

Momsen, Katharina; Ohndorf, Markus

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## When do people exploit moral wiggle room? An experimental analysis in a market setup

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Contact address of the editor:  
research platform "Empirical and Experimental Economics"  
University of Innsbruck  
Universitaetsstrasse 15  
A-6020 Innsbruck  
Austria  
Tel: + 43 512 507 71022  
Fax: + 43 512 507 2970  
E-mail: [eeecon@uibk.ac.at](mailto:eeecon@uibk.ac.at)

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# When do people exploit moral wiggle room? An experimental analysis in a market setup

Katharina Momsen\* and Markus Ohndorf†

*University of Innsbruck*

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## **Abstract**

We investigate if decision makers exploit moral wiggle room in green market settings. We therefore implement a laboratory experiment in which subjects purchase products associated with externalities. In six between-subjects treatments, we alter the availability of information on the externalities, the price of revealing information as well as the nature of the externality, which could either affect another subject or change the amount spent by the experimenters on carbon offsets. We find that subjects do not exploit moral wiggle room when revealing information is costless. When a very small cost of revealing information is introduced, their behavior depends on the relation between prices and externalities. In situations in which it is relatively cheap to have a large impact on the recipient's payoff, subjects exploit moral wiggle room in order to choose selfishly. For other parametrizations, subjects behave either honestly egoistically or altruistically.

*Keywords:* Information avoidance, experiment, carbon offsets, moral wiggle room, ethical consumption

*JEL Classifications:* C91, D12, D64, D89, Q50

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\*katharina.momsen@uibk.ac.at (Corresponding author)

†markus.ohndorf@uibk.ac.at

# 1 Introduction

An increasing amount of products of everyday use are marketed as generating so-called sustainable co-benefits. These products are labeled, for example, to incorporate a contribution to environmental protection or to promote fair-trade or regional production. Other commodities, like bus or air travel, often include  $CO_2$ -offsets, either by default or as an opt-in product feature, thus contributing to climate change mitigation. Within her everyday private consumption, the socially responsible consumer can hence also make a contribution to public goods she deems important. The demand for such products is thus primarily driven by social or green consumer preferences. In order to consistently act in accordance to these preferences, the consumer needs to have the cognitive capacity and willingness to process information on the size and nature of these co-benefits.

Yet, there is growing experimental evidence that individuals might have a tendency to remain willingly uninformed when it comes to the effect of their action on third parties. In a seminal paper, Dana et al. (2007) first presented evidence that decision makers in a dictator game tend to actively avoid information about the effects of their own choices on another player. In these cases, a costless option to learn about the consequences of own choices on others' payoffs is willingly ignored by a substantial fraction of decision-makers, which is inconsistent with their distributional preferences. Hence, people seem to prefer to have some 'moral wiggle room', in order to behave selfishly without having to take into account potentially imposed harm on others. Such willful information avoidance in dictator games has been consistently found in a large set of studies (Dana et al., 2007; Feiler, 2014; Fong and Oberholzer-Gee, 2011; Grossman, 2014; Grossman and van der Weele, 2017; Larson and Capra, 2009; Matthey and Regner, 2011; Regner, 2018; van der Weele, 2013).

While ignoring information is inconsistent with standard microeconomic theory, such behavior can be explained as an individual strategy to reduce cognitive dissonance (Grossman and van der Weele, 2017; Konow, 2000; Matthey and Regner, 2011; Nyborg, 2011; Spiekermann and Weiss, 2016). Decision-makers ignorant of potential harm they might impose on others can behave selfishly without having to deal with inconsistencies with respect to their social preferences. If the consequences were known, they might feel obliged to behave altruistically which, in turn, would be conflicting with their self-interest. Hence, by deliberately avoiding available information, they can maximize their own monetary payoff without feeling guilty about consciously harming another individual. Willful ignorance serves as an excuse for selfish behavior while maintaining a positive self-image (Bénabou and Tirole, 2011; Grossman and van der Weele, 2017).

In case such behavior is present on the demand-side of green markets, the phenomenon of seeking and exploiting moral wiggle room is likely to have a significant impact on the actual co-benefits of marketed products and their equilibrium prices. In these cases, con-

sumers avoiding information are primarily motivated by the positive self-image that is associated with, for example, purchasing eco-labeled products, while willingly remaining ignorant with respect to the exact level of the associated co-benefits reflected within a specific label or product. This lack of knowledge would then serve as an excuse to choose the cheaper options from the set of eco-labeled products. Hence, such a price-oriented ‘shopping for a good conscience’ would provide an explanation for a steady demand for products that are rather associated with ‘green-washing’ than actual environmental benefits. Markets for impure public goods would then suffer from a peculiar form of information asymmetry: From the perspective of the information avoiding buyer, the environmental component of ‘green’ goods would correspond to a credence good characteristic (Nyborg, 2011). Yet, to the extent that information of a product’s co-benefits is actively avoided, the information asymmetry is, in fact, self-imposed on the part of the buyer.

However, if and to what extent willful information avoidance is an active determinant of the demand for green goods is still to be established. Recent studies on eco-labels using eye-tracking technology indicate that the amount of time spent to examine label information is indeed an important determinant for purchase decisions (Song et al., 2019; Takahashi et al., 2018; Van Loo et al., 2015; Waechter et al., 2015). Generally, these studies indicate that there exist different consumer segments which differ in terms of their choices to reveal information on labels and prices. Janßen and Langen (2017), presenting the results of a choice experiment, find that among consumers of eco-labeled products there is a segment that has a willingness-to-pay for labeled products *per se*, without taking more detailed information on co-benefits into account. Yet, it remains unclear if this behavior can be attributed to willful information avoidance in the sense described above.

Hence, to analyze the relevance of willful information avoidance within green markets, it is a reasonable first step to investigate the basic interactions between individual product demand and information revelation in the controlled environment of the laboratory. Within the literature on economic experiments, the findings for individuals seeking and exploiting moral wiggle room seems to be particularly robust over a large set of different dictator game settings.<sup>1</sup> Yet, recent studies departing from the initial experimental setup introduced by Dana et al. (2007) cast some doubt on the generalizability of these findings. For example, van der Weele et al. (2014), testing for information avoidance in a trust and moonlighting game, find no evidence for the exploitation of moral wiggle room. They conclude that the prevalence of this effect in dictator games might be driven by the lack of moral context in these simple games, which would mean that willful information avoidance is unlikely to arise in richer real-world contexts. Felgendreher (2018) tested for

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<sup>1</sup>See Dana et al., 2007; Feiler, 2014; Fong and Oberholzer-Gee, 2011; Grossman, 2014; Grossman and van der Weele, 2017; Larson and Capra, 2009; Matthey and Regner, 2011; Regner, 2018; van der Weele, 2013.

information avoidance in a market experiment with ethically certified goods and found no evidence for individuals exploiting moral wiggle room in the traditional sense. Similarly, Lind et al. (2018) extended the dictator game setting by replacing the receiving player with a contribution to a real-world carbon offset and also reported no effects indicating information avoidance. On the other hand, such an effect was reported by Kajackaite (2015) within a real effort experiment. Given this mixed evidence for the existence of willful information avoidance in settings closer to real-world markets, it seems that the exploitation of moral wiggle room is likely to be more than an artifact of the dictator game setup, but will only arise within a specific set of situational contexts.

Within this paper, we present a systematic experimental analysis of information avoidance in a laboratory market in which subjects take the role of buyers making repeated binary purchase decisions, while the supply side is computerized. The purchase of a good is associated with either positive or negative externalities on a third party, such that each purchase has an implicit distributive outcome. In each round, subjects have to choose between two different products, each associated with specific levels of payoffs for the buyer as well as the party affected by the externality. Thus, the underlying decision situation corresponds, in fact, to a simple distribution task. By varying the size of own payoffs and externalities, we can identify payoff combinations for which willful information avoidance occurs.

In order to transpose the standard dictator game-type situations to a green market context, we analyze two types of situational setups. Within the first setup, participants face purchase situations within which the associated externality affects another (unidentified) subject in the experimental session. Over the different rounds this externality can either be positive or negative. This setup allows for investigating the effect of relative and absolute changes in own and third-party payoffs on information avoidance, including parameter values which correspond to distributive decisions analyzed in previous dictator game studies. Within the second setup, subjects take purchase decisions that (positively or negatively) affect real-world  $CO_2$  emissions via the use of actual carbon offsets. In these situations and similar to Lind et al. (2018), the associated externality reduces or increases the monetary amount spent on offsets purchased by the experimenters. Hence, via the use of actual carbon offsets the subjects' decisions are associated with real-world co-benefits beyond the boundaries of the lab.<sup>2</sup>

For each of these two experimental setups, we implement three different treatments designed to identify willful information avoidance. In the full information treatments, which serve as control treatments, buyers directly observe the externalities associated with the two available products within each decision situation. In the two other treatments,

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<sup>2</sup>In this sense, the paper also contributes to the growing literature using carbon offsets as a valuable tool to assess actual environmental preferences within economic experiments (e.g. Blasch and Ohndorf (2015), Schwirplies and Ziegler (2016), Lange et al. (2017)).

buyers know the size of the potential externalities, but cannot directly observe which externality is associated with each product. By clicking a button, they can reveal the respective externalities. Clicking is costless in the ‘costless information’ treatments and has a token (i.e. very small) cost in the ‘costly information’ treatments. Subjects can also purchase a product without revealing the associated externality. As this experimental design effectively transposes the standard moral wiggle room game into a market context, we can observe to what extent this contextual change influences the occurrence of willful information avoidance.

Interestingly, we do not find evidence for willful information avoidance in those treatments where information is costless. The standard approach used within Dana et al. (2007) and others consists of comparing the share of selfish choices across treatments in order to detect exploitation of moral wiggle room. Willful information avoidance implies that the subject has an altruistic preference and would behave altruistically in the full information treatment. Only if information is hidden, they prefer to remain ignorant and purchase the cheaper product. Yet, in both ‘costless information’ treatments, the share of selfish choices is not significantly different to the respective ‘full information’ treatments. Even when facing the same trade-offs as implemented within Dana et al. (2007), our subjects do not seek to exploit moral wiggle room. This holds independent of whether the externality affects another player or the amount of carbon offsets purchased by the experimenter. This is in line with the results presented in Felgendreher (2018) and Lind et al. (2018) and, at least at first sight, lends support to the conjecture made by van der Weele et al. (2014) that previous results on willful information avoidance might be driven by the specific moral context reflected within dictator games.

However, we do find consistent evidence for information avoidance in the treatments where information is associated with a token cost. In these treatments, we observe that, if the difference in prices is small and the difference in externalities rather large, the share of selfish choices is significantly larger than in the full information treatments. Thus, decision makers willingly avoid information in situations in which they could give up a small amount of their wealth to avoid a larger negative impact on others. In contrast, when it is more expensive to benefit others, subjects tend to be more honest to themselves and do not strategically avoid information.<sup>3</sup> Yet, information avoidance is less frequent if the externality affects the purchase of  $CO_2$  offsets than in the cases where it affects the payoff of another player within the experiment, indicating that the nature and representation of the externality is an important driver for the tendency to avoid information.

Note that the cost associated with information revelation in our ‘costly information’ treatment is very small. The cost of information itself is hence unlikely to have a large im-

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<sup>3</sup>To some extent, this is in contradiction with van der Weele (2013), reporting that within a specific range the costs of being altruistic increase information avoidance. Yet, our results hint to the fact that information avoidance is also determined by the relationship between own cost and cost imposed on others.



pact on revelation behavior. However, this token information cost represents an additional excuse to avoid information that might contradict an individual’s self-image. This lends support to the conjecture that situational excuses are at the heart of the phenomenon of willful information avoidance. It seems likely that a significant part of everyday consumption decisions lie within the range where we find information avoidance, i.e. a low cost to oneself might be associated with larger positive co-benefits. Hence, when it comes to analyzing this phenomenon in a real-world context, like green markets, it seems that a larger set of such situational excuses is to be considered in future research.

Yet, information avoidance is not exclusively determined by situational specificities. The results of an extensive regression analysis indicate that the propensity for information revelation within our experiments are also determined by individual characteristics, like the intensity of altruistic preferences, general honesty, and even specific political preferences. Furthermore, we find that subjects are less reluctant to reveal information when the externality is negative. We also observe a small, but significant time effect, indicating that individuals might have the tendency to increasingly avoid information over time if they face repeated purchase choices.

Our results indicate that willful information avoidance is indeed likely to occur in specific markets for goods with environmental or social co-benefits. In many cases, consumption of eco-labeled products will occur in situations similar to the scenarios where we find exploitation of moral wiggle room. Everyday consumption is characterized by repeated purchase decisions for which the assessment of associated co-benefits is not entirely costless. Even if eco-labels are designed to feature a high degree of transparency, the consumer has to put in a small amount of effort and time to assess and compare the information content of different labels. Furthermore, the price difference for products featuring different labels, signaling different degrees of co-benefits, is likely to be small compared to the consumers’ overall budget. Yet, the difference in potential co-benefits for such products, for example between self-labeled products and those labeled by a third party, can be substantial (e.g. Baksi and Bose, 2007). In such situations our results suggest that consumers might choose to remain deliberately uninformed to exploit moral wiggle room.

The remainder of this paper is organized as follows: in the following section, we briefly present our experimental design. Section 3 presents our results and section 4 concludes. A translation of the instructions and a screenshot of the decision screen are relegated to the Appendix.

## 2 Experimental Design

Within this experiment, we investigate information seeking behavior as well as social and environmental preferences in an experimental market setting. Our subjects make

purchase decisions choosing between two virtual products which differ in their prices and externalities. We implement a 2x3 factorial design altering both the party affected by the externality and the availability of information on the externalities.

## 2.1 Experimental Protocol

We confront our subjects with 26 consecutive purchase decisions such that our experiment consists of 26 independent rounds. Subjects take the role of buyers, while the supply side of the market is computerized. In each round, subjects are offered two products of which they need to choose exactly one. The products vary in their prices and in their associated externalities, i.e. in their influence on the well-being of a third party. In each round, subjects own an endowment of 100 Experimental Currency Units (ECUs) which they can spend on one of the two products. To compute the payoff in a round, the price of the selected product is subtracted from the initial endowment. The externalities in one round are not correlated with the externalities in the previous round.

Subjects play the first round before they are informed on the remaining experimental procedure, receiving new instructions after the first decision has been made by all participants. This twist in the design allows us to also observe their behavior in a decision perceived as one-shot, which increases comparability of our results to those of previous experiments involving just one decision. As soon as all subjects in a session have made their choices, they are informed that another 25 rounds of the same pattern will follow.

## 2.2 Treatment Variation: Party Affected by Externality

We alter the party affected by the externality in a between-subjects manner (see Table 1) in order to identify the effect of different parties affected by the externality on revelation and purchase behavior. In three treatments, product choices affect the experimental payoff of randomly-determined subjects from the same session, whereas in the other three treatments, externalities determine the amount of money for which a share of a carbon offset is purchased. Thus, in the latter case, the purchase decision has an impact beyond the experimental boundaries, marginally influencing the amount of global  $CO_2$ -emissions. At the beginning of an “Offset” session, we inform subjects briefly about the mechanism behind carbon offsets. Keeping the wording as neutral as possible, we try to avoid influencing subjects’ opinion on carbon offsets. The offset, which had been carefully selected and was Gold Standard-certified, was purchased after all sessions were completed.<sup>4</sup>

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<sup>4</sup>Subjects had the possibility to receive the receipt of the purchase of the offset via e-mail or at the Institute of Public Finance at the University of Innsbruck.

Table 1: Treatments

Affected Party	Full Information	Costless Revelation	Costly Revelation
Subject	46 participants	46 participants	44 participants
Offset	46 participants	45 participants	47 participants

### 2.3 Treatment Variation: Information on Externalities

While the prices of the two product options in a round are always immediately visible, the visibility of the associated externalities depends on the treatment and is varied in a between-subjects design (see Table 1). In the *full information* treatments, subjects know the size of the externalities of the two available products. In the other treatments, this piece of information is originally hidden, but can be revealed by clicking on a button.<sup>5</sup> Without clicking, subjects only know the potential size of both externalities, yet they do not know which externality is associated with which product. Depending on the treatment, clicking can either be costless in the *costless* information treatments or costly in the *costly* information treatments.

### 2.4 Scenarios

As we seek to identify the factors triggering an exploitation of moral wiggle room, we introduce different scenarios which represent a grouping of decision situations according to their payoff characteristics. All subjects face exactly the same scenarios but in a different order, which is randomized. The scenarios differ in prices and externalities, and hence also in the differences in these prices and externalities. Prices lie between 10 and 90 ECUs, while externalities range from 0 to 50 ECUs. Table 2 provides a systematic overview of the scenarios based on a comparison of the differences in prices and externalities for the two product options. Investigated parameters range from Scenario 1 in which the difference in prices exceeds the difference in externalities by 30 ECUs to Scenario 8 in which the difference in externalities exceeds the price difference by 40 ECUs. For most scenarios, we include a situation with conflicting interests (CI) between the buyer and the affected party and a situation with aligned interests (AI). In a situation with conflicting interests, behaving altruistically is costly for the decision maker, i.e. the more expensive product maximizes the receiver’s payoff. Although we are more interested in subjects’ behavior in conflict situations, including situations with aligned interest is necessary. Otherwise, subjects could easily learn about the underlying correlation between prices and externalities and would not need to reveal the information.

In addition, we vary the sign of the externality, i.e. it might be positive or negative. In case of a positive externality, the affected party receives the corresponding amount in

<sup>5</sup>A screenshot of the decision situation is provided in the Appendix.

<sup>6</sup>Scenario 7 constitutes the classical moral wiggle room parameterization.

Table 2: Scenarios

Scenario	$\Delta\text{Ext} - \Delta\text{Price}$	CI vs. AI
1	-30	CI
2	-20	AI
3	-10	Both
4	0	Both
5	10	Both
6	20	Both
7 <sup>6</sup>	30	Both
8	40	AI

ECUs triggered by the buyer’s purchase decision. In case of negative externalities, the third party receives upfront an amount of 50 ECUs from which the externality from the buyer’s purchase decision is subtracted. Consequently, in the worst case with an externality of -50 ECUs, the affected party gets nothing. Hence, compared to the dictator game in Dana et al. (2007) and subsequent publications, the here-presented setup implementing negative externalities only constitutes a manipulation of the frame, while the underlying choices with respect to the distribution of payoffs remain the same. Therefore, we also made sure that our recipients cannot suffer from the externalities in *absolute* terms.

Note that, in Scenario 7, subjects face exactly the same distributive decision situation as in the original experiment on moral wiggle room presented in Dana et al. (2007). Prices are 40 ECUs and 50 ECUs, yielding a payoff of 60 ECUs or 50 ECUs to the buyer, respectively. In the positive frame, the associated externalities amount to 50 ECUs and 10 ECUs, compared to 0 ECUs and -40 ECUs in the negative frame. Except for the full information treatment, the buyer does not know if she faces a conflicting-interests or an aligned-interests situation. Both are equally likely and each buyer will be confronted with both over the entire set of rounds.

## 2.5 Payoff

The first round is always payoff-relevant, as it is used to test for behavior in a one-shot situation. From the following 25 rounds, one round is selected randomly at the end of the experiment by letting a subject draw a numbered card from an unsorted card deck. In the treatments with an offset affected by the externalities, subjects earn their initial endowment of 100 ECUs minus the price they paid for the selected product in payoff-relevant rounds. In the treatments in which subjects receive the externalities, subjects are randomly assigned a type, X or Y. By drawing a colored ball from an urn at the end of the experiment, we determine which type gets to be the receiver or the buyer in the two payoff-relevant rounds.<sup>7</sup> Note that the roles are only determined after all

<sup>7</sup>If a subject takes the role of the buyer in the first round, she will be affected by another subject’s purchase decision in the payoff-relevant later round and vice versa.

purchase decisions have been made. If a subject takes the role of the receiver, she earns the corresponding amount in case of a positive externality, while earning 50 ECUs minus the corresponding amount in case of a negative externality. The payoffs of the two-payoff-relevant rounds are summed up to compute the payoff received in ECUs. The experimental exchange rate in all treatments is 0.1, i.e. the total payoff in ECUs needs to be multiplied by 0.1 to compute the payoff in Euros. At the end of the experiment, subjects receive their payment privately and in cash.

## 2.6 Questionnaire

Before subjects are paid out, they are asked to answer a questionnaire which elicits their demographics as well as their political and environmental preferences. Furthermore, they have the possibility to donate a share of the earnings to a charity organization of their choice, but they can also choose not to donate. We included this possibility to donate because subjects might maximize their payoff in the experiment and thus seem egoistic, although they plan to invest it later on in an altruistic way. By giving them the opportunity to donate during the experiment, we could observe if this reasoning played a role among our subjects. The receipts of the donation were made available to our subjects after the experiment.

## 2.7 Experimental Procedure

The sessions were run in December 2018 in the Innsbruck EconLab. We programmed the experiment in zTree (Fischbacher, 2007) and invited the participating subjects through hroot (Bock et al., 2014). In total, 274 subjects – mainly undergraduate students from all fields – participated in six between-subjects treatments earning on average € 11.91. A session lasted approximately 45 minutes. We invited 48 subjects for each treatment, yet due to no-shows, the actual number of participants in each treatment was slightly lower (see Table 1).

# 3 Results

## 3.1 Do subjects exploit moral wiggle room?

The hypothesized reason for willful information avoidance is that decision makers prefer to maximize their own payoff without feeling bad about the potential negative consequences of their behavior on others. If consequences are not known, they do not need to be taken into account and the individual does not need to behave altruistically and potentially sacrifice own payoff. Hence, to identify information avoidance, we need to analyze situations in which the buyers' and the affected parties' interests are not aligned, i.e.

situations in which the more expensive product has a lower negative or a higher positive externality. If information avoidance exists, the share of egoistic choices in the treatments with hidden information should be higher than the share of egoistic choices in the full information treatments.<sup>8</sup> In Table 3 and Figure 1, we present the share of selfish choices in each scenario as well as the aggregate share of selfish choices across all scenarios.<sup>9</sup>

Table 3:  $\chi^2$ -tests by scenario: average share of selfish choices, non-rationalizable choices excluded

Scenario	Subject			Offset		
	Full	Costless	Costly	Full	Costless	Costly
1	0.902	0.835	0.893	0.728	0.711	0.702
<i>p-value</i>		0.179	0.839		0.797	0.693
<i>adj. p-value</i>		0.268	0.868		0.819	0.738
3	0.814	0.826	0.883	0.750	0.794	0.803
<i>p-value</i>		0.856	0.277		0.513	0.433
<i>adj. p-value</i>		0.864	0.327		0.548	0.473
4	<b>0.783</b>	0.758	<b>0.853</b>	0.571	0.575	0.611
<i>p-value</i>		0.579	<b>0.093</b>		0.927	0.433
<i>adj. p-value</i>		0.659	0.190		0.946	0.578
5	0.630	0.580	0.668	0.446	0.404	0.528
<i>p-value</i>		0.485	0.619		0.576	0.267
<i>adj. p-value</i>		0.533	0.663		0.632	0.318
6	<b>0.386</b>	0.358	<b>0.600</b>	<b>0.348</b>	0.328	<b>0.500</b>
<i>p-value</i>		0.739	<b>0.015</b>		0.798	<b>0.060</b>
<i>adj. p-value</i>		0.773	<b>0.037</b>		0.814	<b>0.088</b>
7	<b>0.391</b>	0.356	<b>0.561</b>	0.304	0.256	0.419
<i>p-value</i>		0.629	<b>0.025</b>		0.472	0.112
<i>adj. p-value</i>		0.686	<b>0.057</b>		0.517	0.183
<b>all</b>	<b>0.675</b>	0.646	<b>0.760</b>	<b>0.531</b>	0.520	<b>0.594</b>
<i>p-value</i>		0.285	<b>0.002</b>		0.696	<b>0.026</b>
<i>adj. p-value</i>		0.545	<b>0.087</b>		0.846	0.285

In the full information treatment with subjects as affected parties, on average about two thirds of the choices are selfish (see Table 3). If the externalities affect the amount spent on  $CO_2$  offsets, only about half of the choices are selfish. The share of selfish choices clearly depends on the scenario: In Scenario 1, for example, when the loss of welfare for

<sup>8</sup>We did not find any significant differences between the observed behavior in the first round, which was set up as a one-shot decision situation, and the following 25 rounds. We therefore pool our data for the entire analysis.

<sup>9</sup>There are some subjects who do not reveal the information on the externalities, while choosing the more expensive product. They reduce their own payoff without knowing if they thereby harm or benefit the affected party. Thus, we exclude these non-rationalizable choices from our analysis. These only arise within a very small share of our data (2.3%), such that our main results, at least qualitatively, are not altered. For completeness, the results for all observations are presented in the Appendix.

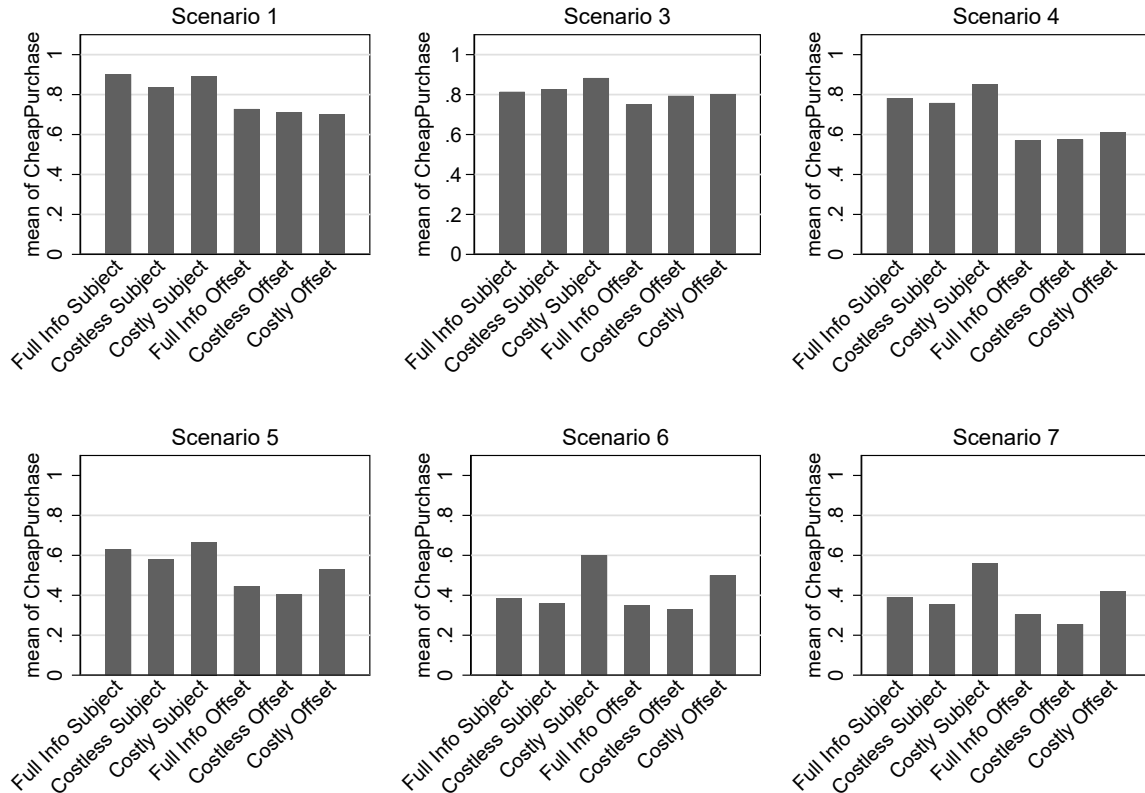


Figure 1: Selfish purchase decision across scenarios and treatments

the buyer exceeds the gain in welfare for the affected party, the share of selfish choices is relatively high. In contrast, in Scenarios 6 and 7, it is relatively cheap for the buyer to have a larger positive or smaller negative impact on the receiver. Hence, in these scenarios, the share of selfish choices is comparatively low.

Following the approach of Dana et al. (2007), we compare selfish choices across treatments using  $\chi^2$ -tests. Since each subject makes multiple purchase decisions in our experiment, observations on which the  $\chi^2$ -test is applied are not fully independent. In fact, decisions made by the same decision maker may be correlated, because certain behavioral patterns may carry over from situation to situation (e.g. there may be decision makers with a stronger tendency to information avoidance than others). We control for this potential correlation by also reporting the results from an altered version of the  $\chi^2$ -test which allows for clusters within the observations from each treatment as suggested by Donner (1989). The results of the cluster-robust  $\chi^2$ -tests are presented in Table 3 as adjusted p-values.

Comparing the choices in the full information treatments to the choices in the *costless* revelation treatments, we do not observe any significant differences. In most scenarios, there are even *fewer* selfish choices when subjects need to reveal the information about the externalities than if they immediately receive the information. Yet, none of the

differences is significant. Hence, we do not find any indication for the existence of willful information avoidance in these treatments. Our results thus differ from previous findings on the exploitation of moral wiggle room in dictator game setups. This is particularly surprising since our Scenario 7 reflects the same parameterization as the original moral wiggle room experiment, with the only difference being the change in frames to a market setting. Yet this change in frames appears to effectively prevent the exploitation of moral wiggle room independent of the externality affecting another subject or the amount of  $CO_2$  offsets purchased by the experimenter.

In our *costly* revelation treatments, however, the exploitation of moral wiggle room seems to play a significant role. Analyzing the aggregate data, we find more subjects choosing selfishly when information is hidden and costly to obtain than under full information (See Table 3). Note that the revelation costs were chosen to be extremely low. In fact, they did not even amount to 1% of the expected earnings from the experiment such that their influence on the decision makers' considerations is rather to be attributed to their function as an additional psychological barrier than their monetary impact.

Considering the results on costly revelation for each scenario separately, as listed in Table 3, we can identify the parametrizations which induce subjects to exploit moral wiggle room. We find that in Scenario 1, the share of cheap purchases is again lower with hidden information than with full information, but not significantly so. In Scenarios 3, 4, and 5 the share of egoistic purchases under hidden information exceeds the share under full information. However, for these scenarios, the only difference that is (barely) significant is in Scenario 4 for the treatment where the externality affects another experimental subject. When using the  $\chi^2$ -test that is robust to clustered data (see adjusted p-value), this difference is no longer significant. In contrast, in Scenario 6, we observe significantly more selfish choices in the costly information treatments for both, the subject-treatment as well as the offset-treatment. In Scenario 7, the same effect can be observed, yet it is only significant when the externality affects experimental subjects. Hence, we find that subjects willingly avoid information when the potential costs of behaving altruistically are comparatively low, as in Scenarios 6 and 7. If own costs are higher, as in the other scenarios, our subjects' choices are either honestly selfish or altruistic. In other words, information avoidance occurs only in cases where a relatively large positive impact on the affected party's payoff could be achieved by making a relatively small sacrifice of own payoff.

Interestingly, willful information avoidance occurs in a larger set of situations when the externality affects subjects rather than  $CO_2$  offsets. The type of the affected party hence seems to play an important role when it comes to the exploitation of moral wiggle room. This might, at least partially, explain why previous studies which went beyond the traditional dictator game (e.g. Lind et al. (2018)) did not find evidence for willful information avoidance.



### 3.2 When do subjects reveal information?

Having identified the scenarios in which subjects are prone to exploit moral wiggle room, we now seek to shed light on the decision to reveal information. Aggregating over all scenarios, we observe that, when revealing is costless, the vast majority of subjects decides to reveal information about the externalities of their purchase decisions (see Table 4). When subjects need to pay a negligible cost for revealing the externalities, significantly fewer subjects reveal ( $p < 0.001$ ,  $\chi^2$ -test adjusted for clustered data). Whether the party affected by the externality plays a role, depends on the revelation costs: The difference in the share of revealing subjects between the treatment with a subject affected and the offset-treatment is relatively small and not significant ( $p = 0.216$ ,  $\chi^2$ -test adjusted for clustered data) when revelation is costless. With costly revelation, significantly more subjects reveal the hidden information when the externalities affect the size of an offset than if they affect the payoff of another subject. As can be seen from Figure 2, there is no strong time trend in the subjects' revelation behavior.

Table 4:  $\chi^2$ -tests: Revelation of information across treatments

	Subject	Offset	<i>p-value</i>
<b>Costless</b>	0.855	0.909	<i>0.216</i>
<b>Costly</b>	0.419	0.632	<i>0.004</i>
<i>p-value</i>	<i>&lt;0.001</i>	<i>&lt;0.001</i>	

Figure 3 depicts the relative frequency of individual revelation behavior. For each subject, the total sum of clicks to reveal information was divided by the number of revelation decisions each subject had to make. Thus, a number close to 1 means that the subject decided to reveal the hidden information in almost all choice situations. Within the histograms, subjects of similar individual revelation frequencies are clustered into ten separate groups, each with a range of ten percentage points. These groups are represented by bars, with the height of each bar depicting the share of subjects belonging to each group. The bars are ordered with respect to the subjects' individual revelation frequency, starting on the left with the bar representing subjects who reveal in 0 to 10% of the decision situations and ending on the right with subjects who reveal in 90 to 100% of the decision situations.

Consistent with the results presented in subsection 3.1, we observe that, in the treatments with costless information revelation, most subjects always choose to reveal the information about the externalities. If another subject serves as the receiver of the externality, there are very few subjects who never reveal, while for the offset-treatment there is, in fact, *no* subject who never reveals. In both cases, there are some subjects who base their revelation decision on the potential externalities and prices in each round. Their

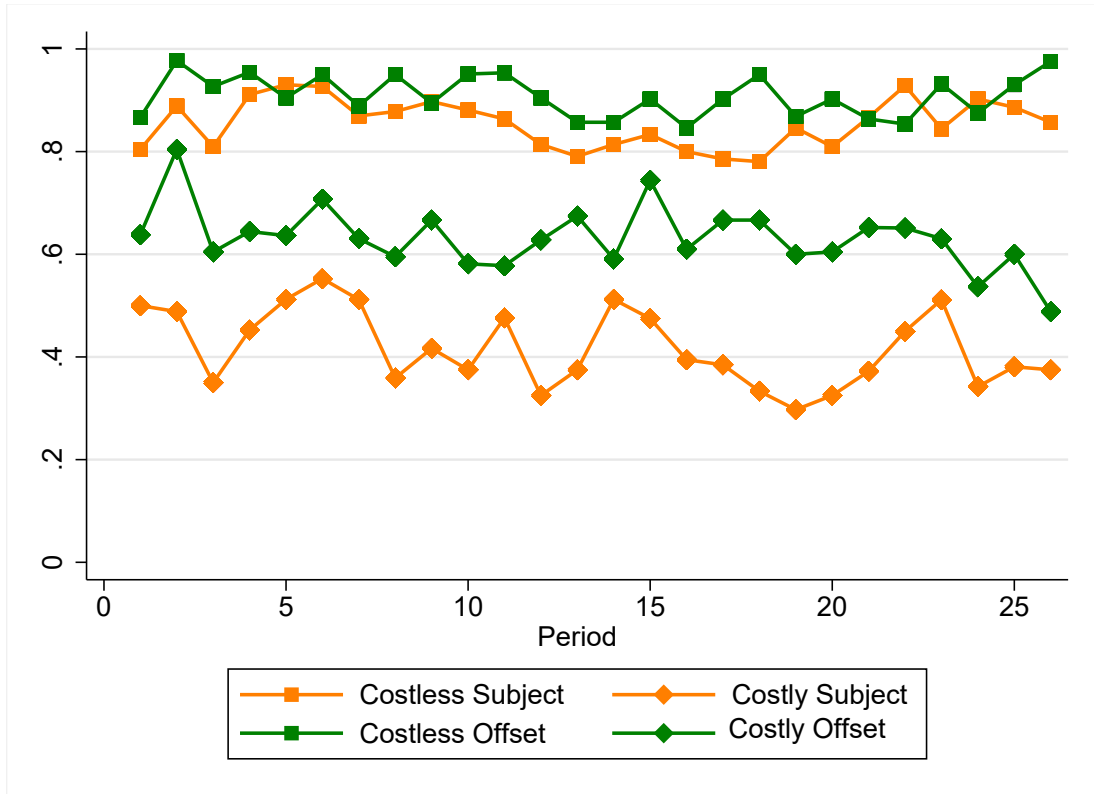


Figure 2: Revelation behavior over time

revelation behavior thus depends on the characteristics of the actual decision making situation.

When revealing information is costly, the distribution of individual revelation frequencies differs: If another subject receives the externality, there are almost as many never-revealing as there are always-revealing subjects. In the offset-treatment, more subjects (almost) always reveal than there are subjects who (almost) never reveal. Compared to the treatments with costless information revelation, there are more subjects who sometimes reveal information. It seems that, as revealing information now has a small cost, subjects more carefully reflect in each decision situation whether they actually want to reveal the hidden information.

In order to identify additional factors which influence a subject's willingness to reveal information, we perform a regression analysis (see Table 5). The presented results stem from random effects panel regressions with robust standard errors. We regress the variable capturing whether the subject has revealed the information on the difference between the two prices (PriceDiff) and on the difference between the two externalities (ExtDiff). We further include an interaction term of these two variables as well as the squared price (PriceDiff2) and externality difference (ExtDiff2) in order to control for non-linear effects. Dummy variables specify the treatment – offset and costly revelation. The number of the period captures potential effects of experience on the revelation behavior. We also take

Table 5: Regressions: Reveal (excluding non-rationalizable choices)

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	Probit	OLS	Probit	OLS	Probit
PriceDiff	-0.008*** (0.001)	-0.049*** (0.006)	-0.008*** (0.001)	-0.049*** (0.006)	-0.009*** (0.001)	-0.058*** (0.007)
ExtDiff	0.008*** (0.002)	0.051*** (0.013)	0.008*** (0.002)	0.051*** (0.013)	0.007*** (0.002)	0.047*** (0.014)
PDiff*EDiff	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000*** (0.000)	0.001*** (0.000)
PriceDiff2	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
ExtDiff2	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)
Offset	0.137*** (0.041)	0.749*** (0.239)	0.140*** (0.042)	0.765*** (0.244)	0.140*** (0.042)	0.768*** (0.245)
Costly	-0.344*** (0.041)	-2.189*** (0.251)	-0.320*** (0.041)	-2.062*** (0.250)	-0.319*** (0.041)	-2.068*** (0.250)
Period	-0.002*** (0.001)	-0.014** (0.005)	-0.002*** (0.001)	-0.014** (0.005)	-0.002*** (0.001)	-0.014** (0.005)
NegFrame	0.035*** (0.009)	0.226*** (0.060)	0.036*** (0.009)	0.227*** (0.060)	-0.026 (0.033)	-0.155 (0.228)
Gender			-0.016 (0.047)	-0.055 (0.263)	-0.016 (0.047)	-0.056 (0.264)
Donate			0.121*** (0.041)	0.467* (0.266)	0.122*** (0.041)	0.472* (0.267)
Honesty			0.024* (0.013)	0.143* (0.084)	0.024* (0.013)	0.143* (0.084)
SocPol			-0.053 (0.033)	-0.513** (0.206)	-0.053 (0.033)	-0.517** (0.207)
CultOpen			0.022 (0.027)	0.190 (0.162)	0.023 (0.027)	0.193 (0.162)
EconPol			-0.022 (0.031)	-0.036 (0.190)	-0.022 (0.031)	-0.035 (0.190)
NegF*PD					0.004*** (0.002)	0.025** (0.010)
NegF*ED					0.002 (0.001)	0.011 (0.007)
NegF*PD*ED					-0.000*** (0.000)	-0.001** (0.000)
Constant	0.803*** (0.045)	1.888*** (0.300)	0.805*** (0.136)	1.993** (0.811)	0.831*** (0.138)	2.155*** (0.825)
$R^2$	0.184		0.207		0.208	
N	4214	4214	4214	4214	4214	4214

\* p&lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01. Standard errors in parentheses.

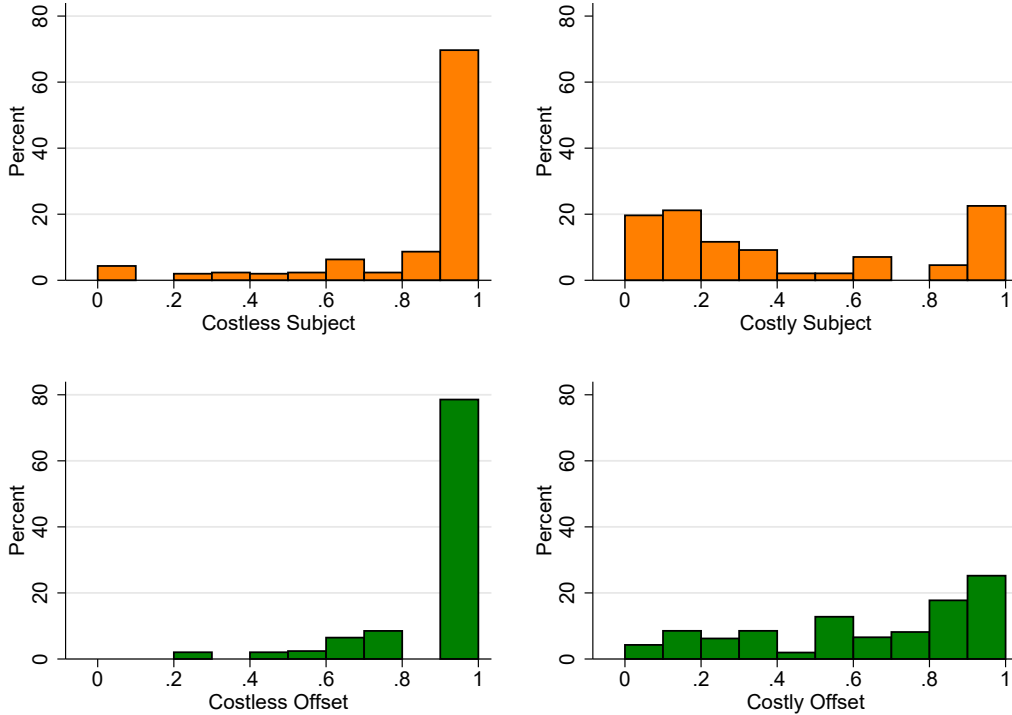


Figure 3: Individual revelation behavior

the framing of the externality into account by including the dummy variable ‘NegFrame’ which equals 1 in case of negative externalities.

We find that a larger price difference reduces the willingness to reveal information, while a larger difference between the externalities has an increasing effect. Thus, subjects are less interested in the consequences of their purchase decisions when acting altruistically might be expensive for them, whereas they are more interested in finding out which externality belongs to which option when their decision might have a larger – positive or negative – impact. Both the price difference and the difference in externalities have non-linear effects as captured by the squared variables, i.e. the observed effects decrease for larger differences. Interacting the price difference with the difference in externalities has a very small, but significant positive effect. When both differences are jointly increased, subjects become more willing to reveal.

As expected from the results of the non-parametric tests, we observe that subjects in the offset-treatments are more likely to reveal, as the coefficient of the dummy variable “Offset” is positive and significant in all regressions. Also confirming our previous results, subjects click to reveal information significantly less often when revealing is costly. Furthermore, we observe a small, but significant negative time trend: The more experienced subjects are with the decision situation, the more they lose interest in revealing the externalities. In addition, we find that subjects are more likely to reveal information when

it may have a negative impact. Hence, they are more reluctant to unconsciously inflict harm on the recipient than they are to increase the recipient’s payoff.

In Regressions 3 and 4 we include additional control variables to identify further influencing factors: Including a dummy variable for the subject’s gender, which equals 1 when the subject is male, we find no significant gender effect. If the subject decided to donate (a share of) her earnings to a charity organization, the likelihood to reveal information significantly increases. Subjects who are in general more honest – as elicited in the questionnaire – are more willing to reveal information.

We further include variables which capture the subject’s political preferences. Based on a set of questionnaire items of the Austrian National Election Study (Kritzinger et al., 2016), we elicit the subjects’ opinions towards eleven statements within the questionnaire that concluded our experiment.<sup>10</sup> Subjects are asked to give their opinion towards each statement, i.e. they declare how much they agree on a scale from 1 (not at all) to 5 (fully agree). We group the statements into three categories – social policy, economic policy and cultural openness. For each category, we summarize the subjects’ answers into one explanatory variable. Depending on the statement, some answers needed to be rescaled. The variable “SocPol” represents the subject’s opinion on topics from social politics. A higher value of the variable indicates a more conservative opinion. We observe that subjects with a more conservative view of society are less likely to reveal the hidden information. We also include the subject’s opinion on economic policy (“EconPol”) as well as her opinion on the influence of foreign cultures on society (“CultOpen”). Higher values of the explanatory variables indicate a more *laissez-faire* and a more conservative view, respectively, yet none of the two variables has a significant effect on the subject’s revelation decision.

Via Regressions 5 and 6, we seek to find out if the framing of the externalities – positive or negative – interacts with the price difference or the difference in externalities. The interaction term of a dummy for the frame and the price difference has a positive and significant coefficient. Thus, in the case of negative externalities, the price difference plays a smaller role. It still has a decreasing effect on the willingness to reveal information, but the effect is significantly smaller in absolute terms. Interacting the dummy variable for the frame with the difference in externalities, we observe a positive, but insignificant coefficient. The interaction term of the dummy variable for negative externalities, price difference and difference between externalities shows that, in the case of negative externalities, a joint increase in price differences and differences in externalities has a slightly smaller effect on the willingness to reveal information compared to situations with positive effects on others, yet all these effects are small in size.

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<sup>10</sup>A translation of the statements can be found in the Appendix.

## 4 Discussion and Conclusion

With the analyses presented in this paper, we seek to shed light on the characteristics of decision situations in which people exploit moral wiggle room in the context of consumption choices involving environmental or societal co-benefits. Such a behavior is often explained as being an individual strategy to reduce cognitive dissonance (Grossman and van der Weele, 2017; Matthey and Regner, 2011; Nyborg, 2011; Spiekermann and Weiss, 2016). By choosing to remain ignorant, individuals can avoid the feeling of being morally obliged to altruistically sacrifice parts of their welfare, providing a justification to act in their narrow self-interest without suffering from feelings of guilt. This phenomenon of willful information avoidance is consistently found within experimental setups based on dictator games (Dana et al., 2007; Feiler, 2014; Fong and Oberholzer-Gee, 2011; Grossman, 2014; Grossman and van der Weele, 2017; Larson and Capra, 2009; Matthey and Regner, 2011; Regner, 2018; van der Weele, 2013). However, recent studies implementing different setups (e.g. Felgendreher, 2018; Lind et al., 2018; van der Weele et al., 2014) put into question whether the exploitation of moral wiggle room also arises in situations with a richer moral context. This is of particular importance in the context of markets for eco-labeled products or carbon offsets, as information avoidance would engender a credence characteristic for such products, which is, in fact, self-imposed by the consumer. This paper contributes to the ongoing debate on information avoidance in these markets by aiming to identify influencing factors which induce subjects to exploit moral wiggle room.

Within this paper, we investigate strategic information avoidance in an experimental market setting. The use of this setting increases the realism of the decision making situation as it departs from the relatively abstract dictator game. In our experiment, subjects take the role of buyers who are to choose between two products with different, potentially hidden externalities. In a between-subjects design, we alter the visibility of the externalities. In the case of full information, subjects know the externalities upfront, whereas in the other treatments, the relationship between each product option and the externalities is hidden and needs to be actively revealed. The costs of revealing information vary: Depending on the treatment, revealing is either costless or associated with a very small monetary cost for clicking a button to reveal information. We further vary the recipient in a between-subjects design such that overall, our experiment consists of six between-subjects treatments. The externality either affects the payoff of another subject from the same experimental session or determines the amount of money spent on a carbon offset by the experimenters. This treatment variation allows us to identify if the recipient has an effect on the subject's decision to reveal information.

Apart from the between-subject treatment variations, we utilize within-subject variation. We confront each subject with 26 different purchase situations in which the prices,

the price differences, the externalities as well as the differences between the externalities change from round to round. In addition, the externalities can either have a positive or a negative effect on the welfare of the recipient. Hence, we can identify the specific characteristics of situations in which exploitation of moral wiggle room is more likely to occur.

We find that subjects almost always choose to reveal when information acquisition is costless, independent of the externality affecting another subject or the amount spent on a carbon offset. Hence, similar to previous studies that went beyond the dictator game setup, we do not find evidence of typical moral wiggle room exploitation in our market setup for costless information revelation.

However, we do find consistent evidence for information avoidance in the treatments where information is associated with a small cost. Although these revelation costs were practically negligible in monetary terms, they seem to have a significant effect on the subjects' behavior. First, fewer subjects decide to reveal the information on the externalities. Furthermore, the revelation behavior significantly depends on the parameters of the decision situation. Subjects are more likely to reveal if the externality is negative and if it affects the offset. Most importantly, information avoidance almost exclusively arises in purchase decisions with a small price difference and a relatively large difference in externalities. In contrast, if the price difference is large or the difference in externalities is small, few subjects choose to reveal the information and many subjects choose egoistically. Given that the share of egoistic behavior in the corresponding full-information treatments is also high, this indicates a lower degree of self-deception and the absence of strategic information avoidance in these situations.

Our results indicate that the phenomenon of willful information avoidance is likely to be more nuanced in a market context than previously conceived of. While our findings suggest that the exploitation of moral wiggle room is not just an artifact of the specific moral context of dictator game settings, the underlying tendency for self-deception is ultimately dependent on a larger set of situational factors. In our experiment, the additional perceived barrier constituted by the token cost was necessary to induce willful information avoidance. It is hence likely that within everyday consumption decisions the exploitation of moral wiggle room depends on a combination of situational excuses. This view is further supported by the fact that, within our experiment, information avoidance only occurred within a limited range of parameters. If the own cost for altruistic behavior becomes too large compared to the corresponding effect on third parties, avoiding information seems to be no longer a strategic option for the resolution of cognitive dissonance. In these cases our subjects choose instead the honestly self-serving product option. The fact that information avoidance only arises within a limited parameter range might explain why this phenomenon was not observed in previous studies which went beyond the standard dictator game setup.

It is, as already mentioned, not unlikely that for many ‘green’ products of everyday use, the cost and price structure lies within the range for which information avoidance becomes relevant. In these cases, where self-labeled products with a relatively poor performance in terms of co-benefits could be easily identified by an informed consumer, the exploitation of moral wiggle room might explain the consistent demand for products that have obvious properties of ‘green-washing’. This voluntarily uninformed demand might also partly explain the continuous existence of the lower price segment in voluntary offset markets for offsets with relatively poor performance in terms of additionality (Hamrick and Gallant, 2017). This, in turn, would strengthen the argument for more stringent regulation of these markets on the supply side (MacKenzie and Ohndorf, 2012; MacKenzie et al., 2012). To investigate these regulatory concerns, future research should also address the interaction of supply and demand in these markets to examine the effect of willful information avoidance on green markets as a whole.



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# Appendix

## A

### Screenshot of decision screen

Die Auswirkungen Ihrer Kaufentscheidung auf den in das Offset investierten Betrag sind POSITIV. Beim Kauf des einen Produktes <b>erhöht sich</b> der in das Offset investierte Betrag um <b>10 Taler</b> , beim Kauf des anderen Produktes <b>erhöht sich</b> der in das Offset investierte Betrag um <b>50 Taler</b> . Es ist Ihnen nicht bekannt, welches Produkt welche Auswirkung hat. Wenn Sie unten auf den Button " <b>Information</b> " klicken, erfahren Sie die tatsächlichen Auswirkungen der beiden Produkte. Das Klicken ist kostenlos.		
Sie verfügen über ein Budget von 100 Talern. Bitte entscheiden Sie sich durch Klicken für EINES der beiden Produkte. Ihr Verdienst entspricht Ihrem Budget abzüglich des gezahlten Preises.		
Preis	Produkt A 50	Produkt B 40
Mögliche Auswirkungen	(10; 50)	(10; 50)
Wählen Sie ein Produkt	<input type="button" value="Produkt A"/>	<input type="button" value="Produkt B"/>
Möchten Sie Information zu der Auswirkung Ihrer Kaufentscheidung auf den in das Offset investierten Betrag erhalten? <input type="button" value="Information"/>		

Figure 4: Decision screen in Costless Offset treatment

## Instructions: Hidden Information Treatment with Offset

### Part 1

**Dear participants,**

Welcome to our experiment!

These instructions refer to the first part of our experiment.

Please read the instructions carefully. The information given in the instructions is true.

Your payment at the end of the experiment also depends on how well you have understood the instructions. The experiment as well as the analysis of the data are anonymous.

Please do not use any technical devices. If you have any questions during the experiment, please raise your hand – the experimenters will answer your question privately. Please do not talk to the other participants.

All expressions in the instructions equally refer to men and women.

The first part of the experiment consists of a purchase decision which affects the  $CO_2$  compensation payments made within the scope of this experiment. You will receive more detailed information on  $CO_2$  compensation payments on your screen.

In Part 1 of the experiment you own 100 ECU which you can use to buy one of the two virtual products. In order to buy, you need to click on the red button with the name of the product you want to purchase. You do not have the option not to purchase. You only know the price of the two products. The products may also differ with respect to their

effect on the amount of money invested in  $CO_2$  compensation payments within the scope of this experiment. These effects can be positive or negative. If they are positive, they increase the amount invested. If they are negative, they reduce the amount invested in  $CO_2$  offsets. The potential effects of your purchase are displayed, yet you do not know which effect belongs to which product. By clicking the button “Information” you can detect the respective effects. Clicking is costless. You can also make a purchase decision without revealing the effects.

Your income in Part 1 of the experiment equals 100 ECUs minus the price of the purchased product.

The amount of money invested in  $CO_2$  compensation projects equals

- In case of positive effects: the effect of your purchase decision
- In case of negative effects: 50 ECUs minus the effect of your purchase decision

For the purchase decision in Part 1 of the experiment, an ECU equals 10 Cents, i.e. you need to multiply your payoff by 0.1 in order to compute your payoff in Euro.

For the investment in  $CO_2$  compensation projects the same exchange rate applies, i.e. the effect in ECU multiplied by 0.1 equals the effect in Euros.

Certificates of the purchase of  $CO_2$  offsets are available at the Institute of Public Finance at the University of Innsbruck upon request.

You will receive new instructions on Part 2 of the experiment as soon as all players have completed Part 1.

## **Part 2**

### **Instructions for Part 2**

The second part consists of 25 rounds of which only one will be paid out. The payoff-relevant round will be determined at the end of the experiment by pulling a card from a card deck.

The course of the second part of the experiment corresponds exactly to the first part of the experiment. As in Part 1, you will make purchase decisions which affect the size of the investment in  $CO_2$  compensation projects. Again, you decide between two products which differ with respect to their price and effect (positive or negative) on the size of the investment in  $CO_2$  compensation projects. As before, you do not know which effect belongs to which product, but you can reveal the effects by clicking on the button “Information”. This is costless.

Your payoff in the payoff-relevant round is determined as in Part 1.

As soon as all participants have completed the 25 rounds of Part 2, the payoff-relevant round will be determined. Thereafter, you will be informed about your earnings from the experiment.

Your earnings are determined as follows:

1. Your earnings from Part 1 (see instructions Part 1)
2. Your earnings from Part 2 are determined by your earnings in the payoff-relevant round. Your payoff equals 100 ECUs minus the price of the purchased product.

As in Part 1 the investment in  $CO_2$  compensation projects is determined as follows:

- In case of positive externalities: the effect of your purchase decision in the payoff-relevant round
- In case of negative externalities: 50 ECUs minus the effect of your purchase decision in the payoff-relevant round

An ECU in Part 2 corresponds to 10 Cent, i.e. your earnings in ECUs are multiplied by 0.1 to compute your earnings in Euro. Analogously, the investment in the  $CO_2$  compensation project in ECU is multiplied by 0.1 to compute the investment in Euro.

Certificates of the purchase of  $CO_2$  offsets are available at the Institute of Public Finance at the University of Innsbruck upon request.

The experiment will be terminated with a questionnaire. Afterwards, you receive your earnings privately and in cash.

A brief overview of the course of Part 2:

1. 25 rounds of purchase decisions
2. The payoff-relevant round is determined randomly from the 25 purchase decisions
3. Information on earnings
4. Questionnaire
5. Payment

Thank you for participating in today's experiment. Please return the instructions upon leaving the laboratory.

## Questionnaire

### Honesty

The following questions were used to elicit the subject's self-stated honesty preferences. Subjects were asked to state to what extent (from 1 = not at all, to 5 = fully agree) they agree with the following questions.

- Suppose you know that you are not eligible for a certain form of public benefits: Is it okay to apply for this type of public benefits?

- Is it okay to freeride in public transportation?
- Suppose you get the chance to commit tax evasion: Is it okay to do so?
- Suppose you have found money: Is it okay to keep it?
- Suppose you have accidentally damaged a car: Is it okay not to report the damage?

### **Political Preferences**

We used the following statements to elicit the subject's political preferences. Subjects were asked to state to what extent (from 1 = not at all, to 5 = fully agree) they agree with the following statements.

- It is also important to protect the rights of criminals.
- Marriages of couples of the same sex deserve the same rights as marriages of heterosexual couples.
- We should be thankful for leading heads who tell us what to do and how to do it.
- Our society needs to take drastic measures against criminals.
- Our country would be better off if young people relied more strongly on values and traditions.
- Politics should not intervene in the economy.
- Politics should compensate differences between smaller and larger incomes.
- Unemployment should be fought, even if this provokes high public debt.
- The European lifestyle and the lifestyle of Muslims are easily compatible.
- Muslims should adapt in order to have fewer problems.
- Migration to my country should be stopped.

### **Donation**

Subjects were informed about their payoff. Then, they were asked if they wanted to donate a share of their earnings to a charity of their choice. Subjects who answered that they would like to donate could specify the amount they wanted to donate. Further, they could choose their preferred charity from the following list.

- SOS Children's Villages
- Unicef

- Caritas
- Brot für die Welt (“Bread for the World”)
- Doctors without Borders
- Amnesty International
- Transparency International
- Austrian Red Cross
- Other

Subjects who chose “Other” could enter their preferred charity.



## B

### Supplementary analyses

#### Selfish choices across treatments

Table 6:  $\chi^2$ -tests by scenario: average share of selfish choices

Scenario	Subject			Offset		
	Full	Costless	Costly	Full	Costless	Costly
1	0.902	0.826	0.852	0.728	0.711	0.702
<i>p-value</i>		0.132	0.307		0.797	0.693
<i>adj. p-value</i>		0.218	0.402		0.819	0.738
3	0.814	0.814	0.828	0.750	0.794	0.757
<i>p-value</i>		1.000	0.835		0.513	0.917
<i>adj. p-value</i>		1.000	0.849		0.548	0.924
4	0.783	0.750	0.790	0.571	0.572	0.585
<i>p-value</i>		0.460	0.868		0.976	0.778
<i>adj. p-value</i>		0.561	0.898		0.982	0.841
5	0.630	0.554	0.614	0.446	0.400	0.500
<i>p-value</i>		0.294	0.816		0.533	0.458
<i>adj. p-value</i>		0.374	0.838		0.592	0.503
6	<b>0.386</b>	0.343	<b>0.562</b>	0.348	0.324	0.443
<i>p-value</i>		0.598	<b>0.041</b>		0.748	0.219
<i>adj. p-value</i>		0.646	<b>0.076</b>		0.768	0.266
7	<b>0.391</b>	0.337	<b>0.523</b>	0.304	0.244	0.383
<i>p-value</i>		0.444	<b>0.077</b>		0.365	0.259
<i>adj. p-value</i>		0.413	0.125		0.415	0.338
<b>all</b>	0.675	0.628	0.710	0.531	0.514	0.562
<i>p-value</i>		0.090	0.202		0.542	0.267
<i>adj. p-value</i>		0.341	0.486		0.763	0.596

#### Selfish purchases vs. information avoidance

For completeness, we also follow the approach used in Grossman and van der Weele (2017) and compare the share of selfish choices in conflict situations in the full information treatments to the share of subjects not revealing information in the treatments with hidden information. Selfish subjects will not reveal information on the externalities of their choices as knowing the consequences of their actions does not affect their choices. Altruistic subjects will reveal information as they care about the recipient's payoff. When the share of subjects who avoid information exceeds the share of selfish subjects in the baseline treatment, there must be some subjects who *strategically* do not reveal informa-

tion which, if provided exogenously, would induce them to choose altruistically. Avoiding the information these subjects can selfishly maximize their own payoff without worrying about the impact of their choice on the third party.

Table 7:  $\chi^2$ -tests by scenario: selfish choices vs. information avoidance

Scenario	Subject			Offset		
	Full	Costless	Costly	Full	Costless	Costly
1	0.902	0.141	0.636	0.728	0.100	0.351
<i>p-value</i>		<0.001	<0.001		<0.001	<0.001
<i>adj. p-value</i>		<0.001	0.001		<0.001	<0.001
3	0.814	0.171	0.688	0.750	0.118	0.529
<i>p-value</i>		<0.001	0.089		<0.001	0.003
<i>adj. p-value</i>		<0.001	0.141		<0.001	0.011
4	0.783	0.174	0.659	0.571	0.106	0.404
<i>p-value</i>		<0.001	0.009		<0.001	0.001
<i>adj. p-value</i>		<0.001	0.069		<0.001	0.030
5	0.630	0.141	0.591	0.446	0.056	0.362
<i>p-value</i>		<0.001	0.587		<0.001	0.243
<i>adj. p-value</i>		<0.001	0.651		<0.001	0.316
6	<b>0.386</b>	0.114	<b>0.578</b>	0.348	0.103	0.429
<i>p-value</i>		<0.001	<b>0.026</b>		<0.001	0.295
<i>adj. p-value</i>		0.002	<b>0.061</b>		0.002	0.356
7	<b>0.391</b>	0.152	<b>0.545</b>	0.304	0.067	0.340
<i>p-value</i>		<0.001	<b>0.038</b>		<0.001	0.599
<i>adj. p-value</i>		0.003	<b>0.087</b>		<0.001	0.646
<b>all</b>	0.675	0.153	0.621	0.531	0.092	0.397
<i>p-value</i>		<0.001	0.055		<0.001	<0.001
<i>adj. p-value</i>		<0.001	0.410		<0.001	0.042

In Table 7 we present the average share of egoistic purchase decisions in conflict situations in the full information treatments. Further, we depict the share of subjects not revealing the hidden information in the costless and the costly revelation treatments. The shares are presented for each scenario separately as well as for the aggregate data. See Figure 5 for a graphic representation of the shares.

If information is hidden, but *costless* to reveal, very few subjects decide to stay ignorant. In fact, significantly more subjects reveal than we would expect to behave altruistically given the behavior in the full information treatments. Also considering all scenarios jointly, there appears to be no sign of strategic information avoidance. On the contrary, a significant share of subjects might even reveal information out of curiosity. In all scenarios, our results thus strikingly differ from previous results on moral wiggle room exploitation outside of a market context.

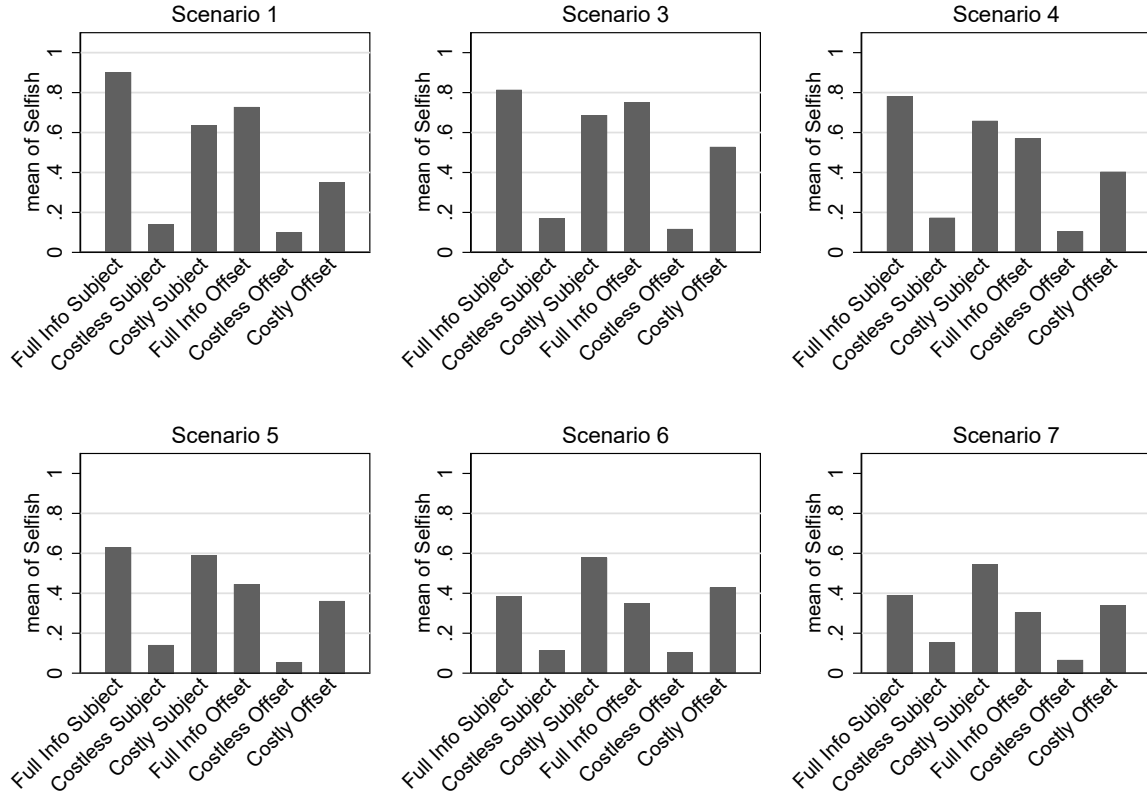


Figure 5: Selfish choices and information avoidance across scenarios and treatments

Even when information is *costly* to obtain, significantly fewer subjects stay ignorant than expected. This finding holds for both types of receivers – subject and offset – and for Scenarios 1 to 5 as well as for the aggregate data. In Scenarios 6 and 7, the share of subjects who do not reveal the information exceeds the share of selfish choices in the full information treatment. Yet, this difference is only significant when another subject receives the externality. Thus, not even the small cost of revealing information could induce subjects to systematically avoid information when it is relatively expensive for them to potentially exert a positive effect on the receiver. Only in the scenarios in which the price difference is relatively small compared to the difference in externalities do subjects systematically avoid information. We can hence conclude that the tendency to exploit moral wiggle room clearly depends on the parameterization of the decision problem.

## Reveal

Table 8: Regressions: Reveal (all choices)

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	Probit	OLS	Probit	OLS	Probit
PriceDiff	-0.007*** (0.001)	-0.042*** (0.006)	-0.007*** (0.001)	-0.042*** (0.006)	-0.009*** (0.001)	-0.053*** (0.007)
ExtDiff	0.007*** (0.002)	0.038*** (0.012)	0.007*** (0.002)	0.038*** (0.012)	0.006*** (0.002)	0.033** (0.013)
PDiff*EDiff	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000*** (0.000)	0.001*** (0.000)
PriceDiff2	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
ExtDiff2	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)
Offset	0.132*** (0.042)	0.696*** (0.220)	0.136*** (0.042)	0.709*** (0.222)	0.136*** (0.042)	0.713*** (0.223)
Costly	-0.354*** (0.042)	-1.926*** (0.221)	-0.330*** (0.041)	-1.824*** (0.217)	-0.329*** (0.041)	-1.829*** (0.218)
Period	-0.002* (0.001)	-0.007 (0.005)	-0.002* (0.001)	-0.007 (0.005)	-0.002* (0.001)	-0.007 (0.005)
NegFrame	0.032*** (0.009)	0.183*** (0.056)	0.032*** (0.009)	0.183*** (0.056)	-0.045 (0.035)	-0.285 (0.216)
Gender			-0.016 (0.048)	-0.100 (0.243)	-0.016 (0.048)	-0.100 (0.243)
Donate			0.127*** (0.041)	0.460* (0.239)	0.127*** (0.041)	0.464* (0.240)
Honesty			0.021 (0.013)	0.111 (0.076)	0.021 (0.013)	0.110 (0.076)
SocPol			-0.059* (0.033)	-0.543*** (0.191)	-0.059* (0.033)	-0.546*** (0.192)
CultOpen			0.020 (0.027)	0.146 (0.147)	0.020 (0.027)	0.149 (0.147)
EconPol			-0.020 (0.031)	-0.010 (0.173)	-0.020 (0.031)	-0.010 (0.173)
NegF*PD					0.005*** (0.002)	0.028*** (0.009)
NegF*ED					0.002* (0.001)	0.013* (0.007)
NegF*PD*ED					-0.000*** (0.000)	-0.001*** (0.000)
Constant	0.797*** (0.045)	1.588*** (0.261)	0.821*** (0.138)	2.015*** (0.763)	0.854*** (0.140)	2.219*** (0.774)
$R^2$	0.185		0.208		0.210	
N	4364	4364	4364	4364	4364	4364

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

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Katharina Momsen, Markus Ohndorf

When do people exploit moral wiggle room? An experimental analysis in a market setup

**Abstract**

We investigate if decision makers exploit moral wiggle room in green market settings. We therefore implement a laboratory experiment in which subjects purchase products associated with externalities. In six between-subjects treatments, we alter the availability of information on the externalities, the price of revealing information as well as the nature of the externality, which could either affect another subject or change the amount spent by the experimenters on carbon offsets. We find that subjects do not exploit moral wiggle room when revealing information is costless. When a very small cost of revealing information is introduced, their behavior depends on the relation between prices and externalities. In situations in which it is relatively cheap to have a large impact on the recipient's payoff, subjects exploit moral wiggle room in order to choose selfishly. For other parametrizations, subjects behave either honestly egoistically or altruistically.

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