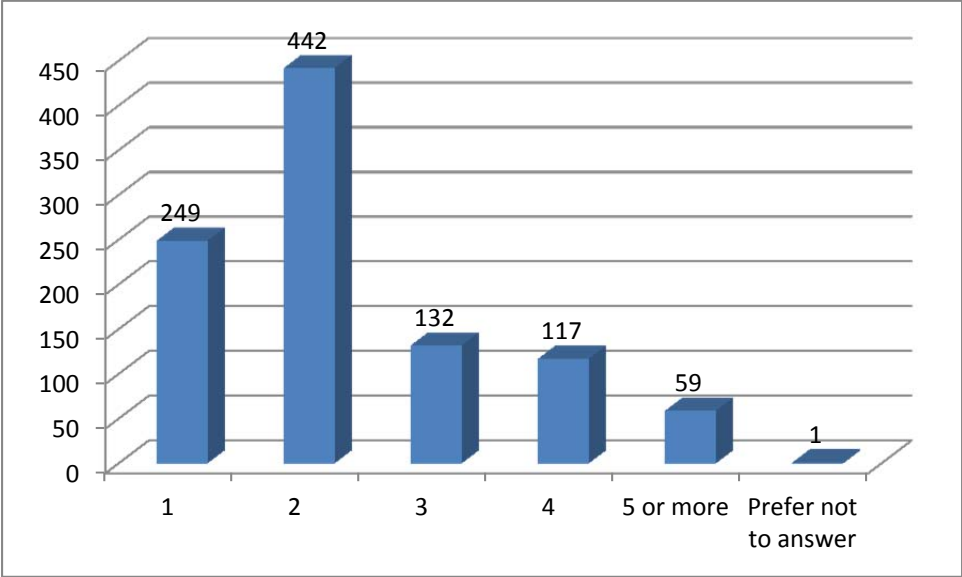
Marital status



Number of children

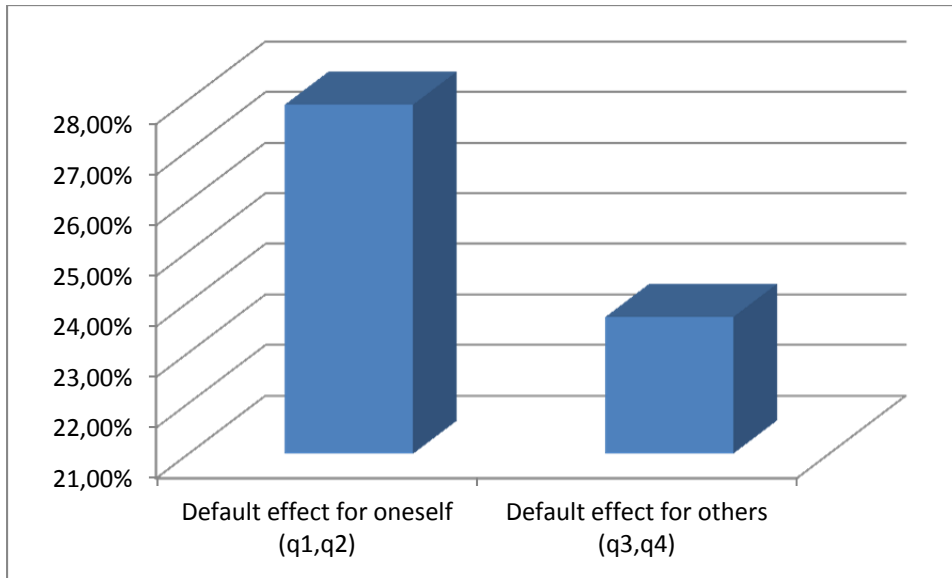


Household size



A.6 Statistics on risk-taking behavior

Default effect for oneself and for others



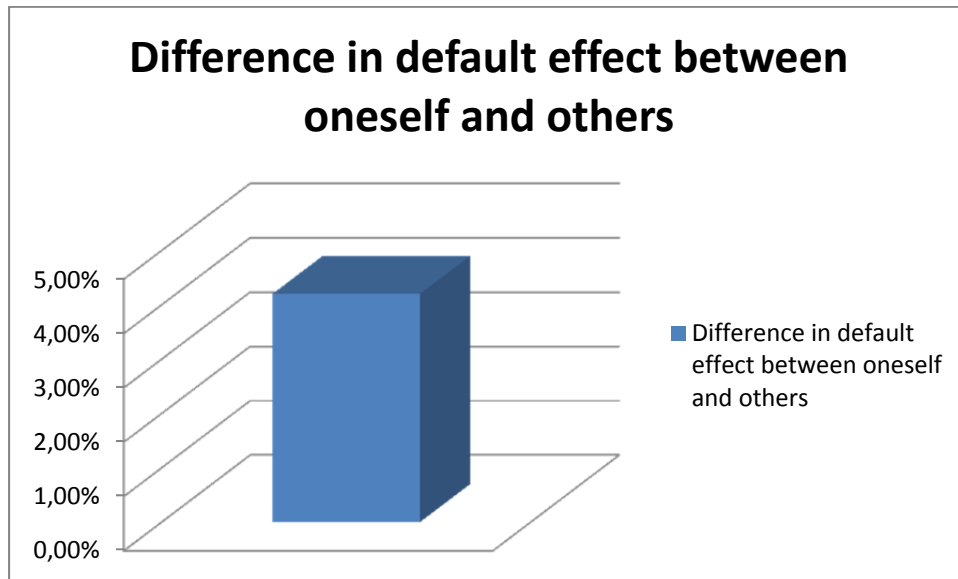
Default effect for oneself (q1,q2)	27,90 %	Default effect for others (q3,q4)	23,70 %
s.e. (q1,q2)	4,09 %	s.e.(q3,q4)	4,27 %
z-value (q1,q2)	6,82	z-value (q3,q4)	5,55
p-value	0,00 %	p-verdi	0,00 %

Difference in choice of safe and risky default between oneself and others



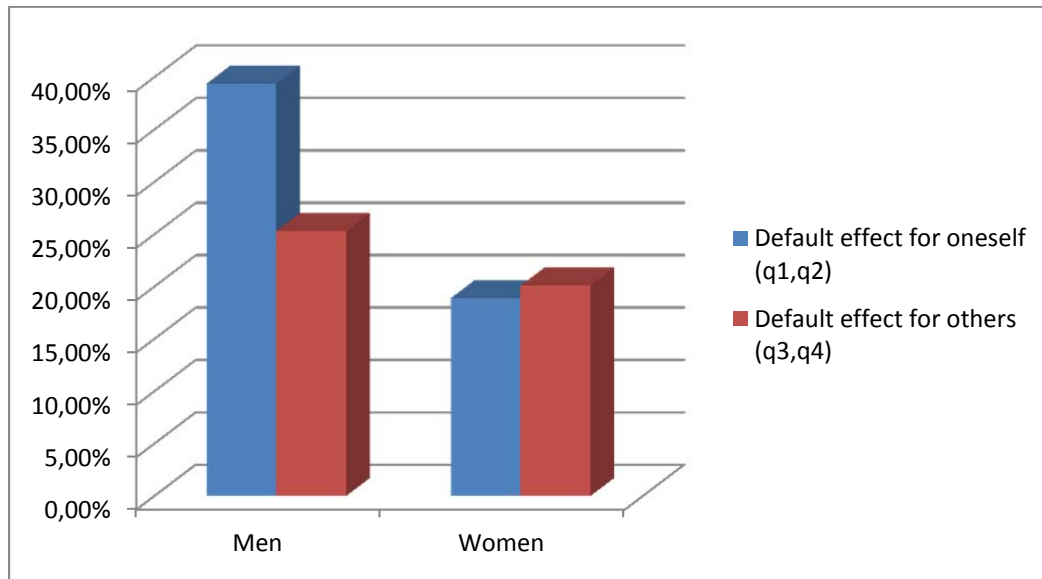
Difference in default between oneself and others	-8,30 %	Difference in risk-taking between oneself and others	4,10 %
s.e.(q1,q3)	3,87 %	s.e.(q2,q4)	4,47 %
z-value(q1,q3)	2,15	t-test(q2,q4)	0,92
p-value	3,19 %	p-verdi	35,92%

Difference in default effect between oneself and others



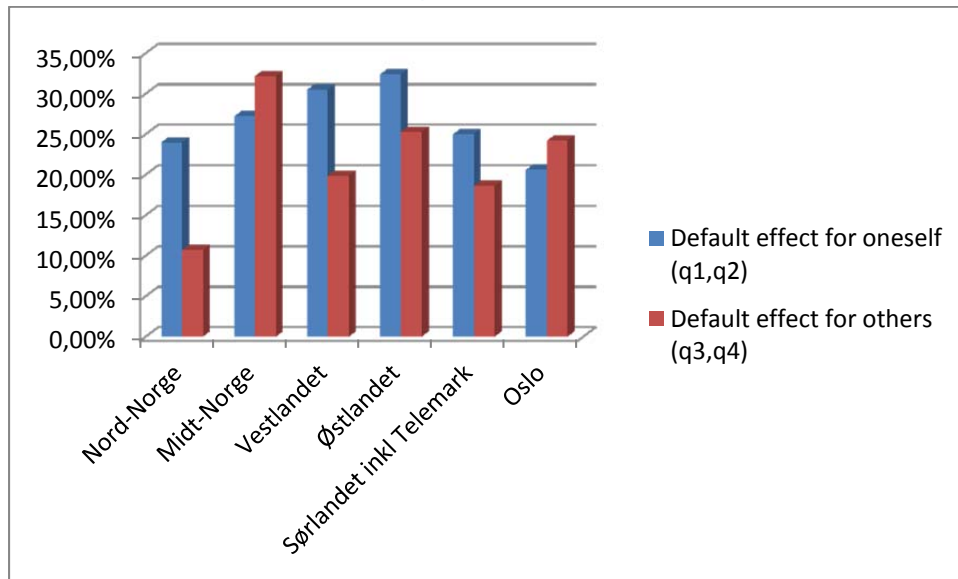
Difference in default effect between oneself and others	4,20 %
s.e.(oneself, others)	5,91 %
z-value(oneself,others)	0,71
p-value	47,75 %

Default effect based on gender



	Men	Women		Men	Women
Default effect for oneself (q1,q2)	39,40 %	18,90 %	Default effect for others (q3,q4)	25,30 %	20,10 %
s.e.(q1,q2)	5,92 %	5,08 %	s.e.(q3,q4)	5,98 %	6,08 %
z-value(q1,q2)	6,65	3,72	z-value(q3,q4)	4,23	3,31
p-value	0,00 %	0,02 %	p-verdi	0,00 %	0,09 %

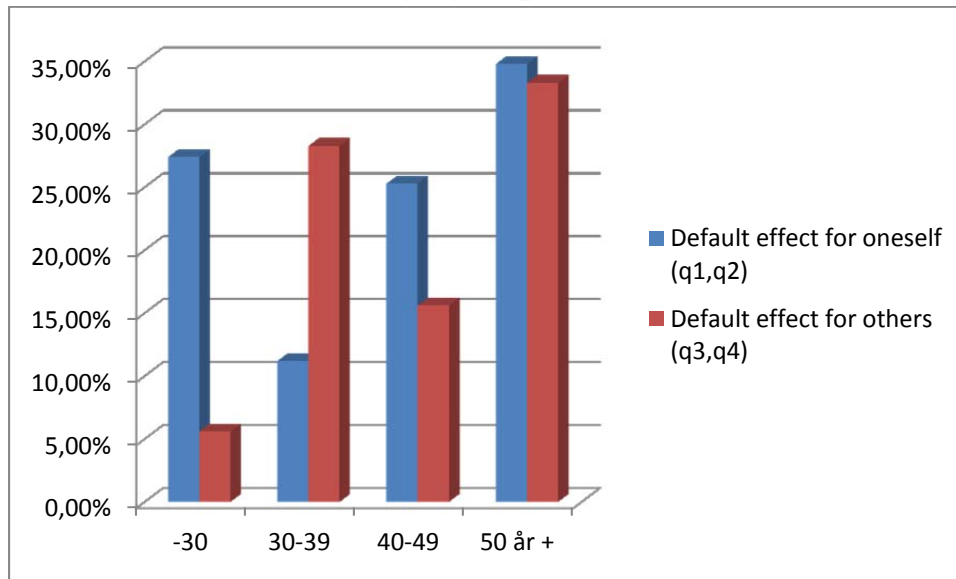
Default effect based on region



	Nord-Norge	Midt-Norge	Vestlandet	Østlandet	Sørlandet inkl Telemark	Oslo
Default effect for oneself (q1,q2)	24,00 %	27,20 %	30,50 %	32,40 %	25,00 %	20,60 %
s.e.(q1,q2)	12,69 %	9,81 %	9,50 %	7,03 %	13,33 %	11,71 %
z-value(q1,q2)	1,89	2,77	3,21	4,61	1,88	1,76
p-value	5,86 %	0,56 %	0,13 %	0,00 %	6,07 %	7,85 %

	Nord-Norge	Midt-Norge	Vestlandet	Østlandet	Sørlandet inkl Telemark	Oslo
Default effect for others (q3,q4)	10,70 %	32,20 %	19,90 %	25,30 %	18,60 %	24,20 %
s.e.(q3,q4)	12,70 %	11,58 %	9,74 %	7,38 %	13,89 %	12,14 %
z-value(q3,q4)	0,84	2,78	2,04	3,43	1,34	1,99
p-value	39,93 %	0,54 %	4,10 %	0,06 %	18,05 %	4,63 %

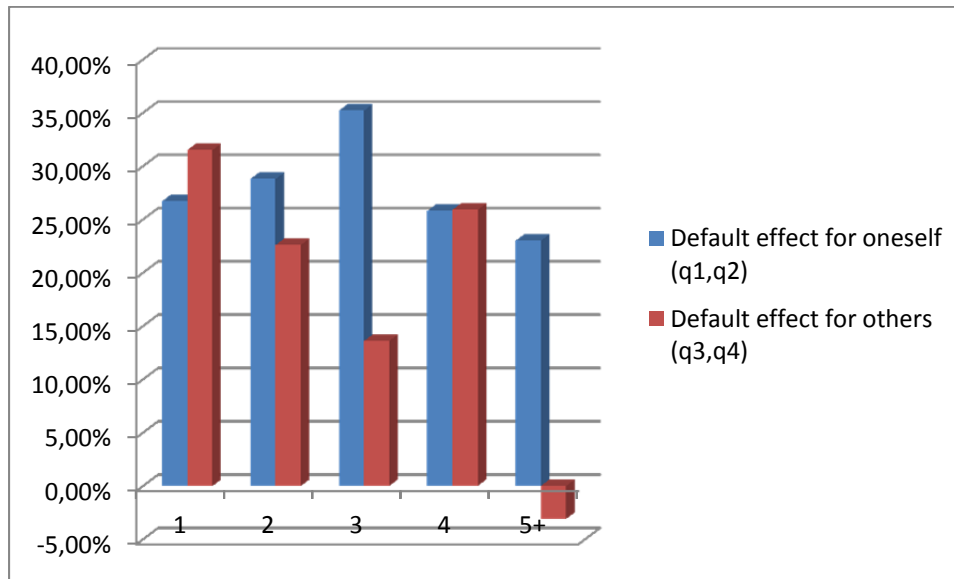
Default effect based on age-group



	-30	30-39	40-49	50 år +
Default effect for oneself (q1,q2)	27,40 %	11,20 %	25,30 %	34,80 %
s.e.(q1,q2)	8,67 %	10,53 %	9,94 %	5,98 %
z-value(q1,q2)	3,16	1,06	2,55	5,82
p-value	0,16 %	28,75 %	1,09 %	0,00 %

	-30	30-39	40-49	50 år +
Default effect for others (q3,q4)	5,60 %	28,30 %	15,60 %	33,30 %
s.e.(q3,q4)	9,21 %	9,85 %	10,33 %	6,34 %
z-value(q3,q4)	0,61	2,87	1,51	5,25
p-value	54,31 %	0,41 %	13,11 %	0,00 %

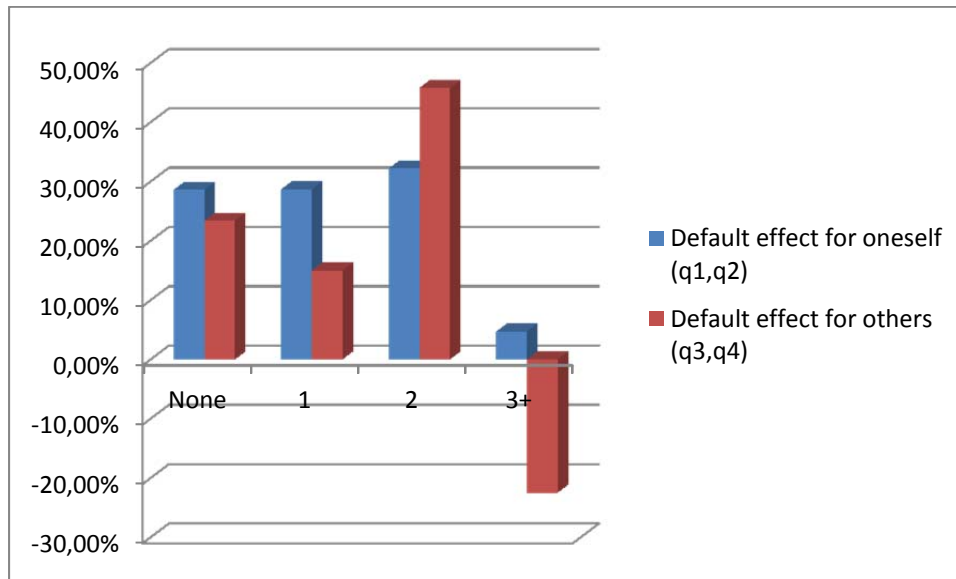
Default effect based on household size



	1	2	3	4	5+
Default effect for oneself (q1,q2)	26,70 %	28,80 %	35,20 %	25,80 %	23,00 %
s.e.(q1,q2)	7,92 %	6,25 %	11,34 %	11,32 %	17,36 %
z-value(q1,q2)	3,37	4,61	3,10	2,28	1,33
p-value	0,07 %	0,00 %	0,19 %	2,26 %	18,51 %

	1	2	3	4	5+
Default effect for others (q3,q4)	31,50 %	22,60 %	13,60 %	25,90 %	-3,10 %
s.e.(q3,q4)	7,99 %	6,52 %	11,45 %	14,03 %	17,43 %
z-value(q3,q4)	3,94	3,46	1,19	1,85	0,18
p-value	0,01 %	0,05 %	23,48 %	6,49 %	85,89 %

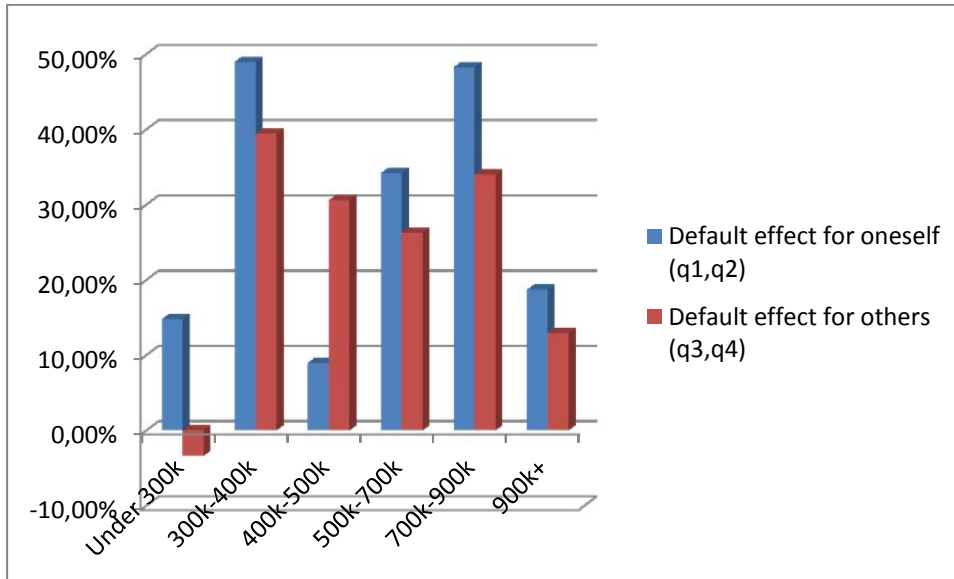
Default effect based on number of children



	None	1	2	3+
Default effect for oneself (q1,q2)	28,60 %	28,70 %	32,20 %	4,70 %
s.e.(q1,q2)	4,68 %	11,26 %	13,68 %	22,00 %
z-value(q1,q2)	6,11	2,55	2,35	0,21
p-value	0,00 %	1,08 %	1,86 %	83,09 %

	None	1	2	3+
Default effect for others (q3,q4)	23,40 %	15,00 %	45,80 %	-22,50 %
s.e.(q3,q4)	4,87 %	12,89 %	13,72 %	13,21 %
z-value(q3,q4)	4,80	1,16	3,34	1,70
p-value	0,00 %	24,46 %	0,08 %	8,84 %

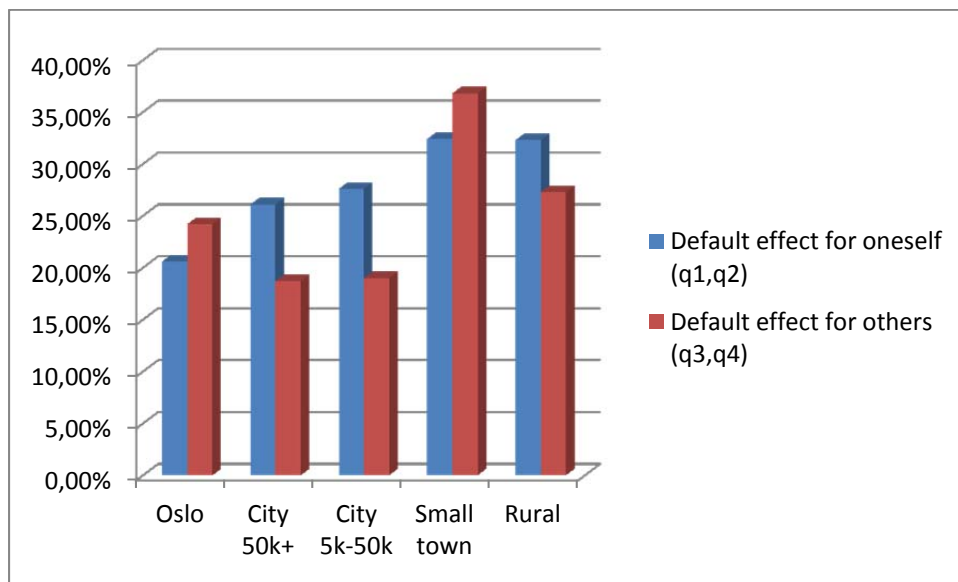
Default effect based on income



	Under 300k	300k-400k	400k-500k	500k-700k	700k-900k	900k+
Default effect for oneself (q1,q2)	14,80 %	49,00 %	9,00 %	34,20 %	48,30 %	18,70 %
s.e.(q1,q2)	11,66 %	13,88 %	14,07 %	9,67 %	10,68 %	9,22 %
z-value (q1,q2)	1,27	3,53	0,64	3,54	4,52	2,03
p-value	20,42 %	0,04 %	52,24 %	0,04 %	0,00 %	4,26 %

	Under 300k	300k-400k	400k-500k	500k-700k	700k-900k	900k+
Default effect for others (q3,q4)	-3,40 %	39,40 %	30,60 %	26,30 %	34,00 %	12,90 %
s.e.(q3,q4)	14,09 %	15,91 %	13,69 %	9,16 %	11,77 %	9,75 %
z-value(q3,q4)	0,24	2,48	2,24	2,87	2,89	1,32
p-value	80,93 %	1,33 %	2,54 %	0,41 %	0,39 %	18,57 %

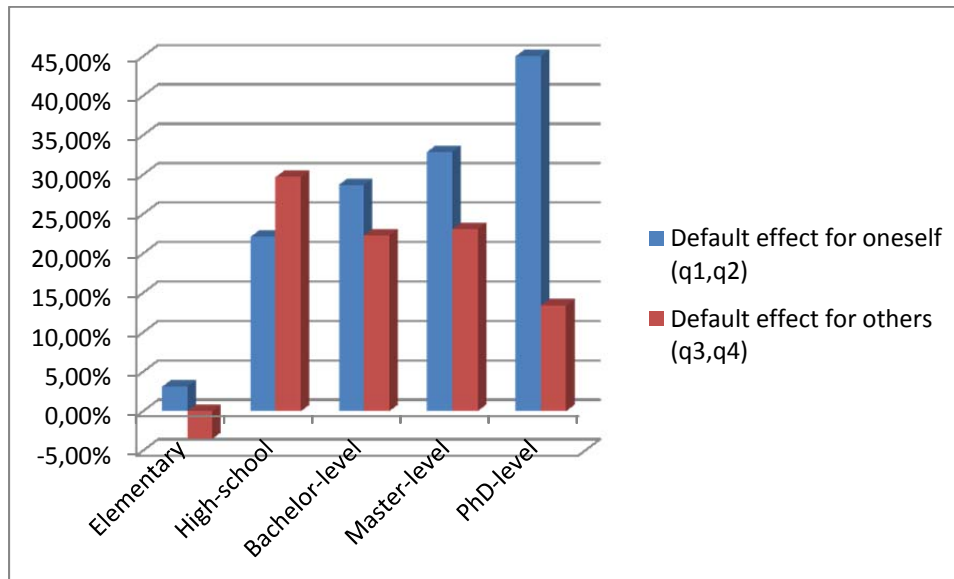
Default effect based on urbanization



	Oslo	City 50k+	City 5k-50k	Small town	Rural
Default effect for oneself (q1,q2)	20,60 %	26,10 %	27,60 %	32,40 %	32,30 %
s.e.(q1,q2)	11,71 %	8,21 %	6,83 %	9,90 %	12,19 %
z-value(q1,q2)	1,76	3,18	4,04	3,27	2,65
p-value	7,85 %	0,15 %	0,01 %	0,11 %	0,81 %

	Oslo	City 50k+	City 5k-50k	Small town	Rural
Default effect for others (q3,q4)	24,20 %	18,70 %	19,00 %	36,80 %	27,30 %
s.e.(q3,q4)	12,14 %	8,80 %	7,76 %	10,13 %	10,61 %
z-value(q3,q4)	1,99	2,12	2,45	3,63	2,57
p-value	4,63 %	3,36 %	1,43 %	0,03 %	1,01 %

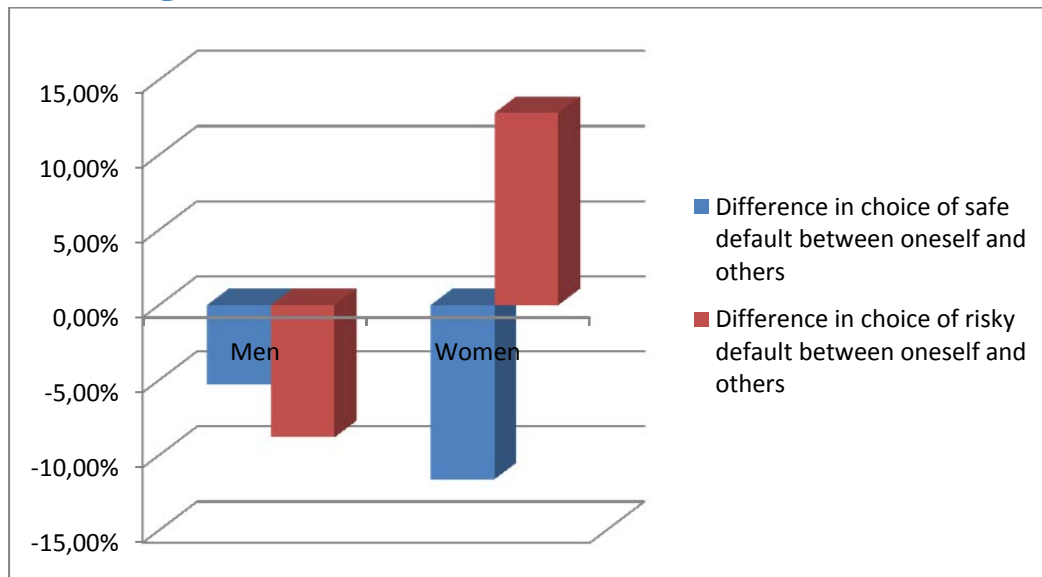
Default effect based on level of education



	Elementary	High-school	Bachelor-level	Master-level	PhD-level
Default effect for oneself (q1,q2)	3,10 %	22,10 %	28,70 %	32,90 %	45,00 %
s.e.(q1,q2)	11,72 %	7,29 %	7,05 %	8,55 %	17,29 %
z-value(q1,q2)	0,26	3,03	4,07	3,85	2,60
p-value	79,13 %	0,24 %	0,00 %	0,01 %	0,93 %

	Elementary	High-school	Bachelor-level	Master-level	PhD-level
Default effect for others (q3,q4)	-3,50 %	29,70 %	22,30 %	23,10 %	13,40 %
s.e.(q3,q4)	23,50 %	7,41 %	7,78 %	8,43 %	23,02 %
z-value(q3,q4)	0,15	4,01	2,87	2,74	0,58
p-value	88,16 %	0,01 %	0,41 %	0,61 %	56,04 %

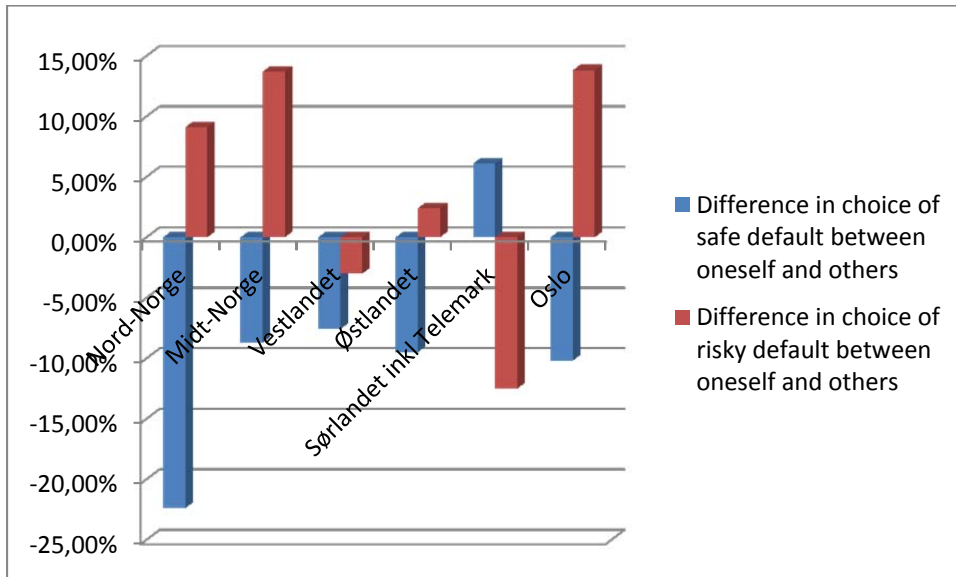
Difference in choice of safe and risky default between oneself and others based on gender



	Men	Women
Difference in choice of safe default between oneself and others	-5,30 %	-11,60 %
s.e.(q1,q3)	5,91 %	4,90 %
z-value(q1,q3)	0,90	2,37
P-value	36,95 %	1,79 %

	Men	Women
Difference in choice of risky default between oneself and others	-8,80 %	12,80 %
s.e.(q2,q4)	6,00 %	6,22 %
z-value(q2,q4)	1,47	2,06
p-value	14,25 %	3,96 %

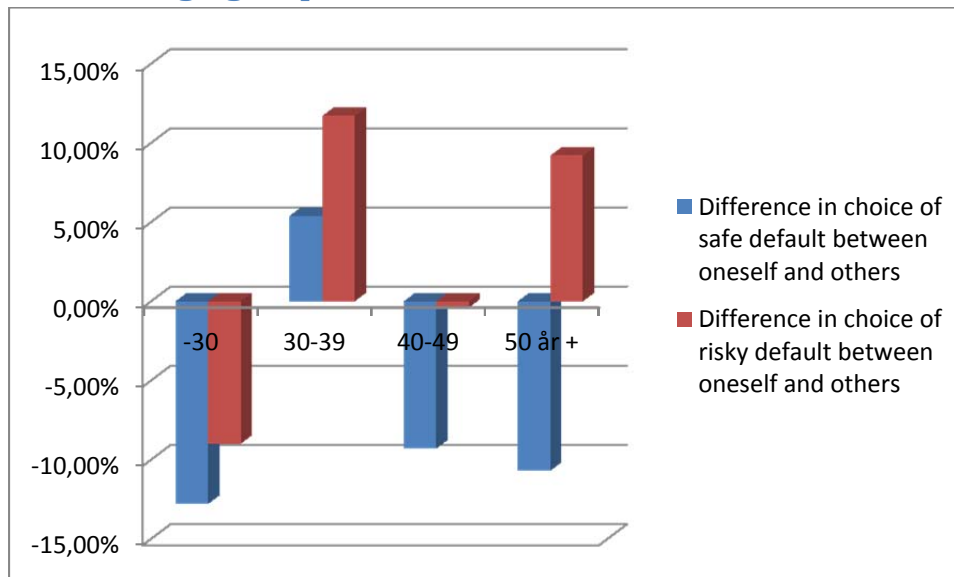
Difference in choice of safe and risky default between oneself and others based on region



	Nord-Norge	Midt-Norge	Vestlandet	Østlandet	Sørlandet inkl. Telemark	Oslo
Difference in choice of safe default between oneself and others	-22,40 %	-8,70 %	-7,60 %	-9,50 %	6,10 %	-10,20 %
s.e.(q1,q3)	10,42 %	9,49 %	7,96 %	7,05 %	12,62 %	12,00 %
z-value(q1,q3)	2,15	0,92	0,95	1,35	0,48	0,85
p-value	3,16 %	35,93 %	33,96 %	17,80 %	62,90 %	39,55 %

	Nord-Norge	Midt-Norge	Vestlandet	Østlandet	Sørlandet inkl. Telemark	Oslo
Difference in choice of risky default between oneself and others	9,10 %	13,70 %	-3,00 %	2,40 %	-12,50 %	13,80 %
s.e.(q2,q4)	14,62 %	11,84 %	11,04 %	7,35 %	14,53 %	11,85 %
z-value(q2,q4)	0,62	1,16	0,27	0,33	0,86	1,16
p-value	53,36 %	24,73 %	78,58 %	74,42 %	38,96 %	24,42 %

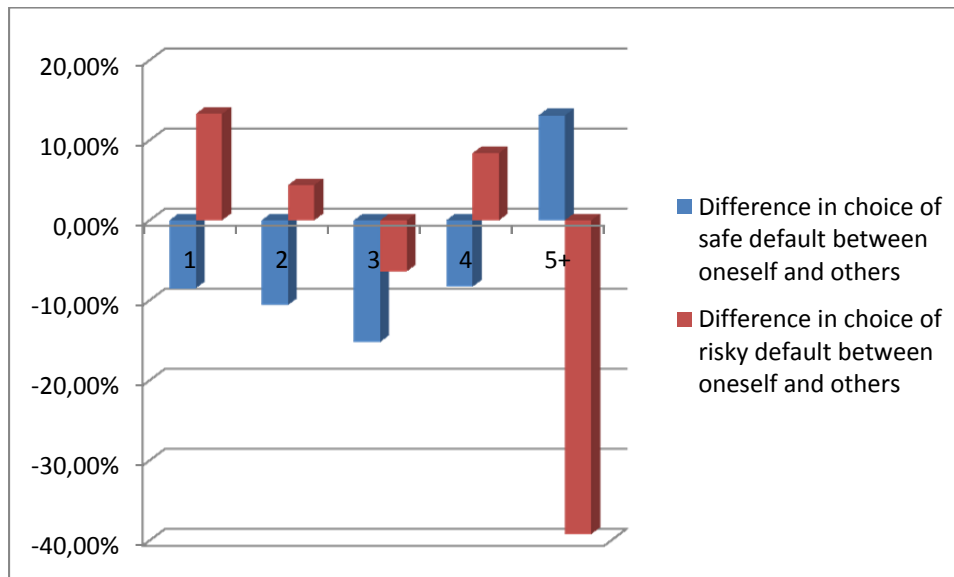
Difference in choice of safe and risky default between oneself and others based on age-group



	-30	30-39	40-49	50 år +
Difference in choice of safe default between oneself and others	-12,80 %	5,40 %	-9,30 %	-10,70 %
s.e.(q1,q3)	8,19 %	9,67 %	10,20 %	5,52 %
z-value(q1,q3)	1,56	0,56	0,91	1,94
p-value	11,80 %	57,67 %	36,21 %	5,26 %

	-30	30-39	40-49	50 år +
Difference in choice of risky default between oneself and others	-9,00 %	11,70 %	-0,40 %	9,20 %
s.e.(q2,q4)	9,64 %	10,69 %	10,07 %	6,74 %
z-value(q2,q4)	0,93	1,09	0,04	1,36
p-value	35,06 %	27,38 %	96,83 %	17,24 %

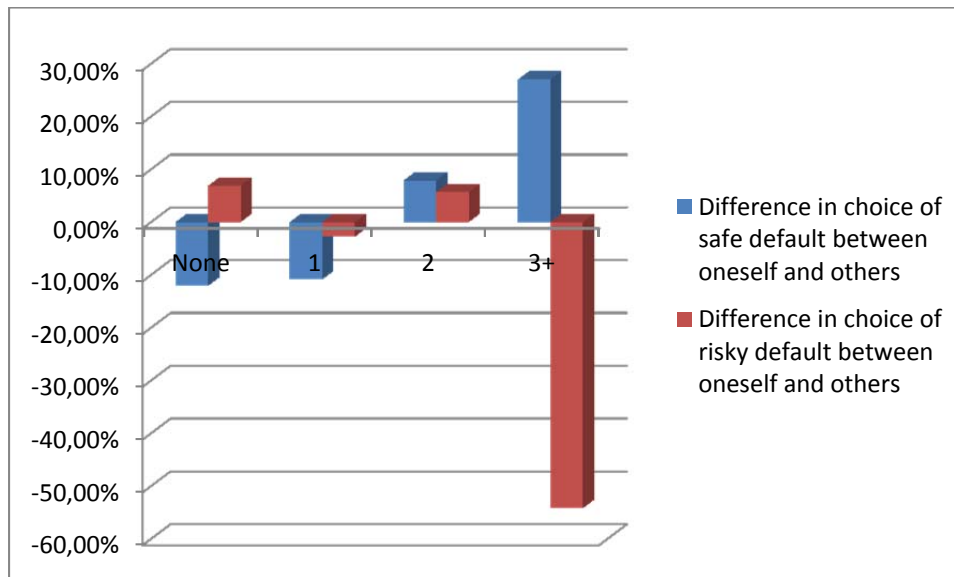
Difference in choice of safe and risky default between oneself and others based on household size



	1	2	3	4	5+
Difference in choice of safe default between oneself and others	-8,50 %	- 10,60 %	- 15,20 %	-8,30 %	13,10 %
s.e.(q1,q3)	7,14 %	5,88 %	11,08 %	12,23 %	14,71 %
z-value(q1,q3)	1,19	1,80	1,37	0,68	0,89
p-value	23,36 %	7,15 %	17,03 %	49,74 %	37,31 %

	1	2	3	4	5+
Difference in choice of risky default between oneself and others	13,30 %	4,40 %	-6,40 %	8,40 %	- 39,20 %
s.e.(q2,q4)	8,70 %	6,86 %	11,70 %	13,24 %	19,72 %
z-value(q2,q4)	1,53	0,64	0,55	0,63	1,99
p-value	12,63 %	52,11 %	58,43 %	52,58 %	4,68 %

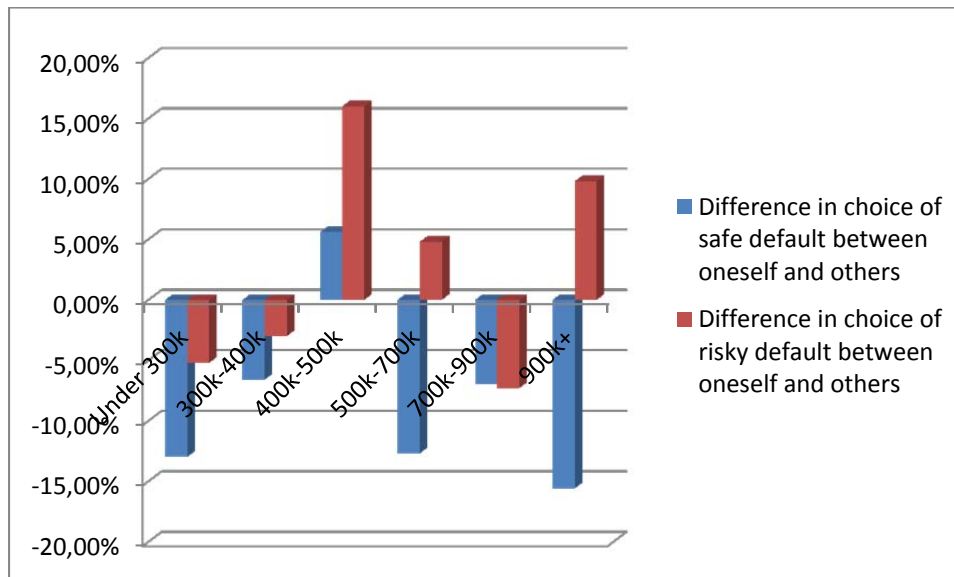
Difference in choice of safe and risky default between oneself and others based on number of children



	None	1	2	3+
Difference in choice of safe default between oneself and others	-12,10 %	-10,90 %	7,90 %	27,00 %
s.e.(q1,q3)	4,39 %	11,06 %	13,46 %	19,56 %
z-value(q1,q3)	2,75	0,99	0,59	1,38
p-value	0,59 %	32,42 %	55,73 %	16,75 %

	None	1	2	3+
Difference in choice of risky default between oneself and others	6,90 %	-2,80 %	5,70 %	-54,20 %
s.e.(q2,q4)	5,13 %	13,07 %	13,94 %	16,61 %
z-value(q2,q4)	1,34	0,21	0,41	3,26
p-value	17,88 %	83,03 %	68,25 %	0,11 %

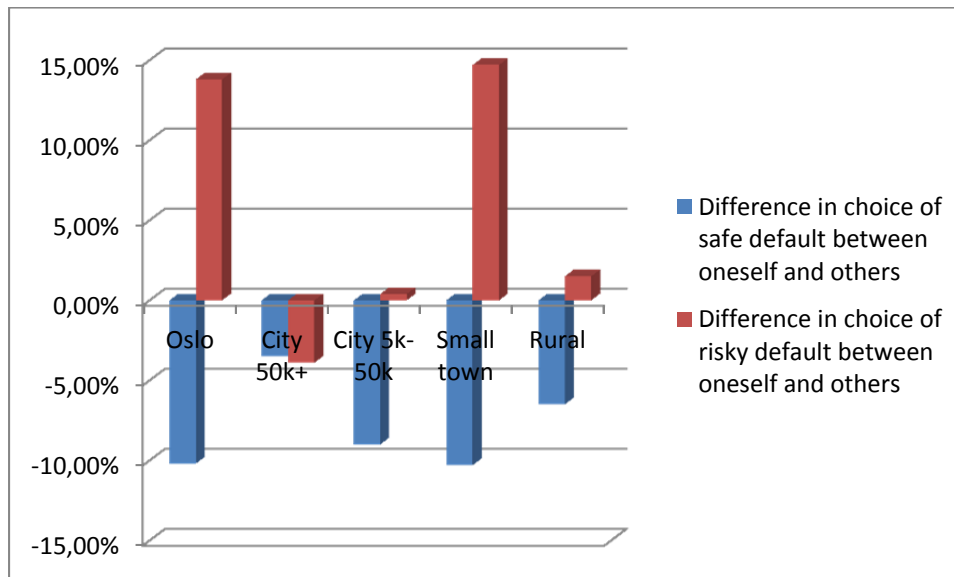
Difference in choice of safe and risky default between oneself and others based on household income



	Under 300k	300k-400k	400k-500k	500k-700k	700k-900k	900k+
Difference in choice of safe default between oneself and others	-13,00 %	-6,60 %	5,60 %	-12,70 %	-7,00 %	-15,60 %
s.e.(q1,q3)	12,78 %	11,30 %	14,36 %	8,04 %	10,00 %	9,69 %
z-value(q1,q3)	1,02	0,58	0,39	1,58	0,70	1,61
p-value	30,91 %	55,92 %	69,65 %	11,43 %	48,40 %	10,73 %

	Under 300k	300k-400k	400k-500k	500k-700k	700k-900k	900k+
Difference in choice of risky default between oneself and others	-5,20 %	-3,00 %	16,00 %	4,80 %	-7,30 %	9,80 %
s.e.(q2,q4)	13,08 %	17,84 %	13,39 %	10,62 %	12,35 %	9,29 %
z-value(q2,q4)	0,40	0,17	1,20	0,45	0,59	1,06
p-value	69,09 %	86,64 %	23,20 %	65,12 %	55,46 %	29,12 %

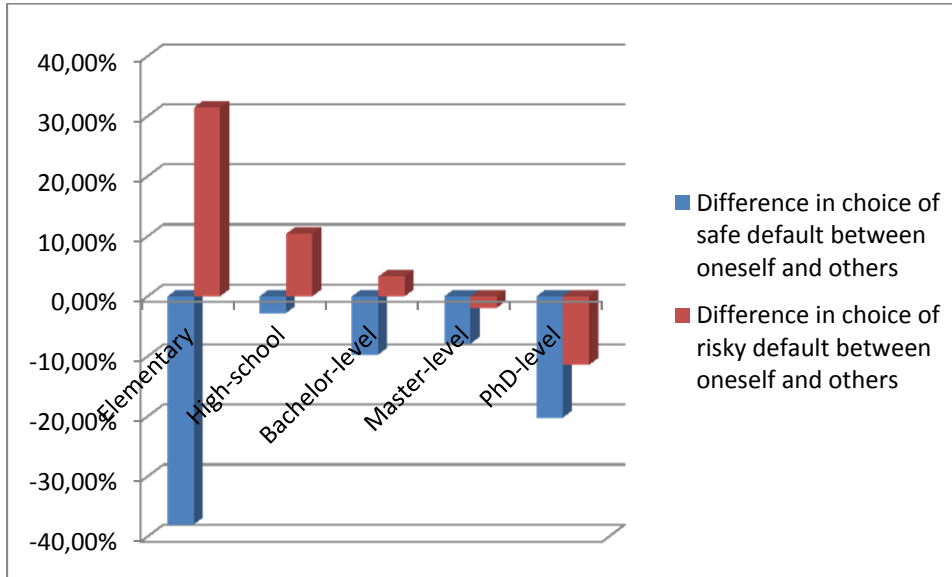
Difference in choice of safe and risky default between oneself and others based on urbanization



	Oslo	City 50k+	City 5k-50k	Small town	Rural
Difference in choice of safe default between oneself and others	-10,20 %	-3,50 %	-9,00 %	-10,30 %	-6,50 %
s.e.(q1,q3)	12,00 %	8,17 %	6,57 %	7,80 %	11,33 %
t-test(q1,q3)	0,85	0,43	1,37	1,32	0,57
p-value	39,55 %	66,83 %	17,05 %	18,65 %	56,61 %

	Oslo	City 50k+	City 5k-50k	Small town	Rural
Difference in choice of risky default between oneself and others	13,80 %	-3,90 %	0,40 %	14,70 %	1,50 %
s.e.(q2,q4)	11,85 %	8,84 %	7,98 %	11,82 %	11,53 %
t-test(q2,q4)	1,16	0,44	0,05	1,24	0,13
p-value	24,42 %	65,91 %	96,00 %	21,37 %	89,65 %

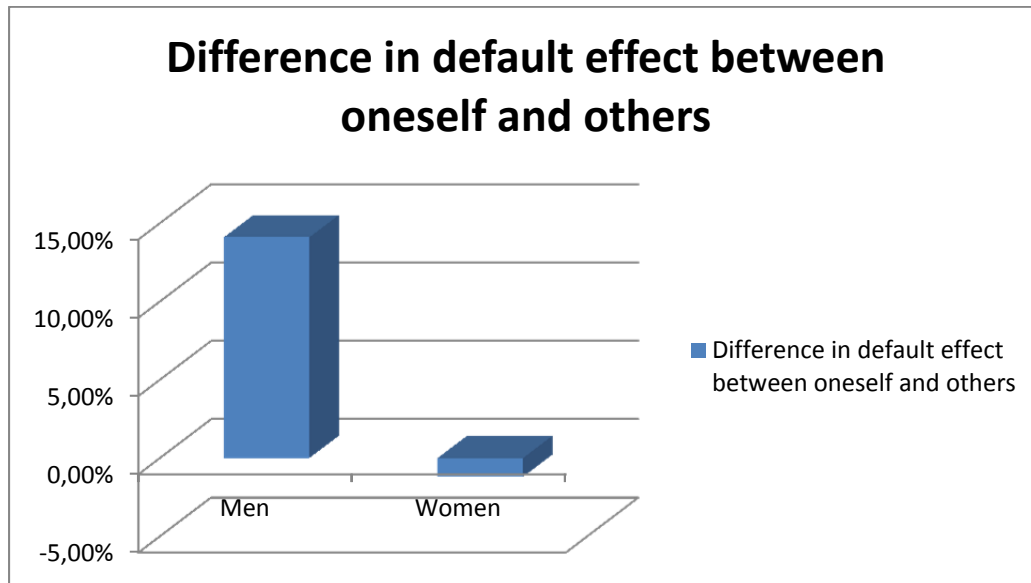
Difference in choice of safe and risky default between oneself and others based on level of education



	Elementary	High-school	Bachelor-level	Master-level	PhD-level
Difference in choice of safe default between oneself and others	-38,00 %	-2,80 %	-9,70 %	-7,90 %	-20,20 %
s.e.(q1,q3)	21,37 %	6,40 %	7,09 %	8,19 %	20,54 %
z-value(q1,q3)	1,78	0,44	1,37	0,96	0,98
p-value	7,54 %	66,15 %	17,15 %	33,47 %	32,55 %

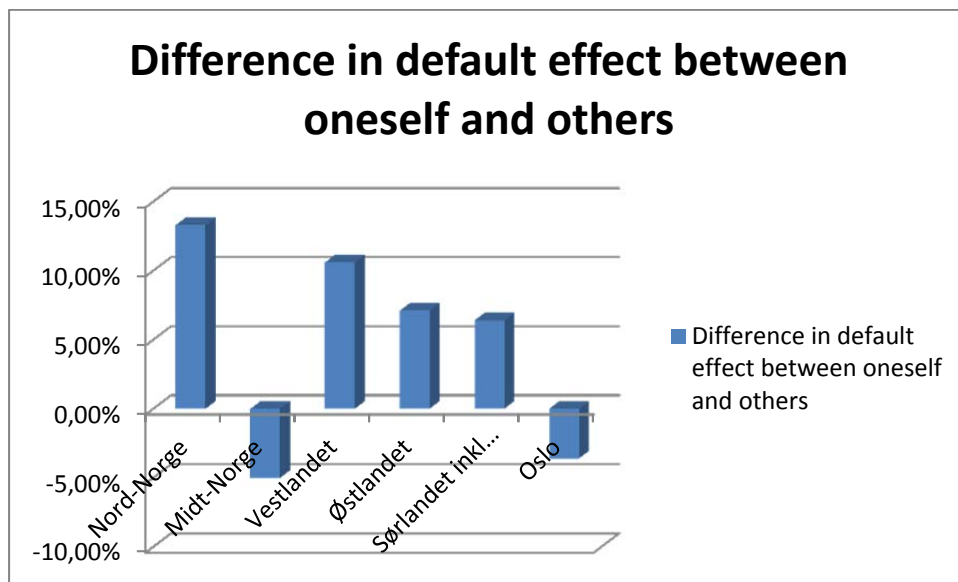
	Elementary	High-school	Bachelor-level	Master-level	PhD-level
Difference in choice of risky default between oneself and others	31,40 %	10,40 %	3,30 %	-1,90 %	11,40 %
s.e.(q2,q4)	15,25 %	8,20 %	7,74 %	8,78 %	20,17 %
z-value(q2,q4)	2,06	1,27	0,43	0,22	0,57
p-value	3,95 %	20,44 %	66,98 %	82,87 %	57,19 %

Difference in default effect between oneself and others based on gender



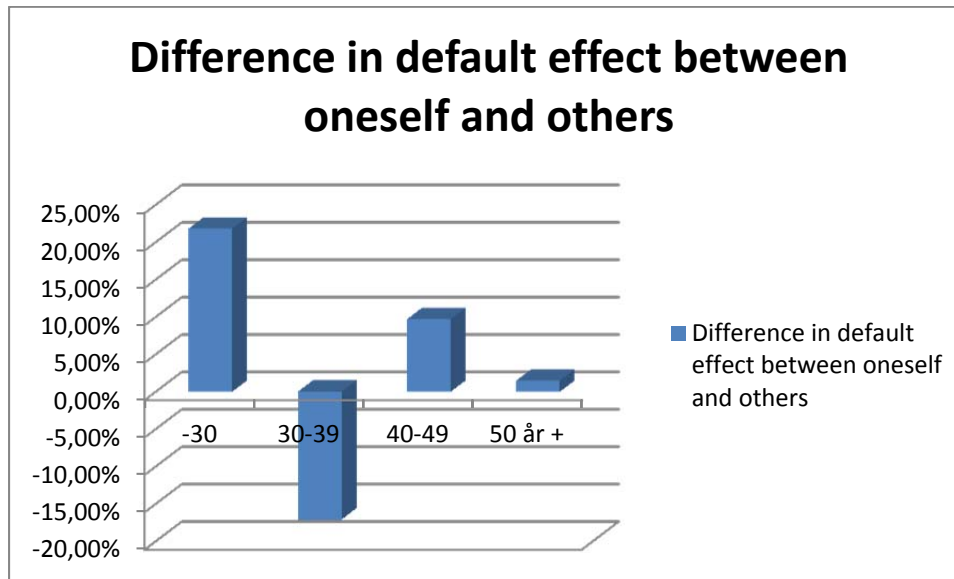
	Men	Women
Difference in default effect between oneself and others	14,10 %	-1,20 %
s.e.(oneself, others)	8,42 %	7,92 %
z-value(oneself,others)	1,67	0,15
p-value	9,40 %	87,96 %

Difference in default effect between oneself and others based on region



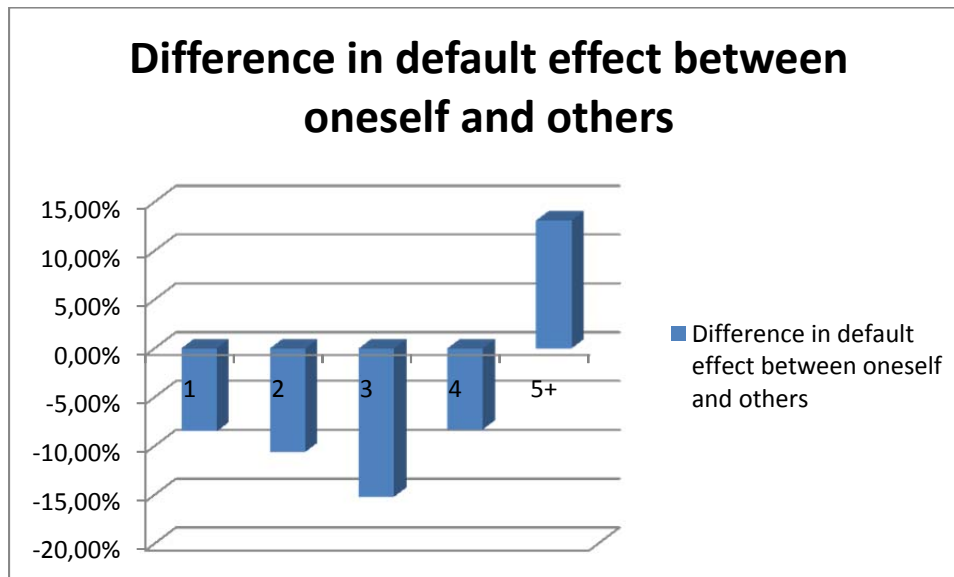
	Nord-Norge	Midt-Norge	Vestlandet	Østlandet	Sørlandet inkl Telemark	Oslo
Difference in default effect between oneself and others	13,30 %	-5,00 %	10,60 %	7,10 %	6,40 %	-3,60 %
s.e.(oneself, others)	17,95 %	15,17 %	13,61 %	10,19 %	19,25 %	16,87 %
z-value(oneself,others)	0,74	0,33	0,78	0,70	0,33	0,21
p-value	45,88 %	74,18 %	43,61 %	48,60 %	73,95 %	83,10 %

Difference in default effect between oneself and others based on age-group



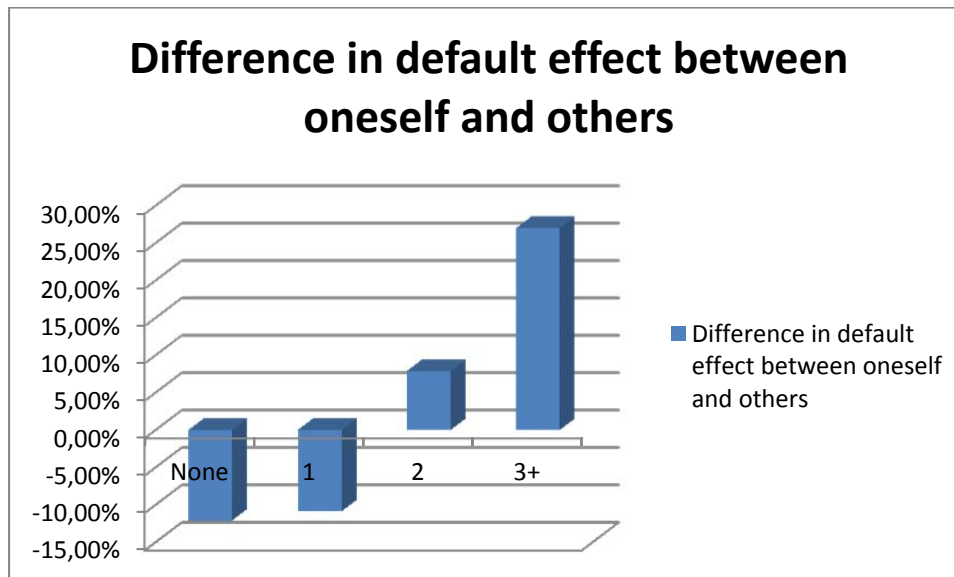
	-30	30-39	40-49	50 år +
Difference in default effect between oneself and others	21,80 %	17,10 %	9,70 %	1,50 %
s.e.(oneself, others)	12,65 %	14,42 %	14,34 %	8,71 %
z-value(oneself,others)	1,72	1,19	0,68	0,17
p-value	8,48 %	23,56 %	49,86 %	86,33 %

Difference in default effect between oneself and others based on household size



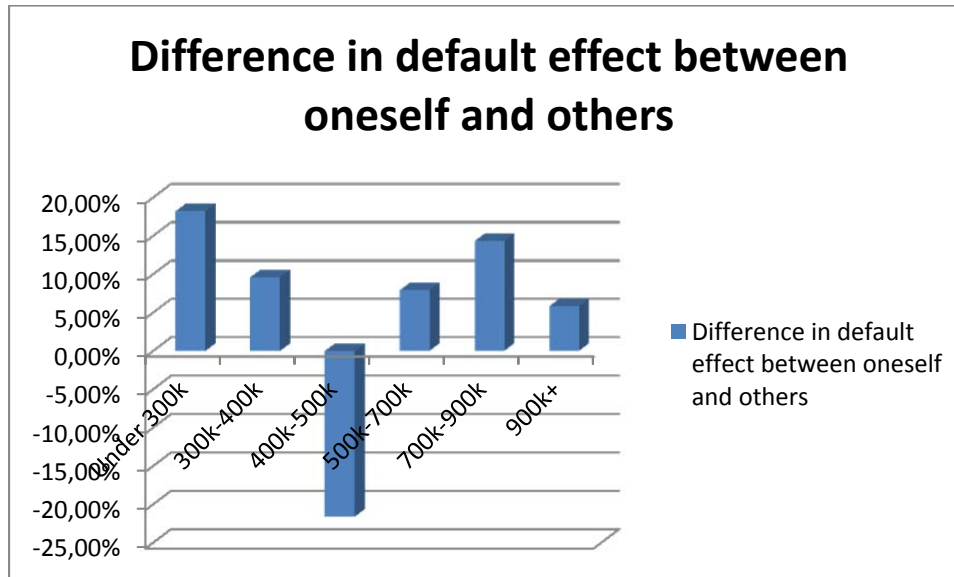
	1	2	3	4	5+
Difference in default effect between oneself and others	-4,80 %	6,20 %	21,60 %	-0,10 %	26,10 %
s.e.(oneself, others)	11,25 %	9,03 %	16,12 %	18,03 %	24,60 %
t-test(oneself,others)	0,43	0,69	1,34	0,01	1,06
p-value	66,97 %	49,25 %	18,01 %	99,56 %	28,87% %

Difference in default effect between oneself and others based on number of children



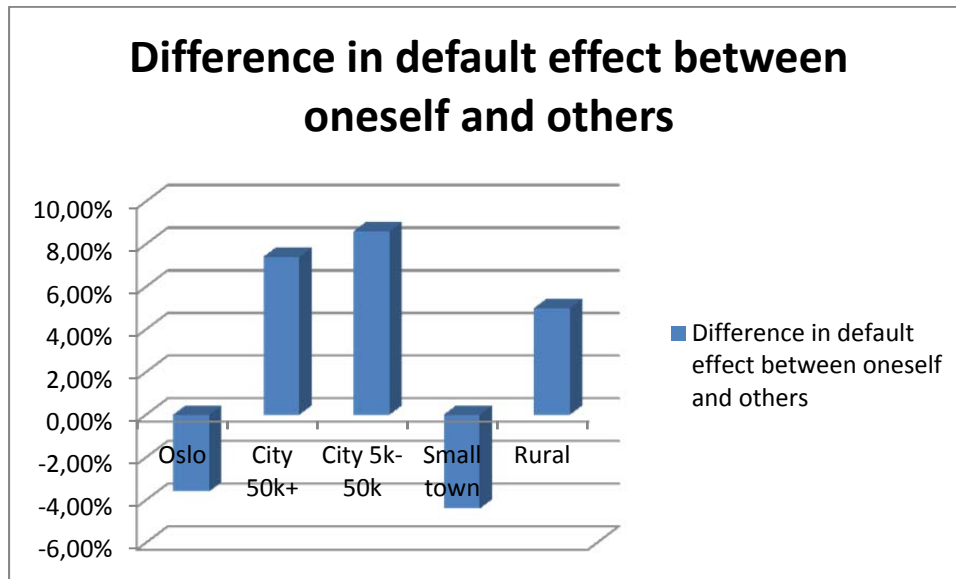
	None	1	2	3+
Difference in default effect between oneself and others	5,20 %	13,70 %	-13,60 %	27,20 %
s.e.(oneself, others)	6,76 %	17,12 %	19,38 %	25,66 %
z-value(oneself,others)	0,77	0,80	0,70	1,06
p-value	44,15 %	42,35 %	48,28 %	28,92 %

Difference in default effect between oneself and others based on household income



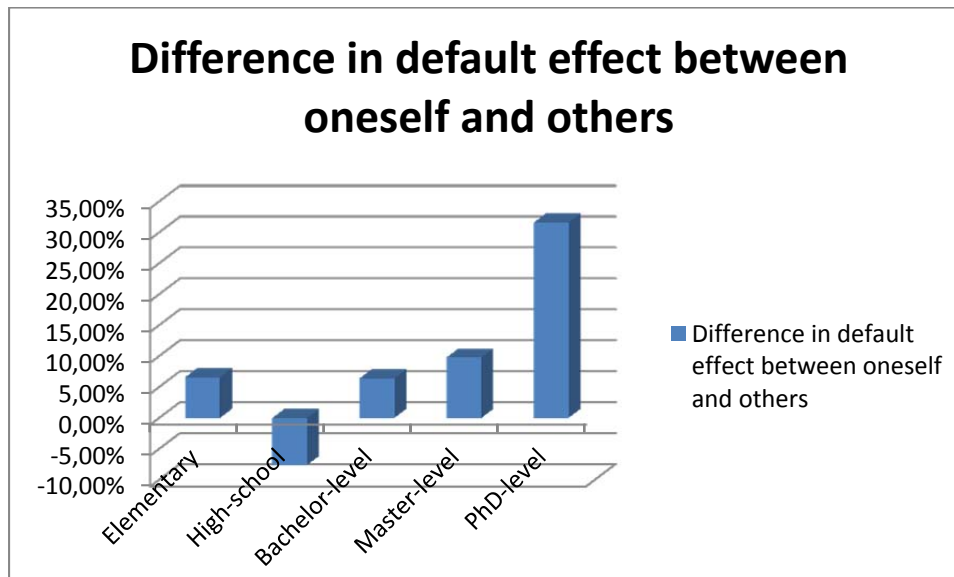
	Under 300k	300k-400k	400k-500k	500k-700k	700k-900k	900k+
Difference in default effect between oneself and others	18,20 %	9,60 %	- 21,60 %	7,90 %	14,30 %	5,80 %
s.e.(oneself, others)	18,29 %	21,11 %	19,63 %	13,32 %	15,89 %	13,42 %
z-value(oneself,others)	1,00	0,45	1,10	0,59	0,90	0,43
p-value	31,96 %	64,94 %	27,12 %	55,31 %	36,83 %	66,56 %

Difference in default effect between oneself and others based on urbanization



	Oslo	City 50k+	City 5k-50k	Small town	Rural
Difference in default effect between oneself and others	-3,60 %	7,40 %	8,60 %	-4,40 %	5,00 %
s.e.(oneself, others)	16,87 %	12,04 %	10,34 %	14,16 %	16,16 %
z-value(oneself,others)	0,21	0,61	0,83	0,31	0,31
p-value	83,10 %	53,87 %	40,54 %	75,60 %	75,71 %

Difference in default effect between oneself and others based on level of education



	Elementary	High-school	Bachelor-level	Master-level	PhD-level
Difference in default effect between oneself and others	6,60 %	-7,60 %	6,40 %	9,80 %	31,60 %
s.e.(oneself, others)	26,26 %	10,40 %	10,50 %	12,01 %	28,79 %
z-value(oneself,others)	0,25	0,73	0,61	0,82	1,10
p-value	80,15 %	46,67 %	54,21 %	41,43 %	27,24 %

A.7 Validity

The degree to which our results can be trusted and the possibility of errors in our research can be reduced depends on the validity and reliability of our research design (Saunders et al., 2009). Minimizing the amount of error in our data will lead to a more accurate reflection of the truth (Litwin, 1995).

Internal validity

In an experiment, there are usually many variables involved. Some of them are measurable and/or controllable, while others are not. When you uncover a causal relationship between dependent and independent variables, there may be factors influencing it that are out of your control. Internal validity is concerned with the strength of the causal relationship and potential sources of error and/or influence (Ghauri and Grønhaug, 2010).

Since my respondents are taking this survey online, I am in no control of their environment. There may be a wide variety of distractions affecting the quality of their answers. The environment may be too noisy, it may be too hot or too cold, the respondents may be performing other tasks at the same time and so on (Dandurand et al., 2008). This may be a source of error.

The fact that the survey is incentivized may also act as a source of error. The respondent may be more occupied with getting the reward than with answering truthfully. This may lead respondents to selecting alternatives without reflecting on them. Another problem with incentive coupled surveys is that respondents may try to take the survey several times in order to make more money on it (Bryant et al., 2004). This is, however, not possible in NORSTAT's surveys.

Dropouts may be a problem if dropouts share some characteristics that lead them to dropping out. This may lead to a bias in our results (Bryant et al., 2004). Since my recipients are only receiving one of my questions each, they are either completing my survey or not. This way drop-out is no issue.

Events happening prior to or during my question may be a source of bias (Bryant et al., 2004). Personal events that can cause stress or inattention are difficult to exclude in any survey. Since my questions are part of a web-bus and the other questions are not disclosed to me, there is no way of knowing if there are questions part of the web-bus, that may act as a source of bias or that has in effect caused a bias. There could for instance be questions from other actors that touch the same domain as mine and thereby can exert influence on the respondents' answers to my questions. NORSTAT has assured me that they are checking for similar questions from different actors helping to reduce this source of error.

An advantage with online experiments is that the respondents are usually not close to each other. This way there is less chance that people may be influenced by information diffused from other treatment groups or that they imitate what others have responded. There is however a chance that people may have recommended NORSTAT's incentivized surveys to each other and that this has created a topic for conversations online or in real life between them regarding the different web-buses. In order to prevent this bias NORSTAT has chosen to limit both the deadline for taking the survey and the time to perform the surveys themselves (Bryant et al., 2004)).

All things considered the random selection of participants through NORSTAT's large pool of respondents together with the fact that the participants are divided into four treatment groups makes it possible to uncover and minimize systematic differences and distortions from external factors. I therefore conclude that the internal validity is sufficiently strong (Saunders et al., 2009).

External validity

The external validity of the study tells us something about to which degree our findings can be generalized to the population as a whole and/or to other contexts or periods in time (Saunders et al., 2009).

With an online survey the participant can choose to some extent when, where and how to perform the study. Compared to a laboratory experiment this can be less stressful and more comfortable for the participant improving the chance for a more accurate response (Bryant et al., 2004).

NORSTAT's selection of respondents from a large and diverse pool of people from different regions and with different characteristics increases the generalizability and thereby the external validity of the study (Dandurand et al., 2008).

All things considered I find the degree of generalizability to the whole population adequate. My domain is quite narrow, so whether my results can be generalized to other domains is more uncertain. Since people's opinions about my domain may change over time, there is also a chance that their default behavior may change accordingly, so I regard generalizability to other periods in time is more uncertain.

Construct validity

Construct validity tells us something about to which degree the selected variables are appropriate with regards to what we are trying to measure. My focus in this thesis is on trying to uncover if there are any

bias caused by single indicators – also known as face validity. The literature that I have been reviewing seems to support my single indicators, so I consider the face validity good (Ghauri and Grønhaug, 2010).

Throughout the study I have focused on being clear and precise to avoid misunderstandings. This contributes to improving the validity of my study (Ghauri and Grønhaug, 2010).

By assuring anonymity I am also avoiding any bias caused by participants trying to provide the answer that they believe the recipient wants (Dandurand et al. 2008).

Statistical Conclusion Validity

Statistical conclusion validity tells us something about to what degree we can claim that our conclusions are due to true effects or just random events (Bryant et al., 2004).

An important factor for statistical conclusion validity is statistical power. This factor is dependent upon sample size, population effect size and the size of the alpha. By choosing an online survey I have been able to get a large enough sample to make it possible to conclude with an adequate degree of certainty. The larger sample not only supports my conclusions, but it also contributes to decreasing error and makes it possible to generalize to the population as a whole (Saunders et al., 2009).

The more diverse population that you get from increased heterogeneity in participants may cause a larger variance in data. Although a larger sample size helps reduce beta error it may also lead to more noise. This is a drawback with increased heterogeneity (Saunders et al., 2009).

In an online survey the data gathered is immediately stored as is. This reduces the risk of information being distorted as it can be when you're typing in data from written forms (Bryant et al., 2004).

With regards to significance testing, I have decided to use z-tests and linear multiple regressions. These are well-known and proven (Saunders et al., 2009).

A.8 Reliability

Reliability tells us something about whether our results are stable and consistent under re-testing. If you get the same results each time you conduct the same study, you can be confident that your results are reliable. In order to minimize observer bias, I tried to implement a high level of structure in my study. I sought to minimize participant bias by securing anonymity and not reveal the objective of the study. Based on these measures, I believe that my study is sufficiently reliable (Ghauri & Grønhaug, 2010).

A.9 Information from NORSTAT in norwegian

Assuring distinct respondents

«Når en respondent går inn i en undersøkelse, får vedkommende et ID nummer som vi kaller RespID. Dette blir koblet sammen til den personen som har trykket på linken for å starte undersøkelsen.

Dersom vedkommende fullfører undersøkelsen, vet vi at RespID XXXXX har besvart. Da kan ikke RespID XXXXX besvare undersøkelsen igjen. Det samme gjelder også dersom vedkommende er screenet ut av undersøkelsen, eller ikke er i målgruppen. Da har vi registrert dette.»

Assuring distinct questions

«Vi har et bevisst forhold til hvilke spørsmål som stilles per webbus. Vi dobbeltsjekker at det f.eks. ikke er spørsmål som er identiske (eller nesten identiske) i undersøkelsen. Vi har også en person som har et overordnet oppsyn med alle spørsmål som legges inn. Hver prosjektleder tar også stilling til spørsmålene som skal legges på bussen, og forsikrer oss om at det er spørsmål som er stilt på en fornuftig måte. F.eks. om det er spørsmål om sensitive tema, eller andre spørsmål som rett og slett ikke passer seg, så ber vi om en omformulering av spørsmålet.»

About incentives

«Vi bruker panelpoeng til de som svarer på våre undersøkelser.»

1 poeng= 1 krone.

Antall poeng varierer ut fra hvor lang undersøkelsen er. Når respondentene har opptjent en del poeng, kan disse veksles inn i for eksempel gavekort.»

About the panels

<http://panel.no/>

http://panel.no/reward_choices

About the web-bus

«Det varierer hvor mange spørsmål som ligger på, stort sett så tar hele undersøkelsen omkring 10-15 minutter. Men her er det altså variasjoner fra uke til uke. Vi har noen spørsmål som ligger på mer eller mindre fast, men de fleste spørsmålene ligger kun på i en uke av gangen. Vi gjennomfører alltid 1000 intervju. »

NORSTAT's routines for handling anonymity, reservation, consent and feedback

1 Rutiner for opplysninger om Norstats respondenter

1.1 Sletting av personopplysninger for respondenter

1) Hvorfor skal rutinen utarbeides

Krav i personopplysningsloven §28.

2) Hvem er rutinen rettet mot

- Prosjektledere (PL)
- Programmerere av spørreundersøkelser (DP)
- Intervjuledere

3) Hva skal utføres

Ved programmering av spørreundersøkelser skal anonymiteten til respondenter ivaretas. Dette betyr at personopplysninger ikke skal lagres permanent i datasett.

Personopplysninger om respondenter kan oppbevares i inntil et år etter at prosjektet er avsluttet, med mindre noe annet er avtalt med respondenten.

4) Hvordan skal aktivitetene utføres

- DP skal slette personopplysninger fra datasett før lagring.
- Prosjektleder skal sjekke datasett for personopplysninger før leveranse til kunde.
- Papirbaserte spørreskjema og respondentlister oppbevares i 6 mnd etter prosjektavslutning. Etter dette skal dokumentene makuleres. Intervjuleder ved feltavdeling er ansvarlig for sikker oppbevaring og sletting av dokumenter.

5) Når skal aktivitetene utføres

Ved programmering og levering av spørreundersøkelser og periodisk kontroll.

6) Resultat

Virksomheten sikrer at personopplysninger ikke oppbevares lenger enn nødvendig.

1.2 Ivaretagelse av reservasjonsrett for respondenter

1) Hvorfor skal rutinen utarbeides

Det finnes ingen krav i personopplysningsloven eller andre relevante lover om reservasjonsrett mot å bli kontaktet i forbindelse med markedsundersøkelser. Rutinen er derfor laget med tanke på Norstats renommé og telefonintervjueres arbeidsmiljø.

2) Hvem er rutinen rettet mot

- Prosjektledere (PL)
- Programmerere av spørreundersøkelser (DP)
- Intervjuere

3) Hva skal utføres

Telefonnummer til respondenter som på en eller annen måte kvalifiserer til ikke å bli oppringt registreres i Norstats «Reservation list». Alle nummer som ringes gjennom Norstats Dialer vaskes mot denne listen. Reservasjonslisten inneholder ikke navn eller andre personopplysninger – kun telefonnummer.

4) Hvordan skal aktivitetene utføres

Ved telefonintervjuing: Intervjuer rapporterer telefonnummer til Intervjuleder. Intervjuleder registrerer nummeret i «Reservation list» gjennom Procon.

Ved henvendelser til Norstat: Prosjektleder eller andre ansvarlige kan i hvert enkelt tilfelle vurdere om informasjon om reservasjonsmuligheter skal sendes i retur, eller om henvendelsen skal resultere i oppfølging i «Reservation list».

5) Når skal aktivitetene utføres

- Ved gjennomføring av telefonintervju.
- Ved henvendelser til Norstat omkring reservasjon.

6) Resultat

- Virksomhetens renommé beskyttes.
- Telefonintervjueres arbeidsmiljø beskyttes.

1.3 Innhenting og kontroll av samtykke for respondenter

1) Hvorfor skal rutinen utarbeides

Krav i personopplysningsloven § 8, § 11 og §19.

2) Hvem er rutinen rettet mot

- Prosjektledere
- DP (Programmerere av spørreundersøkelser)

3) Hva skal utføres

Alle spørreundersøkelser skal ha en innledning som forklarer formål med innsamling, og at det er frivillig å gi fra seg opplysninger.

4) Hvordan skal aktivitetene utføres

Prosjektleder har ansvar for at korrekt innledning med informasjon blir benyttet. DP programmerer dette inn i spørreskjema.

5) Når skal aktivitetene utføres

- Ved programmering av spørreundersøkelser.
- Ved systemendringer som har betydning for bruk av data.

6) Resultat

Virksomheten sikrer at samtykke er gitt for registrering av data.

1.4 Respondenters innsyn, retting og supplering

1) Hvorfor skal rutinen utarbeides

Krav om innsyn i personopplysningsloven §18, 2. ledd. Unntak fra regelen finnes i personopplysningsloven §23. Krav om retting i personopplysningsloven §27.

2) Hvem er rutinen rettet mot

Panelansvarlige, panelsupport

3) Hva skal utføres

Respondenter skal ha tilgang til å se hvilke opplysninger som er lagret om seg selv. Dette vil kun gjelde panelister fra Norstats internettpaneler, da personopplysninger ikke lagres for undersøkelser rettet mot tilfeldige utvalg.

4) Hvordan skal aktivitetene utføres

Panelister vil ved innlogging til sin onlinekonto ha tilgang til å se hvilke opplysninger som er lagret, og rette disse. Opplysninger som panelisten selv ikke kan endre, kan endres av panelsupport ved henvendelse på mail.

5) Når skal aktivitetene utføres

Ved selvbetjening eller ved henvendelse fra panelist til Norstats panelsupport.

6) Resultat

Norstat sikrer at panelister har tilgang til å se og endre data om seg selv.