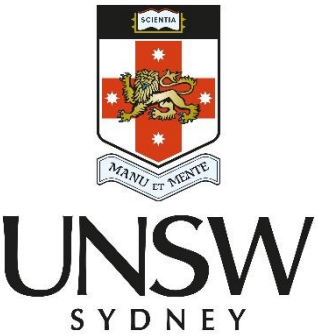
Selling your Soul: The Moral Disparity between Buyers and Sellers

Hanbit Cho

Thesis submitted in fulfilment for the degree of

Doctor of Philosophy



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This thesis aimed to shed light on the debate regarding whether ethics plays an important role in marketing and consumer behaviour. Experiments in Part 1 (Experiments 1 to 5), examined people's willingness to pay (WTP) and willingness to accept (WTA) for buying and selling goods associated with ethically and unethically perceived companies. Hypothetical scenario questions were used to examine whether explicitly highlighting the companies' ethical status (Experiment 1), the market price of the good (Experiment 2) or increasing the moral accountability of the traders' decisions (Experiment 3) would affect market behaviour. Incentivized experiments were also conducted in which the Becker, Degroot and Marshak (BDM) valuation procedure (Experiment 4) and morally accountable trades (Experiment 5) were implemented to confirm previous findings. Results from Part 1 consistently show that buyers are willing to pay more for an ethically associated good than an unethically associated good. In contrast, sellers are willing to accept similar prices for both types of goods. To test whether previous findings can be generalized to other types of goods, experiments in Part 2 (Experiments 6 to 8) examined how people buy and sell shares in hypothetical companies with different ethical and financial status (Experiment 6). Furthermore, a process-orientated approach was implemented to examine how people would utilize information pertaining to companies' moral and financial attributes to buy or sell shares. Two variations of this approach were used in which this information required a fee to be revealed (Experiment 7) or was completely revealed without cost (Experiment 8). Results from Parts 1 and 2 generally show that buyers and sellers have different goals when trading goods or shares associated with ethically and unethically perceived companies. Sellers tend to prioritize maximizing profit, whereas buyers tend to prioritize ethical market behaviour. Consequently, these findings suggest that ownership has minimal influence on people's trading behaviour for such goods. The sellers (owners) providing similar selling prices despite the goods having different ethical status supports this interpretation of the results. Overall, goals seem to better explain how people buy and sell ethically and unethically associated goods, not ownership.

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Abstract

This thesis aimed to shed light on the debate regarding whether ethics plays an important role in marketing and consumer behaviour. Experiments in Part 1 (Experiments 1 to 5), examined people's willingness to pay (WTP) and willingness to accept (WTA) for buying and selling goods associated with ethically and unethically perceived companies. Hypothetical scenario questions were used to examine whether explicitly highlighting the companies' ethical status (Experiment 1), the market price of the good (Experiment 2) or increasing the moral accountability of the traders' decisions (Experiment 3) would affect market behaviour. Incentivized experiments were also conducted in which the Becker, Degroot and Marshak (BDM) valuation procedure (Experiment 4) and morally accountable trades (Experiment 5) were implemented to confirm previous findings. Results from Part 1 consistently show that buyers are willing to pay more for an ethically associated good than an unethically associated good. In contrast, sellers are willing to accept similar prices for both types of goods. To test whether previous findings can be generalized to other types of goods, experiments in Part 2 (Experiments 6 to 8) examined how people buy and sell shares in hypothetical companies with different ethical and financial status (Experiment 6). Furthermore, a process-orientated approach was implemented to examine how people would utilize information pertaining to companies' moral and financial attributes to buy or sell shares. Two variations of this approach were used in which this information required a fee to be revealed (Experiment 7) or was completely revealed without cost (Experiment 8). Results from Parts 1 and 2 generally show that buyers and sellers have different goals when trading goods or shares associated with ethically and unethically perceived companies. Sellers tend to prioritize maximizing profit, whereas buyers tend to prioritize ethical market behaviour. Consequently, these findings suggest that ownership has minimal influence on people's trading behaviour for such goods. The sellers (owners) providing similar selling prices despite the goods having

different ethical status supports this interpretation of the results. Overall, goals seem to better explain how people buy and sell ethically and unethically associated goods, not ownership.

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Prologue

Imagine that you own two, one carat fine diamonds of equal quality. However, one is certified to be sourced from a non-conflict region, whereas the other one is from a conflict region. If you were to consider selling these diamonds, how much would you be willing to accept to sell each of these diamonds? In reverse, imagine that you were given the opportunity to buy these two differently sourced diamonds. If you were to consider buying them, how much would you be willing to pay for each of these diamonds? Hypothetical scenario questions similar to the one described were used in this thesis to investigate whether ethics plays an important role in market behaviour.

In the question above, there are two main variables being manipulated: role (buyers vs. sellers) and the ethical status of the good (ethical vs. unethical). If selling and buying prices were similar between conflict and non-conflict diamonds, this would suggest that buyers and sellers were not affected by the ethical status of the good; that both types of diamonds were perceived to be equally valuable. If selling and buying prices were lower for the conflict diamond than the non-conflict diamond, then this would indicate that both buyers and sellers were affected by the ethical status of the good; that the unethically sourced diamond is seen as less valuable than the ethically sourced diamond. If the price disparity between selling and buying prices for conflict and non-conflict diamonds were different, this pattern would indicate that the ethical status of the good affected buyers and sellers differently.

Questions similar to the scenario above, where people are asked to elicit their buying and selling prices for a good, are often seen in traditional *endowment effect* studies. These studies aim to understand why there tends to be a price disparity between how much people are willing to accept (WTA) and willing to pay (WTP) for the same target item. The price gap between WTA and WTP is referred to as the endowment effect. The typical effect is

demonstrated when sellers value the good to be worth two to three times more than the buyers' valuations (Kahneman, Knestsch & Thaler, 1990).

The literature on the endowment effect provides a wealth of knowledge that could help predict how people might trade goods that differ in their ethical status. For instance, recent cognitive-process based theories on the endowment effect including the *biased information processing account* and the *attribute sampling bias theory* (Morewedge & Giblin, 2015) can be used to generate different predictions regarding how people might trade ethically and unethically perceived goods. Although they both aim to explain the WTP-WTA gap, they take into account different frames (e.g., buying, selling or ownership) relevant in market settings which may influence the accessibility of the information associated with the good. This information can relate to the positive attributes of the good, which would increase the good's value, or negative attributes which would decrease the good's value. These theoretical predictions are discussed in more detail in Chapter 1.

Table 1 displays the summary of the experiments that were conducted to test which theory would better account for how buyers and sellers would trade ethically and unethically perceived goods. Experiments in Chapters 2 and 3 used the traditional endowment effect paradigm. The target good used in these experiments was a merchandise mug associated with an ethically perceived company (e.g., a charity organization) or an unethically perceived company (e.g., a tobacco company). Specifically, experiments in Chapter 2 implemented hypothetical scenario questions to examine whether explicitly highlighting the companies' ethical status (Experiment 1), the market price of good (Experiment 2) or increasing the moral accountability of the traders' decisions (Experiment 3) would influence people's market behaviour. Additionally, experiments in Chapter 3 conducted incentivized experiments in which the Becker, Degroot and Marshak (Becker, Degroot & Marshak, 1964)

valuation procedure (Experiment 4) and morally accountable trades (Experiment 5) were implemented to confirm previous findings.

For further investigation, experiments in Chapter 4 examined how people would buy or sell shares in hypothetical companies to test whether previous findings can be generalized to other types of goods (Experiment 6). Additionally, a process-orientated approach was used to examine how people would utilize information pertaining to companies' moral and financial attributes to buy or sell shares. Two variations of this approach were conducted in which acquiring this information required a fee (Experiment 7) or the information was completely revealed without cost (Experiment 8).

Table 1. Summary of the experiments conducted in the thesis

			Target good	Main Question	Paradigm
Part 1	**Chapter 2**	**Expt. 1**	Mugs	How do people in general trade ethically and unethically perceived goods? Does explicitly highlighting the ethical status of the good, influence people's WTP/WTA?	WTP/WTA (unincentivized)
		Expt. 2	Mugs	Does providing or not providing the market price (reference price) for ethically and unethically perceived goods affect people's WTP/WTA?	WTP/WTA (unincentivized)
		Expt. 3	Mugs	How do people trade ethically and unethically perceived goods when sellers are affiliated with the company associated with the product?	WTP/WTA (unincentivized)
	Chapter 3	**Expt. 4**	Mugs	How do people trade ethically and unethically perceived goods when the Becker, Degroot and Marshak procedure has been implemented?	WTP/WTA (incentivzed)
		Expt. 5	Mugs	How do people trade ethically and unethically perceived goods when their decisions are morally accountable?	WTP/WTA (incentivized)
Part 2	**Chapter 4**	**Expt. 6**	Shares	How do people trade shares associated with companies that differ in their profitability and ethical status?	WTP/WTA (unincentivized)
		Expt. 7	Shares	How do traders prioritise obtaining information relating to financial and moral attributes associated companies? How do they use the obtained information to buy or sell shares of companies that differ in these attributes?	Process orientated approach (incentivized)
		Expt. 8	Shares	How do people choose to buy or sell shares when information relating to financial and moral attributes associated with companies is revealed?	Mutliple Attribute, forced choiced (incentivized)

Part 1

Chapter 1
Sell High or Sell Low? Buy Low or Buy High? Predicting the Market for Ethically and Unethically Perceived Goods

Introduction

The availability of goods that are ethically produced seems to have significantly increased over the years. For instance, it is now far more common than before to see labels attached on products in grocery stores or even in cafes to indicate that they have been produced in a more ethical manner (Hainmueller, Hiscox, & Sequeira, 2015). These real world examples indicate that consumers and businesses may be becoming more sensitive towards ethical issues such as aspects of the process of product development (e.g., sweatshops). However, whether ethics plays an important role in marketing and consumer behavior has been debated (Carrigan & Attalla, 2001).

Based on the "noise" that people tend to make regarding ethical issues on social networking platforms (Carrigan & Attalla, 2001), such as on Facebook or Twitter, one could assume that many people would make an effort to only consume ethically made products. Furthermore, one might think that companies would be able to sell ethically produced goods at a premium, or at least for a higher price than goods that have been produced with less ethical consideration. However, a counter argument could be made that people only care about the ethical issues surrounding how a good is produced at a superficial level (Titus & Bradford, 1996). For example, companies may use marketing strategies similar to *greenwashing* which gives the impression to the consumers that they are making an effort to be more ethical when that is not actually the case (Griskevicius, Tybur & Van den Bergh, 2010). Consumers may also be adopting a similar strategy where they may act as if they are ethical consumers in public. However, in reality they are doing what is simply most convenient (Boulstridge & Carrigan, 2000), such as buying the cheapest goods.

Currently, there is limited evidence to support either of these perspectives. Not only is ethical consumer behaviour under-researched (Muncy & Vitell, 1992; Carrigan & Attalla, 2001), the main methods used to investigate the role of ethics in markets have consisted of

field studies (Hainmnueller et al., 2015), focus groups discussions (Carrigan & Attalla, 2001; Bray, Johns & Kilburn, 2011) and questionnaires (Creyer, 1997; De Pelsmacker, Driesen & Rayp, 2005). More experimental research is needed to directly test whether ethics plays an important role in relation to buying and selling behaviour.

This thesis aims to address this gap in the literature through the exploration of the endowment effect literature and the implementation of the endowment effect paradigm. Cognitive-process based theories from this literature are used to generate predictions regarding how people might behave when buying or selling ethically or unethically perceived goods. Then the endowment effect paradigm is used to test the predictions of these theories. Through this process, this thesis aims to determine whether people consider ethics as an important factor when buying and selling goods, and provides a theoretical explanation for what could be driving their buying and selling behaviour.

The Endowment Effect

In the most basic endowment effect paradigm, participants are randomly allocated to a buyer or a seller role. Sellers are endowed with a good and asked to indicate the lowest price they would be willing to accept (WTA) to sell the good. In contrast, buyers are shown the same good and are asked to indicate the highest price they would be willing to pay (WTP) for the good. Usually, sellers provide a price that is two to three times the amount stated by the buyers: an endowment effect (Kahneman, Knestsch & Thaler, 1990).

The endowment effect has significant implications for many domains including marketing, policy, law, economics and organizational behavior (Morewedge & Giblin, 2015). It challenges the Coase theorem: a theory applied in standard economics and law, which assumes that when income effects are relatively similar, the value of an object is to be independent of ownership (Kahneman, et al., 1990). Specifically, previous studies show that

ownership plays an integral part in inducing the price discrepancy between buyers and sellers (Morewedge, Shu, Gilbert, & Wilson, 2009). For example, the length of ownership tends to increase the magnitude of the endowment effect (Strahilevitz & Loewenstein, 1998). Moreover, the endowment effect is not necessarily dependent upon legal/factual ownership. Being in possession of a good, even without having actual ownership can increase *psychological ownership* (i.e., feeling of ownership) and lead sellers to increase their valuations of the possessed good (Reb & Connolly, 2007).

Traditionally, the endowment effect has been attributed to *loss aversion* (Morewedge & Giblin, 2015), a key aspect of Prospect Theory (Kahneman & Tversky, 1979). The loss aversion account implies that valuations are made based on two theoretical predictions of prospect theory: valuations are *reference dependent*, and losses are weighted more heavily than gains. In relation to the endowment effect paradigm, the reference point is the state where the trade has not yet taken place. From this reference point, the good if traded represents a gain for the buyer and a loss for the seller. Due to people being loss averse, the anticipation of the loss is weighted greater than the anticipation of the gain. Hence, the value of the good from the sellers' standpoint is greater than from that of the buyers'.

Despite the robustness of the endowment effect, this loss-aversion account has become increasingly contested (see Morewedge & Giblin, 2015 for a review). More recent studies focusing on the underlying cognitive processes of the endowment effect have shown that sellers and buyers focus on different aspects of the good and this heavily influences the price disparity between the buyers and sellers. This includes the way in which traders focus on what they will be forgoing (Carmon & Ariely, 2000), how the valence of the good will be recalled (Nayakankuppam & Mishra, 2005), the order in which value increasing and decreasing aspects are considered (Johnson, Häubl & Keinan, 2007), and how people sample

information to decide on their valuations (Pachur & Scheibehenne, 2012). Furthermore, as more sophisticated approaches are implemented in these studies, such as using a sampling paradigm where participants have to sample different valuations of a good before indicating their price, the contrast between how buyers and sellers process information can be more clearly demonstrated.

There are also many studies which demonstrate that the endowment effect can be nullified such as when people have a lot of trading experience (List, 2003) or when the good increases one's negative affect (Shu & Peck, 2011). In some cases, the endowment effect can even be reversed, whereby the owners value their good less than those who do not own it. For instance, Brenner, Rottenstreich, Sood, and Bilgin (2007) found that when people are endowed with a negative offer (e.g., a job with a long commute), they tend to exchange it for another equally negative offer (e.g. a job that involves working weekends). This switching behaviour can be construed as a reversal of the standard endowment effect because the endowed 'bad' appears to confer no additional value to the owner than the alternative 'bad'. Indeed, most studies that have used this exchange paradigm have consistently shown the standard endowment effect, in which people endowed with a likable product (e.g. chocolate or a mug) tend to stay with the status quo by not exchanging it for another likable product (Knetsch, 1989). Consequently, evidence from these studies suggest that there are many situations in which traders behave in discordance to the traditional loss aversion account.

To integrate all of these findings, Morewedge and Giblin (2015) have developed two cognitive-process based theoretical accounts to explain the endowment effect and other buying and selling patterns. These accounts consist of *the biased information processing account* and the *attribute sampling bias theory*. The biased information processing account aims to explain the endowment effect by highlighting the different cognitive processes

elicited by externally generated, exogenous frames (i.e., being a buyer or seller). By comparison, the attribute sampling bias theory builds upon the biased information processing account to explain how the endowment effect can also be reversed by taking into account internally generated, endogenous frames (i.e., ownership), in addition to exogenous frames. The details regarding how these exogenous and endogenous frames influence buying and selling prices are explained in the following sections.

Biased Information Processing Account

The biased information processing account assumes that the endowment effect is caused by exogenous frames (i.e., being a seller or a buyer) influencing how traders access information pertaining to a good. Specifically, these frames increase the accessibility of the information associated with a product that is consistent with the *status quo*. Sellers are biased towards accessing information pertaining to the positive, value-increasing features of the good. In contrast, buyers access information pertaining to the negative, value-decreasing features of the good. As a result, the chances of sellers and buyers making a trade becomes significantly reduced. Hence, sellers are more likely to maintain their ownership of the good, and buyers are more likely to maintain their position of having no ownership of the good.

The way in which information about the good is processed is also associated with the order of inquiry traders internally process through memory. Specifically, *query theory* of the endowment effect (Johnson et. al., 2007), assumes that sellers tend to inquire why they should not sell the good before considering why they should sell the good. In reverse, buyers inquire why they should not buy the good before considering why they should buy the good. The first inquiry tends to take precedent when determining the value of the good as information associated with the first inquiry is predicted to be richer compared to the second inquiry (Johnson et al., 2007). The asymmetry in memory retrieval is proposed to be caused

by *output interference*, which suggests that recalling some parts of the information can result in a decrease in memory for the unrecalled part of the information (Dempster, 1995). Thus, query theory predicts that sellers will predominantly consider the value increasing aspects of the good, whereas buyers predominantly consider the value decreasing aspects. In support of these assumptions, when traders are encouraged to internally process information like their counterparts (i.e. assess the value increasing and value decreasing aspect of the good in the reverse order), the endowment effect becomes marginal (Johnson et. al., 2007).

The biased information processing in buyers and sellers also seem to occur externally via the cues presented in the environment. When buyers more frequently sample cues that decreases the value of the good or when sellers frequently sample value-increasing cues, information search is terminated more quickly (Pachur & Scheibehenne, 2012). This information acquiring process that suits the traders' positions is analogous to confirmatory hypothesis testing in which people seek information to confirm their prior or current beliefs (Morewedge & Giblin, 2015).

Attribute Sampling Bias Theory

The biased information processing account is able to predict how people would buy and sell goods that have both positive and negative features. However, a problem arises when a good is characterized by predominantly negative attributes, such as goods that have passed their expiry date. For these 'bads', the biased information processing account predicts that sellers would value these undesirable goods more highly than buyers, thus leading to an endowment effect. This outcome is predicted because this account assumes that buyers will have more access to value-decreasing information pertaining to the good than sellers regardless of what positive or negative features the good might have. However, previous

studies have shown that an endowment of a bad results in a reversal of the endowment effect (Brenner et al., 2007).

Given this contradiction, how could a cognitive-process theory that is similar to the biased information processing account be able to explain the reversal of the endowment effect in bads? An alternative theory, which can account for both the endowment effect in goods and the reversal of the endowment effect in bads is the attribute sampling bias theory. Similar to the biased information processing account, this theory assumes that the endowment effect is caused by exogenous frames (e.g., being a seller or a buyer) which increase the accessibility of frame-consistent attributes (Morewedge & Giblin, 2015). Frame consistent attributes are features of the good that determine the value of the good but are consistent with the status quo. Buyers can more readily access attributes that suggest keeping their money whereas sellers can more easily access attributes that suggest keeping the good. The manner in which people access frame-consistent attributes is similar to how people seek and consider information based on the biased information processing account. Both accounts assume that the way in which people access information/attributes about the good is analogous to confirmatory hypothesis testing.

The accounts differ, however, in that the attribute sampling bias theory suggests ownership of the good, which is often the case for sellers, acts as an endogenous frame, thus increasing the sampling of attributes consistent with ownership. Specifically, ownership provides another layer of attributes that only owners can associate with on a more personal basis. For example, if an individual was given a gift such as a watch, they may consider whether they like the aesthetics of the watch or its brand based on personal preference. Due to the attributes being frame-consistent, ownership tends to increase the sampling of positive attributes of the good (e.g., the watch has a nice design), thus strongly encouraging the sellers

to keep the good. Consequently, the goods which the sellers want to maintain ownership of should increase in value. However, it is also the case that if the valence of the good is highly negative (e.g., the watch breaks down easily), owners can sample negative attributes associated with owning the product. As a result, people may be encouraged to get rid of such undesirable goods which should reduce its value. In other words, the attribute sampling bias theory predicts that the magnitude of the endowment effect should increase as the valence of the good becomes more positive. Conversely, the magnitude of the *reversal* of the endowment should increase as the valence of the good (or 'bad') becomes more negative (Morewedge & Giblin, 2015).

Predictions for Ethically and Unethically Perceived Goods

Part 1 of this thesis tests the predictions of these two theories for trades involving a product (i.e., a mug) related to an ethically and unethically perceived company/organization. A 'good' is operationalised as a product made by an organization that is perceived to be ethical (e.g., World Wildlife Fund or WWF – a charity, environmental organization). In contrast, a 'bad' is operationalised as a product made by a company that is perceived to be unethical (e.g., Marlboro – cigarette brand). The rationale for operationalizing the products this way is because the ethical or unethical aspects of the good can also be categorized as having positive or negative attributes, respectively. Specifically, the valence of possessing a Marlboro mug might be seen as negative because one could be identified as someone who supports the production and distribution of cigarettes. In contrast, the valence of possessing a WWF mug might be seen as positive because one can be identified as someone who cares for the environment. Indeed, previous studies have shown that branding is an important factor when it comes to making valuation judgments of a good, especially in relation to how people might associate themselves with the brand (Dommer & Swaminathan, 2013).

In this context, the biased information processing account predicts an endowment effect for both the WWF and Marlboro mugs. These predictions are made under the theoretical assumption that sellers will focus primarily on the information that helps to increase the value of the good. Whereas, buyers will focus primarily on the information that helps to decrease the value of the good. Specifically, the ethical aspect of the WWF mug should provide additional value increasing information assessable by sellers, thereby driving the WTA to be higher than the WTP for the WWF mug. Vice-versa, the unethical aspect of the Marlboro mug should provide additional value decreasing information assessable by buyers, thereby driving the WTP to be lower than the WTA for the Marlboro mug.

In contrast, the attribute sampling bias account predicts an endowment effect for the WWF mug and a reversal/decrease in the endowment effect for the Marlboro mug. These predictions are based on the assumption that ownership allows the sellers (owners) to consider both positive and negative attributes of the good. Specifically, sellers may consider that the negative attributes associated with Marlboro do not fit with their moral values as they do not want to be identified as someone promoting a company that makes products which cause serious health risks. Thus, they may be willing to sell the Marlboro mug close to or below what others may pay for them. Conversely, for the WWF mug, sellers may consider that the positive attributes associated with WWF fits with their moral values as they could be identified as someone who cares for the environment. Thus, they may be willing to sell the WWF mug for a higher price than buyers are willing to pay for it. These contrasting predictions are illustrated in Figure 1.

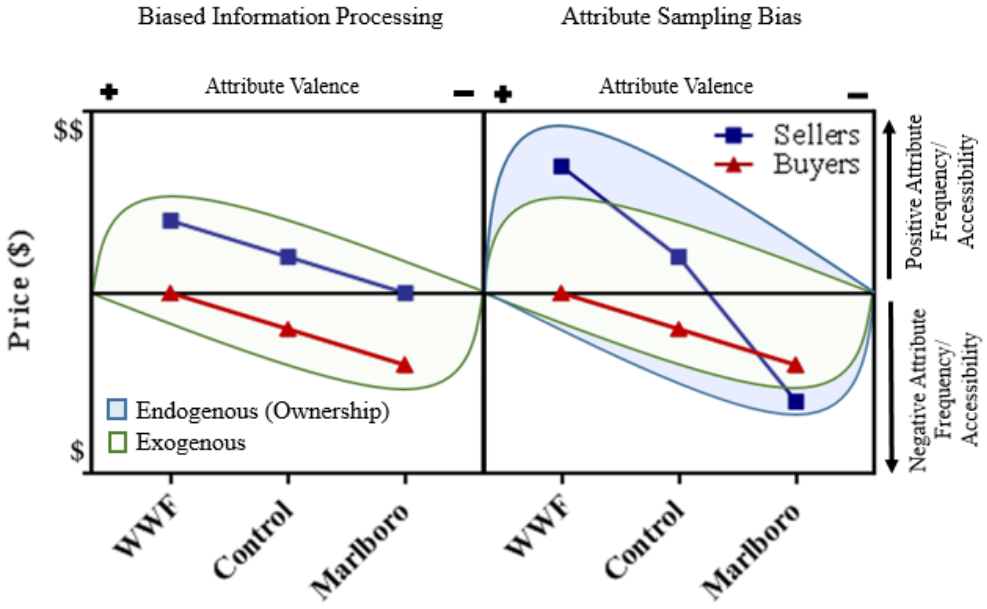

Figure 1. Predicted buying and selling prices for WWF (World Wildlife Fund), control (no brand), and Marlboro mugs based on the biased information processing (left panel) and the attribute sampling bias accounts (right panel). Attributes accessible via endogenous (i.e., ownership) and exogenous (i.e., buying and selling) framing are depicted in the area shaded in blue and green, respectively. The valence of the mug is positive or negative based on the mug being associated with an ethically (WWF) or unethically (Marlboro) perceived organization/company, respectively. The arrows on the right hand side of the figure indicate the valence of the attributes that are accessible. The biased information processing account only considers the accessibility of attributes caused by exogenous framing, whereas the attribute sampling bias considers the accessibility of attributes caused by both exogenous, and endogenous frames pertaining to ownership. The value of the goods is weighed according to the accessibility of the attributes.

The following experiments used the traditional endowment effect paradigm to elicit participants' WTP/WTA for a mug associated with an ethically (WWF) or unethically (Marlboro) perceived organization/company. Experiments 1 to 3 used hypothetical scenarios to elicit participant's valuations, whereas Experiments 4 and 5 were incentivized and involved actual trades. As outlined in detail in Table 1, Experiment 1 examined whether explicitly highlighting the ethical status of the company associated with the good (i.e., cigarettes causes harm) could influence people's buying and selling behaviour. In Experiment 2, participants were provided or not provided with the market price of the good to examine

the effects of providing a price of reference when making a trade. Experiment 3 aimed to increase the moral accountability of the participants' decision by making the scenario question more explicit in relation to the consequence of the trade (i.e., mentioning how companies associated with the mug may benefit from the trade). In Experiment 4, the BDM valuation procedure and real mugs were used to test whether the previous experiments can be replicated in a lab-based, incentive compatible condition. Lastly, Experiment 5 aimed to increase the moral accountability of the participants' decision while implementing real trades by making the transactions liable to potentially benefit the companies associated with the good.

To evaluate the reliability of the results for these experiments, both Null Hypothesis Significance Test (NHST) and Bayesian data analyses are reported when appropriate. There are advantages in using Bayesian statistics over the standard NHST approach such as its ability to provide evidence in favour of the null hypothesis (Newell & Shaw, 2017). Furthermore, the strength of the evidence against the null hypothesis is not influenced by the number of observations in an experiment (Wagenmakers, 2007), thus the size of the sample does not influence the reliability of the result. By implementing both NHST and Bayesian analyses, a more rigorous approach to data analysis can conducted via offering an alternative way in which the results can interpreted and tested. The default priors provided in JASP (a statistical software used for Bayesian data analysis) were used to calculate the Bayes factors (BFs) in this thesis (see Wetzels, Grasman & Wagenmakers, 2012 for a discussion on the rationale for using default prior distributions).

Chapter 2
Hypothetical Trading: Exploring how People Buy and Sell Ethically and Unethically Perceived Goods

Experiment 1

Experiment 1 aimed to explore how people would buy or sell goods (i.e., a mug) associated with ethically (WWF), morally neutral and unethically (Marlboro) perceived brands/companies. Furthermore, information about these brands' ethical status was manipulated to examine whether participants can be encouraged to behave in accordance with the attribute sampling bias theory and the biased information processing account.

By explicitly highlighting the ethical status of the companies associated with the good, such as by mentioning that the company produces goods that cause harm to people's health or the organization prevents harm to the environment, both sellers and buyers may pay more attention to the negative and positive attributes associated with Marlboro and WWF, respectively. Sellers in particular may consider more deeply the consequences of owning such mugs (e.g., owning a Marlboro mug may reflect badly on the sellers' moral identity). As a result, participants may be more inclined to behave in line with the attribute sampling bias theory, whereby a reversal or elimination of the endowment effect for the Marlboro mug and an endowment effect for the WWF mug would be observed (see Figure 1). This pattern is predicted as the attribute sampling bias theory assumes that sellers have the ability to consider the negative and positive aspects of a good from the owners' perspective. As the sellers sample the negative moral attribute associated with the Marlboro brand, the price of the good should be significantly reduced to the extent that WTP-WTA gap is eliminated or a reversal of the endowment effect is shown. Vice-versa, as the sellers sample the positive moral attribute associated with WWF brand, the price of the good should significantly increase to the extent that an endowment effect is observed.

In contrast, when the ethical status of these companies are not highlighted, less attention might be given to the negative attributes associated with Marlboro and positive attributes

associated with WWF. As sellers are less concerned with the consequences of owning such mugs, participants may act more in line with the biased information processing account, whereby an endowment effect would be observed for both the WWF and Marlboro mugs. This pattern is predicted as the biased information processing account assumes that sellers will mainly focus on the value increasing (positive) aspects and buyers will focus on the value decreasing (negative) aspects of the good.

Evidence supporting these predictions would suggest that sellers, by default, would prioritize their financial interests over moral interests when trading ethically and unethically perceived goods. However, one way of counteracting this behaviour would be to make the sellers more explicitly aware that trying to make a profit from selling such goods would be unethical.

Method

Participants. Participants were recruited through Amazon Mechanical Turk (Mturk), an online platform that is frequently and reliably used for recruiting participants (Buhrmester, Kwang & Gosling, 2011). Participants were paid $0.50USD for completing the experiment. Participants were required to have a 95% approval/completion rating or above and live in the United States. Participants were excluded from the data analysis if they failed to answer the attention check question correctly or did not follow the instructions.[1] This experiment aimed to sample at least 30 participants per cell, but due to the randomization procedure, the cells ranged from 25 to 32.

Out of the 338 participants who completed the experiment, 44 individuals failed to correctly answer the attention check question which asked the participants to choose a

[1] Participants in Experiments 2, 3 and the pilot experiment in Chapter 4 were also recruited from Mturk and had to meet the same requirements from Experiment 1 to participate. Additionally, participants' unique worker IDs were checked to make sure that no individuals participated in more than one of these experiments.

specific answer from a Likert scale included in the demographics section of the survey. One participant failed to follow instructions by not providing a specific price in the price elicitation task. Overall, 293 participants (62% Males, M_{age} = 31.74, *SD* = 10.28) were left for the analysis.

Procedure, materials and design. Participants completed this experiment via Qualtrics (https://www.qualtrics.com), an online survey software. A 2 (role: buyer vs. seller) × 2 (brand: WWF vs Marlboro) × 2 (information: implicit vs. explicit) + 2 (control mug: buyer vs. seller) between-groups design was employed. Participants were randomly allocated to these conditions. Sellers were asked to imagine that they were given a new, collectable WWF (Marlboro) merchandise mug to own from a person who works at that organization/company. They were then asked to indicate the lowest price they would be willing to accept if they were to consider selling the mug. Buyers on the other hand were asked to imagine that someone who works for WWF (Marlboro) is selling a new collectable WWF (Marlboro) merchandise mug.[2] They were then asked to indicate the highest price they would be willing to pay if they were to consider buying it. Note that the mugs were described as "collectible" due to previous endowment effect studies also having used similar, university affiliated collectible mugs in their valuation task (e.g., Kahneman et al., 1990; Dommer & Swaminathan, 2013). Moreover, this description was used to help the participants understand why the market price of the mugs ($10) was relatively higher compared to other mugs associated with generic brands.

The information given to the participants about WWF and Marlboro was also manipulated whereby the ethical or unethical aspect of these companies were either

[2] In a pilot experiment, most participants from UNSW (43.8%) chose WWF as the organization they would most want to donate to and Marlboro as the company they would least want to consume from (43.3%). Hence, these brands were used for the experiments (see Appendix A for more details).

mentioned explicitly or inferred implicitly. In the implicit conditions, participants were provided with the most basic information about the companies associated with the mug. Specifically, in the Marlboro-implicit condition, participants were notified that "Marlboro is one of the most popular cigarette brands in the world." In the WWF-implicit condition, participants were notified that that "WWF is an international non-government organization that does work for the environment."

In the explicit conditions, in addition to the basic information about WWF or Marlboro, the ethical or unethical aspect of these companies was also explicitly mentioned to the participants. In the Marlboro-explicit condition, participants were told that "cigarettes are addictive, cause harm to humans and are responsible for millions of deaths every year." In the WWF-explicit condition, participants were told that WWF "helps to prevent harm to the environment by working on issues such as conservation, research and restoration of the environment."

For the control (no brand) conditions, sellers were asked to imagine that they have been given a new, collectable unbranded mug by someone (nonspecific) to own. Buyers were asked to imagine that someone is selling a new, collectable mug. As in the other conditions, sellers were asked to indicate their lowest selling price and buyers were asked to indicate their highest buying price. For all the conditions, participants were told that the market price for the mug is $10 (see Appendix B for all of the scenarios).

After the valuation task, participants were asked to provide a reason for the value that they have elicited. Participants were then asked to complete the Moral Identity Scale (Aquino & Reed, 2002). This measure was included as a validity check to test whether sellers and buyers placed different degrees of importance on being identified as having desirable, moral traits (e.g., caring, fair, kind and so forth) from one's own (Internalization) and the public's

(Symbolization) perspectives. For both the Internalization (e.g., "I strongly desire to have these characteristics") and Symbolization (e.g., "I often wear clothes that identify me as having these characteristics") subscales, participants indicated on a Likert scale the degree to which they agreed with the items (1 = Strongly Disagree; 5 = Strongly Agree). All the items in the Moral Identity Scale were randomized.

Lastly, participants in the Marlboro mug conditions were asked to indicate whether they were regular, occasional or non-smokers. This information was collected to check the proportion of the smokers in the sample as those who are affiliated with the brand might value the good more highly (Dommer & Swaminathan, 2013).

Results

There were 12 (10.81%) occasional smokers and seven (6.31%) who regularly smoked. The rest were non-smokers.[3] The scores from the Moral Identity Scale did not reliably differ between buyers (M = 36.48, SD = 6.11) and sellers (M = 37.05, SD = 5.51), $t(284.45) = -.85$, $p = .40$, $d = .10$.[4] This result indicates that sellers and buyers did not significantly differ in the degree of importance they placed on being identified as having desirable moral traits.[5] Evidence in favour of the null hypothesis, which assumes that there are no differences between buyers' and sellers' moral identity, was also found when analysing the data in a Bayesian framework, $BF_{10} = .18$.[6] Note that BF_{10} indicates the Bayes factors in favour of the alternative hypothesis. A Bayes factor of 10, for instance, suggests that the data are 10 times more likely to have occurred under the model assuming the relevant effect than under a

[3] The vast majority of the participants in the Marlboro mug conditions for the following experiments were also non-smokers: 81.55% (Experiment 2), 74.07% (Experiment 3), 78.12% (Experiment 4), and 88.73% (Experiment 5), respectively. Due to the overwhelming majority of non-smokers and the small sample of smokers, data was collapsed across these groups for the analyses.

[4] Welch's t-test was conducted for all independent t-tests in the thesis.

[5] Moral identity scale measures between buyers and sellers in Experiment 2 and 3 were also not significantly different.

[6] According to Jeffereys (1961), Bayes factors from 1 to 3 suggests weak evidence, 3 to 10 is substantial and above 10 is strong evidence.

model omitting this effect, whereas a BF of 0.10 indicates that the data are ten times more likely to have occurred under the model omitting the relevant effect than under a model including it.

A 2 (role: buyers vs. sellers) × 2 (brands: WWF vs. Marlboro) × 2 (information: explicit vs. implicit) factorial Analysis of Variance (ANOVA) was conducted to examine whether explicitly highlighting the ethical or unethical aspect of WWF or Marlboro, respectively would affect buying and selling prices for a mug associated with these companies. See Figure 2 for the display of the means. The information manipulation had minimal effect with participants in the explicit (M = \$6.89, SD = 4.82) and implicit (M = \$6.87, SD = 4.61) conditions providing similar valuations, $F(1,225) = 0.02$, $p = .89$, $\eta^2 = .00$. The explicit/implicit information also did not interact with role, $F(1,225) = 0.63$, $p = .43$, $\eta^2 = .00$; nor with the different brands of the mugs, $F(1,225) = 0.06$, $p = .81$, $\eta^2 = .00$. Furthermore, no three-way interaction was found, $F(1,225) = 0.02$, $p = .87$, $\eta^2 = .00$.

The results from the Bayesian ANOVA also showed the 'null model' to be the most likely given the data ($BF_{10} < 1$) for the equivalent NHST results.[7] The model which includes the main effect of the information manipulation yielded the second highest Bayes factor, $BF_{10} = .14$. When comparing these two models, the observed data is slightly more than 7 times more likely under the model without the main effect of the information manipulation (i.e., the null model) than the model including this effect, $BF_{10} = 7.14$. This new Bayes factor (BF) can be calculated by comparing the model which does not include the main effect of the information manipulation with the model that includes this effect (1/.14). Due to the information manipulation having shown little to no effect on the valuation task, the data in

[7] Note that the null model (and all the other models) for this particular analysis includes the effects that are not of interest, such as the main effects of role and branding and the interaction between these factors. Therefore, the model comparisons are based on the additional effects that are not included in the null model or the effects of interest (i.e., the main effect of explicit/implicit information and the interactions associated with this factor).

the implicit and explicit conditions was collapsed according to their brands for the following analysis.

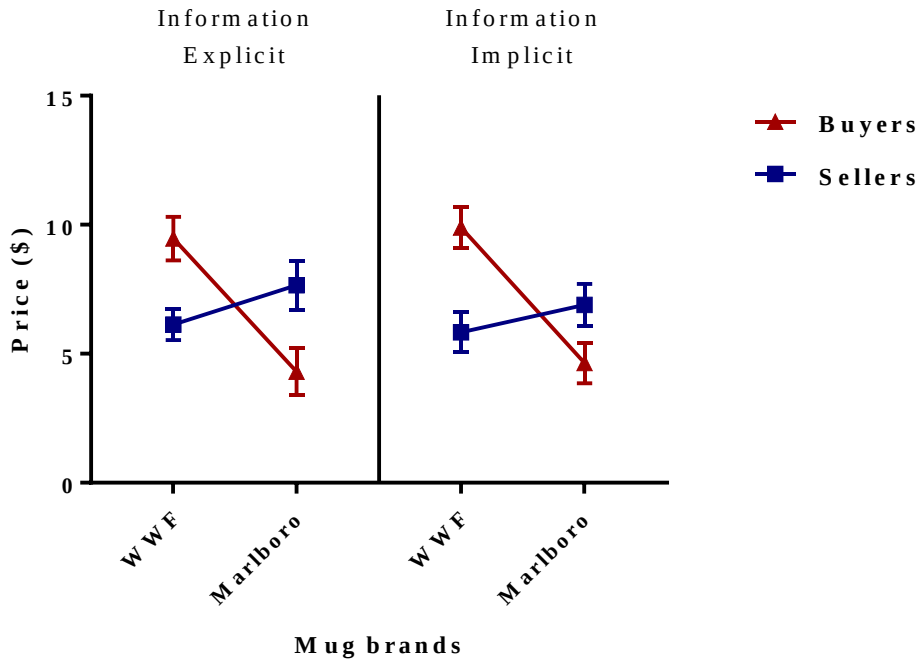

Figure 2. Experiment 1: Buying (willingness to pay) and selling (willingness to accept) prices for WWF and Marlboro mugs when the information about the ethical status of these companies is highlighted (explicit) or not highlighted (implicit). Error bars indicate ±1 standard error of the mean.

To examine the relationship between buyers and sellers across the different brands of mugs with the inclusion of the control groups, a 2 (buyer vs. seller) x 3 (WWF vs. no brand vs. Marlboro) factorial ANOVA was conducted. Figure 3 displays the mean evaluations. In contrast to what was predicted, on average, the WTP (M = \$7.78, SD = 5.46) was greater than WTA (M = \$6.79, SD = 4.20), $F(1,287) = 4.06$, $p = .04$, $\eta^2 = .01$ (i.e., a reversal of the endowment effect). Furthermore, a significant main effect of branding, $F(2,287) = 9.81$, $p < .001$, $\eta^2 = .06$, indicated that the valuation of the Marlboro mug, on average, was lower than the WWF and No brand mugs. A significant interaction between role and branding, $F(2, 287)$

= 16.18, p <.001, η^2 = .10, also suggested that the ethical status of the good had influenced the buyers more than the sellers.

Consistent with the results from NHST, the Bayesian analysis showed that the full model which includes both the main effects of role and branding and the interaction between these factors outperformed all other models, BF_{10} = 3.062e+6. The model with branding alone as a main effect provided the second strongest evidence, BF_{10} = 69.10. The evidence in favour of the full model compared to the model only assuming a main effect of branding was by a factor of 44,312.59. This BF of 44,312.59 was again calculated by comparing the model which includes all the main effects and interaction with the model that only included the main effect of branding (3.062e+6/69.10).

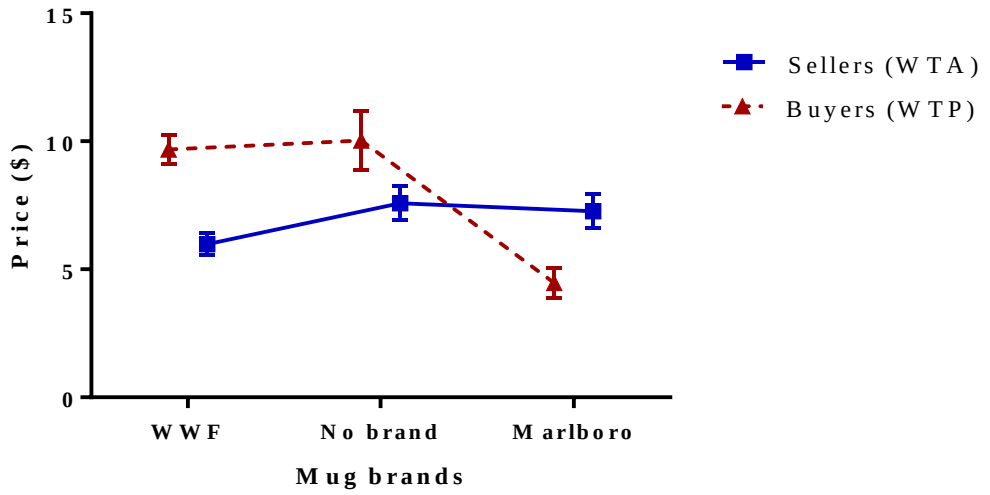

Figure 3. Experiment 1: Buying (willingness to pay) and selling (willingness to accept) prices for a WWF, no brand and Marlboro mug. Error bars indicate ±1 standard error of the mean.

To further examine these results, the price means were compared between buyers and sellers in the different mug conditions by conducting a post-hoc, least significant difference

(LSD) analysis.[8] A significant reversal of the endowment effect between buyers and sellers was revealed for the WWF mug (M_{buyers} = \$9.68 SD = 4.38; $M_{sellers}$ = \$5.98, SD = 3.49), p <.001, d = .93. However, there was no significant price differences between buyers and sellers in the control condition (M_{buyers} = \$10.03 SD = 6.22; $M_{sellers}$ = \$7.58, SD = 3.66), p = .11, d = 0.48. Lastly, a significant endowment effect for the Marlboro mug indicated that buyers valued the good less than sellers (M_{buyers} = \$4.46 SD = 4.41; $M_{sellers}$ = \$7.27, SD = 5.01), p =.003, d = .60. The equivalent post-hoc tests in the Bayesian framework also provided similar results.[9] Strong evidence in favour of the alternative hypothesis was found for the WWF mug, BF_{10} = 15053.51, and the Marlboro mug conditions, BF_{10} = 14.49. However, weak evidence in favour of the alternative hypothesis was found for the control condition, BF_{10} = 1.10.

Discussion

The results from Experiment 1 revealed that explicitly highlighting the ethical status of the company associated with the mug had no effect on the valuations of the good. Moreover, the results did not provide support for the biased information processing account because an endowment effect for the WWF mug was not found (see predictions in Figure 1). The results also ran counter to the attribute sampling bias account, because a standard endowment effect is clearly evident for the Marlboro mug.

In contrast to what was predicted, the results revealed a reversal of the endowment effect for the WWF mug and an endowment effect for the Marlboro mug. More specifically, the WTA prices remained relatively stable across the different mug conditions indicating that participants were consistently willing to sell the mug below the market price of the good. In

[8] P values were corrected for all multiple comparisons using the Bonferroni procedure.
[9] Individual comparisons are based on the default t-test with a Cauchy (0, r = $1/\sqrt{(2)}$) prior provided in JASP.

comparison, the WTP for the Marlboro mug was much lower compared to the WWF and the no brand control mug. This pattern of results suggest that the buyers took into account the information associated with the moral aspect of the good when eliciting their prices, whereas the sellers ignored this information.

Overall, these results suggest that sellers are influenced less by the ethical status of the good. This moral asymmetry observed between buyers and sellers contradicts both the attribute sampling bias theory and the biased information processing account. From the attribute sampling bias theory's perspective, ownership does not seem to play a significant role even when highlighting the ethical or unethical aspect of the companies associated with the good. Not finding an endowment effect for the WWF mug nor a reversal/elimination of the endowment effect for the Marlboro mug clearly supports this notion. From the biased information processing account perspective, sellers also seem not to take into account the ethical aspect of the WWF mug to increase their WTA. This outcome is somewhat surprising given that the ethical aspect of the good could have been taken into account to maximize the sellers' earning potential. The failure to capitalize on the buyers' moral intentions of willingness to pay more for the ethically associated good suggests that sellers have difficulty predicting how buyers will behave in a market setting (Van Boven, Dunning & Loewenstein, 2000). Consequently, a reversal of the endowment effect is observed for the WWF mug.

Experiment 2 investigates these results further by examining whether the inclusion of the market price had an effect on the way sellers and buyers valued their goods. One possibility for the pattern observed in Experiment 1 may have been due to the sellers relying on the market price to provide an even more competitive selling price to sell the good quickly for profit. By removing the market price, sellers and buyers may come up with different reference prices of their own, thus, influencing the price gap between buyers and sellers.

Additionally, this quick sale approach may have been driven in part by the sellers considering the good to be something similar to second-hand goods as they could have interpreted the person giving them the mug in the hypothetical scenario question as the first owner. Statements provided by the participants such as “I lowered the price because it would be a used mug” and “I would want to sell it quickly” supports this notion.

Experiment 2

Simonson and Drolet (2004) argued that sellers might be more willing to base their selling price on the market price in order to stay competitive. In contrast, buyers may provide a value that is more subjective because they have multiple options to choose from (e.g., buying the product from another store). Although the WTA prices in Experiment 1 were generally much lower than the market price, they were also relatively stable across the different branded mug conditions. In comparison, the WTP prices varied between the Marlboro and WWF mugs. This result suggests that sellers were using the market price as a reference point to sell the good below the market price for a quick sale. Thus, it could also be argued that the results obtained in Experiment 1 were driven in part by the provision of the market price having a stronger anchoring effect on sellers than buyers. To test this hypothesis, Experiment 2 adopted a similar design to Experiment 1 but manipulated the presence of a market price.

Method

Participants. Five hundred and one participants from Mturk completed this experiment. Participants were paid $0.20USD for the completion of the task. Twelve individuals were excluded from the analysis. Eight failed to correctly answer the attention check question and four provided extreme prices (equal to or above $200).[10] This left 489 participants (54.6% Males, M_{age} = 35.97, SD = 12.72). This experiment aimed to have at least 30 participants per cell. However, due to randomization, sample sizes ranged from 38 to 43 across the cells.

Procedure, materials and design. A 2 (role: buyer vs. seller) × 3 (brand: WWF vs. no brand vs. Marlboro) × 2 (reference: market price present vs. market price absent) between-groups design was implemented for this experiment. Similar to Experiment 1, participants were

[10] The highest valuation provided after the outliers were excluded was $50.

randomly allocated to a buyer or a seller role and asked to provide their WTP or WTA prices for either a WWF, no brand, or Marlboro mug. However, the market price for the mug ($10) was either present or absent in the scenarios.

Buyers were asked to indicate the highest amount they would be willing to pay, whereas the sellers were asked to indicate the lowest amount they would be willing to accept for the good. For the Marlboro and WWF mug conditions, participants were provided with the description which explicitly mentioned the ethicality of the company (the same description provided in the explicit condition in Experiment 1). 'Implicit' conditions were not included due to the absence of any effect of this manipulation in Experiment 1. Moreover, the 'Explicit' condition was considered to be the better option as it could reduce any potential moral ambiguity of the companies associated with the mug.

After the valuation task, participants in the Marlboro and WWF conditions were asked to rate on a Likert scale (1: Very Unethical, 5: Very Ethical) how ethical or unethical they thought the company/organization corresponding to their condition was based on what they do as a company/organization. Furthermore, the attention check question was embedded in the Moral Identity Scale (Aquino & Reed, 2002) which was given at the end of the survey, instead of the demographics section to make the attention check less conspicuous.

Results

Participants in the WWF mug condition perceived WWF (M = 4.25, SD = .71) to be significantly more ethical than participants in the Marlboro mug condition perceived Marlboro (M = 2.16, SD = .97), $t(302.56) = 22.26$, $p < .001$, d = 2.45. Bayesian statistical analysis also showed strong evidence in favour of the alternative hypothesis which assumes that the ethical ratings for the mugs would be different, BF_{10} = 2.74e+63.

To examine whether providing a market price had an effect on the relationship between buyers and sellers across the different brands of mugs, a 2 (buyer vs. seller) × 3 (WWF vs. no brand vs. Marlboro) × 2 (market price vs. no market price) factorial ANOVA was conducted. Figure 4 displays the mean evaluations. A main effect of market price indicated that prices elicited in the market price present conditions were, on average, lower (M = 7.02, SD = 4.35) than in the market price absent conditions (M = 8.82, SD = 8.05), $F(1,477) = 11.94$, $p = .001$, $\eta^2 = .02$. An interaction between market price and branding, $F(2,477) = 3.61$, $p = .03$, $\eta^2 = .02$, also suggested that the effect of market price varied across different brands. However, there was no interaction between market price and role, $F(1,477) = 0.13$, $p = 0.72$, $\eta^2 < .001$. The three-way interaction was also not statistically significant, $F(2,477) = 0.28$, $p = .76$, $\eta^2 < .001$, indicating that the market price had no effect on the relationship observed between the traders' role and the different mug conditions.

Consistent with the NHST results, the Bayesian analysis also indicated that the model which includes the main effect of market price and the interaction between market price and branding provided the strongest evidence against the 'null model', $BF_{10} = 30.57$.[11] The model which includes the main effect of market price showed the second strongest evidence against the null model, $BF_{10} = 26.95$. A comparison between these two models (30.57/26.95) indicates that there is little evidence in favour of including the interaction between market price and branding, in addition to the main effect of the market price, $BF_{10} = 1.13$.

The results from NHST also revealed that, on average, WTP (M = \$8.32, SD = 6.79) and WTA (M = \$7.51, SD = 6.20) prices did not significantly differ, $F(1,474) = 2.30$ $p = .13$, $\eta^2 = .01$. However, a main effect of branding, $F(2,474) = 16.26$, $p < .001$, $\eta^2 = .06$, indicated that

[11] Similar to Experiment 1, the null model (and all other models) for this particular analysis takes into account the effects which are not of interest (i.e., the effects of role, brand and the interaction between these factors).

the price for the Marlboro mug was lower compared to the other mug conditions. An interaction between role and branding, $F(2,474) = 12.89$, $p < .001$, $\eta^2 = .05$, was also found thus replicating the effect from Experiment 1 in which sellers and buyers valued the mugs differently across the different branded mugs. The Bayesian ANOVA also revealed that the full model which includes both the main effects of role and branding and the interaction between these factors provides the strongest evidence for the alternative hypothesis, BF_{10} = 9.03e+6. The model with the main effect of branding alone provides the second strongest evidence for the alternative hypothesis, $BF_{10} = 17160.75$. A comparison between two models (9.03e+6/17160.75) indicates that the observed data are 526.20 times more likely under the full model, which includes both the main effects and the interaction, than the model which includes the main effect of branding alone.

As the results indicated that excluding the market price had no effect on the relationship between role and branding, the data from the market price absent and present conditions were collapsed together to test whether the prices between WTP and WTA were different across each brand. The LSD comparisons showed a reversal of the endowment effect for the WWF mug condition (M_{buyers} = \$9.88, $SD = 5.57$; M_{sellers} = \$7.23, $SD = 4.74$), $p = .02$, $d = .51$, and for the control condition (M_{buyers} = \$10.83, $SD = 7.75$; M_{sellers} = \$8.01, $SD = 5.63$), $p = .01$, $d = .42$. Furthermore, the endowment effect was again replicated in the Marlboro mug condition (M_{buyers} = \$4.23, $SD = 4.73$; M_{sellers} = \$ 7.32, $SD = 7.76$), $p = .004$, $d = .48$. The equivalent post-hoc tests in the Bayesian framework also provided strong evidence in favour of the alternative hypothesis for the WWF mug, $BF_{10} = 21.61$, and the Marlboro mug conditions, $BF_{10} = 12.78$, and substantial evidence for the control condition, $BF_{10} = 3.77$.

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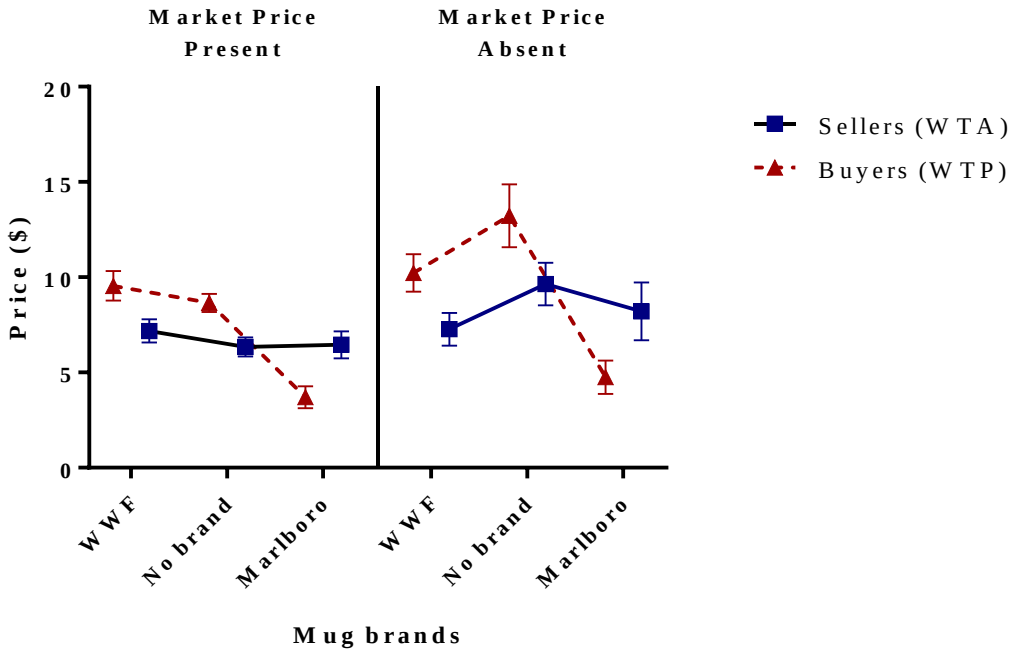


Figure 4. Experiment 2: Buying (willingness to pay) and selling (willingness to accept) prices for a WWF, no brand and Marlboro mug for the conditions in which the market price was either present or absent. Error bars indicate ±1 standard error of the mean.

Discussion

Although the presence of a market price led to lower valuations by both buyers and sellers, it did not interact with role, nor was there a three-way interaction with role, brand and market price. In both the market price present and absent conditions, sellers were affected less by the ethical status of the companies associated with the mugs than buyers.

Overall, these results show that the interaction between role and brand observed in the previous experiment was not due to the market price being mentioned in the scenarios. Furthermore, these results again do not provide evidence for the biased information processing account which predicts an endowment effect for both the WWF and Marlboro mugs. Nor did the results provide support for the attribute sampling bias theory which predicts an endowment effect for the WWF mug and an elimination/reversal of the

endowment effect for the Marlboro mug (see Figure 1 for details). Rather, they provide further support to the previous finding that sellers are less affected by the ethical status of the target good compared to the buyers.

A reversal of the endowment effect was also found in the WWF and Control conditions. This finding, particularly for the control condition, is rather perplexing as it contradicts the robustness of the endowment effect. One possible explanation for this outcome is that the sellers may have perceived the mug to be second hand due to the sellers being described as having initially received the mug from another person prior to the trade. This explanation which was also briefly mentioned in the discussion of Experiment 1 seems more plausible given that a reversal of the endowment effect was found even without providing a reference price for the good. Specifically, the way the sellers approached the trade may have been similar to how people in general (independent sellers) would sell goods such as via online or garage/yard sales which tend to be cheaper than the original retail price. Similar statements to Experiment 1 from the participants for explaining their valuations of the good such as “It would be a used mug even if I didn't drink from it” again supports this interpretation.

Experiment 3 aimed to address this limitation by eliminating the potential for the sellers to consider the good to be second hand by removing the exchanging of hands of the good prior to the trade in the scenario. Furthermore, Experiment 3 aimed to increase the moral accountability of the participants’ decisions to more rigorously test the assumption that sellers are influenced less by the moral aspect of the good than buyers. By increasing the moral accountability of the participants’ decisions, the sellers may show a decline in their willingness to profit from selling unethically perceived Marlboro mugs. As a result, the pattern of results may be more in line with the predictions of either the biased information processing account or the attribute sampling bias account.

Experiment 3

For Experiments 1 and 2, the overall focus has been on how people would buy and sell ethically and unethically perceived goods. The sellers were described as being independent sellers (i.e., not affiliated to the companies associated with the brand of the mug). In contrast, the buyers were instructed that they would be purchasing the good from an employee of the company associated with the mug. Consequently, sellers may have felt less morally accountable for their decisions compared to the buyers. Due to the sellers being independent, it is expected that they would interpret the profit to go to themselves, rather than going to the companies associated with the mug. In contrast, the money from purchasing the mugs would be interpreted as going to the companies associated with the mug. The previous findings which showed the selling prices to remain consistent across the different branded mugs could be attributed to this moral asymmetry.

Experiment 3 aimed to address this concern by attempting to equate the moral accountability of the buyers and sellers' decision. Adjustments were made to the scenario question so that half of the transactions (i.e., 50% of their WTP/WTA) would go to the company associated with the mug and the other half to the sellers' themselves or to the hypothetical employee who sold the mug.

Through these changes, Experiment 3 aimed to more robustly test which of the two theories: attribute sampling bias or the biased information processing account, would best explain people's trading behaviour for a common good (i.e., a mug) associated with ethically (WWF), morally neutral (hypothetical kitchenware brand) and unethically (Marlboro) perceived brands/companies. Alternatively, if the results from the previous findings are replicated, such results would provide further support that sellers are less affected by the ethical status of the good than buyers.

Method

Participants. Two hundred and forty eight participants from Mturk completed the experiment. Two individuals failed to answer the attention check question correctly thus in total, 246 participants (56% Males, M_{age} = 34.36, *SD* = 11.51) were included in the analysis. Participants were compensated $0.40USD for their participation. The aim for this experiment was to have at least 30 participants per cell. Due to the randomization procedure the final sample sizes for the cells ranged between 38 and 44.

Procedure, materials and design. This experiment employed a 2 (buyer vs. seller) × 3 (WWF vs. Kitchenware brand vs. Marlboro) between-groups design. Participants were randomly allocated to the role of a buyer or a seller. Sellers were asked to imagine that they work for either WWF, a well-known kitchenware company (control), or Marlboro, and have been given an opportunity to sell a new, collectable mug corresponding to one of the three brands. Conversely, buyers were asked to imagine that someone who works for WWF, a well-known kitchenware company or Marlboro is selling a new, collectable mug corresponding to one of these brands. Furthermore, both the buyers and sellers were told that 50% of their WTP/WTA would go to the company associated with the brand of the mug. The other 50% would go to the seller (i.e., the participant themselves as the employee of the company associated with the mug or to the hypothetical employee who is selling the mug in the buying conditions). Participants were also told that the market price for the mugs was $10. Although previous studies have used both market price present and absent versions to demonstrate the endowment effect (e.g., Kahneman, et al., 1990), the market price present version was used to increase the ecological validity of the task. For instance, rarely would people buy and sell goods without at least having access to the market price.

For the task, sellers and buyers were asked to indicate the lowest selling and highest buying price for the respective mugs. Participants were given the same previous description of what WWF and Marlboro do as a company/organization and of their global impact (see Appendix B for details). After the valuation task, participants in the Marlboro and WWF conditions were asked to rate on a Likert scale (1: Very Unethical, 5: Very Ethical) how ethical or unethical they thought the company/organization corresponding to their condition was based on what they do as a company/organization. At the end of the survey, participants were given the Moral Identity Scale (Aquino & Reed, 2002) along with the attention check question embedded in the scale.

Results

WWF was rated as more ethical (M = 3.98, SD = .80) than Marlboro (M = 2.17, SD = .95), $t(156.10) = 13.12$, $p < .001$, $d = 2.06$. Strong evidence in favour of the alternative hypothesis, which assumes that the ethical rating would be different between buyers and sellers, was also found based on the Bayesian framework, BF_{10} = 2.36e+25.

A 2 (role: buyer vs. seller) × 3 (brand: WWF vs. Kitchenware brand vs. Marlboro) factorial ANOVA was conducted to examine the relationship between role and brand. As shown in Figure 5, a significant main effect of role, $F(1,242) = 17.19$, $p < .001$, $\eta^2 = .07$, indicated that sellers, on average, (M = \$10.32, SD = 5.12) provided a significantly higher price than the buyers (M = \$7.88, SD = 5.05) (i.e., show a standard endowment effect). A significant main effect of branding, $F(2,242) = 14.97$, $p < .001$, $\eta^2 = .11$, also suggested that, when ignoring the differences in role, the valuation of the WWF mug was greater than the Marlboro mug. More importantly, the interaction between role and branding was replicated, $F(2,242) = 8.05$, $p < .001$, $\eta^2 = .06$, indicating that sellers were affected less by the ethical status of companies associated with the mugs than the buyers.

The results from the Bayesian analysis were consistent with the findings from the NSHT. The full model which includes both the main effects of role and branding and the interaction between these factors provided the strongest evidence for the alternative hypothesis, BF_{10} = 4.68e+8. The model which yielded the second highest Bayes factor includes both the main effects of role and branding, BF_{10} = 2.42e+6. Based on the comparison between these models (4.68e+8/2.42e+6), the observed data are 193.39 times more likely under the model which includes both the main effects and the interaction than the model which includes only the main effects.

Post-hoc, least significant difference (LSD) comparisons between the buyers and sellers across the different mug conditions revealed a significant endowment effect in the Marlboro mug condition (M_{buyer} = \$3.94, *SD* = 4.53; M_{seller} = \$9.62, *SD* = 5.48), $p < .001$, $d = 1.13$. However, the mean differences in the WWF (M_{buyer} = \$10.60, *SD* = 4.71; M_{seller} = \$10.47, *SD* = 5.04), $p = 1.00$, $d = .03$, and control mugs conditions (M_{buyer} = \$8.95, *SD* = 3.20; M_{seller} = \$10.81, *SD* = 4.90), $p = .20$, $d = .45$, were not statistically significant. Similar results from the NHST were found when analysing the data in the Bayesian framework. Strong evidence in favour of the alternative hypothesis was found for the Marlboro mug condition, BF_{10} = 6324.82. However, weak evidence was found for the control condition, BF_{10} = 1.14, and evidence in favour of the null hypothesis was found for the WWF mug condition, BF_{10} = .23.

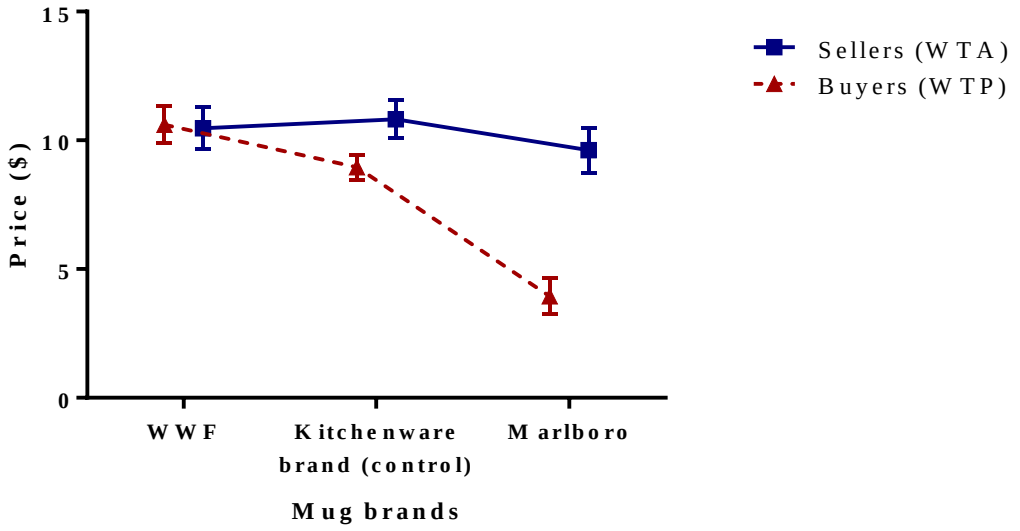


Figure 5. Experiment 3: Buying (willingness to pay; WTP) and selling (willingness to accept; WTA) prices for a WWF, Kitchenware brand (control) and Marlboro mug. Error bars indicate ±1 standard error of the mean.

Discussion

A significant endowment effect was observed for the Marlboro mug but not for the WWF mug, nor the control mug. Specifically, sellers seem to be less affected by ethical status of the companies associated with the mugs than the buyers. This pattern of results again provides little support to the biased information processing account which predicts an endowment effect for both the WWF and Marlboro mugs. Nor do the results align with the attribute sampling bias theory which predicts an endowment effect for the WWF mug and a reversal of the endowment effect for the Marlboro mug. Rather, the results are more consistent with previous findings that sellers simply take less consideration of the moral implications of their decisions compared to buyers. Lastly, although an endowment effect was not found in the control condition, the WTA prices were generally higher compared to the previous experiments. This increase could be attributed to the adjustments made to the scenario where exchanging of hands of the good prior to the trade was eliminated in this

experiment. Furthermore, the statements participants provided at the end of the experiment contained no mention of the good being a used good.

Experiments 1 to 3 have so far relied on using hypothetical scenario questions to elicit people's WTA and WTP prices for ethically and unethically perceived goods. As a result, it remains uncertain whether people would behave as they have indicated in hypothetical scenario situations when real trades are involved. Furthermore, Plott and Zeiler (2005) have previously raised concerns regarding people's susceptibility to misinterpret the valuation procedure in the traditional endowment effect paradigm. The authors argue that instead of properly examining the value of the good, people may be inclined to adopt a simpler "buy low, sell high" strategy, in a typical trading situation. Consequently, this strategy may inflate the selling price and deflate the buying price of a good. Although the results found in Experiment 1 to 3 counter this notion as the endowment effect was consistently not found in the control group conditions, the risk of misinterpreting the valuation task should still be minimized. Experiment 4, aimed to replicate previous findings by implementing a lab-based, incentive compatible method while also attempting to minimize the risk of the participants misinterpreting the valuation task.

Chapter 3
Putting your Money where your Mouth is: Implementation of Incentivized Trades

Experiment 4

Experiment 4 aimed to test whether the findings from Experiments 1 to 3 could be replicated using real mugs and a well-established, incentive compatible valuation procedure. The incentivized valuation method was adapted from Johnson and colleagues (2007) to control and test for strategic misinterpretation (see Plott and Zeiler, 2005, for more details). A replication would provide further evidence that the biased information processing account and the attribute sampling bias theory cannot predict how traders behave when trading ethically and unethically associated goods.

Additionally, this experiment aimed to test whether the previous results could be replicated implementing a within-subjects component in which participants played the role of both buyers and sellers. The results of Experiments 1 to 3 imply that participants in the Marlboro mug condition would buy the mug at a low price, but, given an opportunity to then sell it, might seek a higher price. In contrast, participants in the WWF mug condition might display similar buying and selling prices for the mug. Previous studies have also implemented similar methods to examine the extent to which the buyers and sellers could empathize with their counterparts by asking them to estimate how the participants in the other position would evaluate the good (Van Boven et al., 2000). By testing these assumptions, the genuineness of the buyers' moral intentions could be examined.

This examination is important given that previous studies have shown people can be morally hypocritical as they can recognize what is the right thing to do, but act in discordance with it (Batson, Kobrynowicz, Kampf, & Wilson, 1997). If buyers' intentions are morally genuine, it is expected that buyers will be resistant to making a profit from selling the Marlboro mug (i.e., sell the Marlboro mug similar to their buying price). However, if their intentions are not morally genuine, buyers may aim to make a profit (i.e., sell the Marlboro

mug above their buying price). Results consistent with the latter would suggest that the buyers' intentions were altruistically impure in which their decisions were made for their own benefit, such as making a good moral impression (Mazar, Amir, & Ariely, 2008) or doing it to feel good about oneself (Andreoni, 1989).[12]

Method

Participants. Two hundred and six undergraduate students enrolled in a first year psychology course at UNSW participated in this experiment for course credit. Eleven participants were excluded for 1) failing to correctly answer all three questions in the last practice trial given to test their understanding of the valuation procedure; 2) indicating their WTP/WTA in the reverse order (e.g., sell the mug for $0 to $5 and not sell it above $5). Or 3) providing more than one price range of their WTA or WTP (e.g., sell the mug for $5 to $10 and $15 to $20). This left 195 participants (36.41% Male, M_{age} = 19.39, SD = 2.60). This experiment aimed to have at least 30 participants per cell. The final sample sizes for the cells ranged between 30 and 36.

Design. A 2 (buyer vs. seller; between) × 3 (WWF vs. T2 vs. Marlboro; between) × 2 (role reversal: buyer-seller vs. seller-buyer; within) mixed-groups design was employed. Participants were randomly allocated to either a buyer or a seller role, and asked to indicate their WTP/WTA for a *real* mug that is associated with an ethically (WWF), morally neutral (T2: a tea company taken to have little to no moral valence) or unethically (Marlboro) perceived company.[13] Additionally, in a departure from the previous experiments, once the

[12] Note this experiment is not interested in looking at how people would sell and then buy the same mugs as rarely would people sell the same object just to buy it again. Not only does this order of selling and then purchasing the same good make little sense in a real world context, sellers' moral intentions cannot be properly examined with this manipulation. For example, even if the sellers would buy the Marlboro mug for less than what they would sell it for, this outcome would not suggest that sellers' intentions were ethically motivated as it could be disputed that sellers would again sell the Marlboro mug for a much higher price if given the opportunity to sell a second time round.

[13] The mug conditions were partially randomized due to complications in order and shipping of the mugs. However, the allocation of role was fully randomized. Images of these mugs are provided in Appendix B.

buyers had finished their valuation task, they were then given the sellers' valuation task. For the buyers, the order in which these tasks were given was reversed. Note that the mug conditions that participants were allocated to remained the same for both roles. For instance, participants who provided a buying price for a WWF mug then provided a selling price for the same mug.

Materials and procedure. An incentive compatible method used in previous endowment effect experiments (Lerner, Small & Lowenstein, 2004; Johnson et al, 2007) was adapted for the valuation procedure. In the valuation task, participants were first instructed to carefully examine the mug placed in front of them. Then they were given a list of prices in $1 increments based on a set price range ($0-$20). Based on this price list, buyers were asked to indicate whether they would be willing to buy or not buy the target good for each of the corresponding prices. The sellers, were given the same price list, however, they were asked to indicate whether they would sell or not sell the target good for each of the corresponding prices.

In accordance with the Becker, Degroot, Marshak (BDM) valuation procedure (Becker, Degroot & Marshak, 1964) the 'market price' of the mug was generated after the participants had indicated their WTP/WTA and was used to determine the outcome of the trade. Participants were present when the market price was generated using a random number generator. If the market price corresponds to the choice in which the buyers wanted to buy the mug, then they would receive the mug. Whereas, if the market price corresponds to the choice in which they did not buy the good, they would receive the amount of money corresponding to their WTP. Similarly, if the market price corresponds to the choice in which sellers wanted to not sell the mug, then they would receive the mug. Whereas, if the market price corresponds to the choice in which the sellers wanted to sell the good, they would

receive the amount of money corresponding to their WTA. The highest buying and the lowest selling prices were taken as their true WTP and WTA values (see Appendix B for details). Note that in this incentive compatible method, buyers can also be referred to as 'choosers' as they do not have to buy the good with their own money. This is intentionally done to control for wealth effects and/or participants having a shortage of money (Lerner et al., 2004).

For practical reasons, it was not possible for all participants to receive the money or the mug from the trade. Therefore, four numbers were randomly generated a priori to determine which participants' trades would be binding based on their participation-order number (e.g., the 16^{th}, 53^{rd}… person to do the experiment). The buying or selling condition in which the trade would be binding was also randomly predetermined. This procedure was explained to the participants before and during the experiment and they were told whether their decision was binding after having completed all tasks. The purpose of explaining this procedure to the participants was to let them understand that providing honest responses would still be in their best interest. Participants with a binding trade were given either the money or the mug based on the choices that they made in the valuation task and how the market price was generated.

Participants were told that the market value of the mug was $10 and a description of what the companies do were provided. Additionally, to make certain that participants had no misconception of the BDM task, practice trials were given and their understanding of the valuation task was tested (see Appendix B for details). Afterwards, the participants were given the actual valuation task. Participants that completed the buyer's task were then given the seller's task and vice versa for those that completed the seller's task first. Again, the practice trials were provided before doing the new valuation task. Lastly, participants were asked to indicate how attractive the mug was based only on its aesthetics/overall design on a Likert scale: 1 = Very Unattractive, 5 = Very attractive. This measure was included to check

whether the pattern of results could be attributed in part to a simple aesthetic dislike of the Marlboro mug.

Results

A one-way ANOVA was conducted to test whether there were any differences between the attractiveness/aesthetic ratings of the mugs across the moral conditions. A main effect, $F(2,192) = 3.43$, $p = .03$, $\eta^2 = .04$, was found. In contrast, Bayesian analysis indicated that the model which includes the main effect showed weak evidence in favour of the alternative hypothesis, $BF_{10} = 1.05$. Post-hoc, LSD comparisons revealed that the attractiveness of the WWF ($M = 3.34$, $SD = .83$) and Marlboro ($M = 3.11$, $SD = .98$) mugs did not significantly differ, $p = .50$, $d = .25$. Rather, the difference was only observed between the WWF ($M = 3.34$, $SD = .83$) and T2 (control) mugs ($M = 2.91$, $SD = .97$), $p = .03$, $d = .47$. Similarly, comparisons based on the Bayesian framework indicated that the level of attractiveness between WWF and T2 mugs showed substantial evidence in favour of the alternative hypothesis, $BF_{10} = 4.78$. However, comparisons between WWF and Marlboro, $BF_{10} = .47$, and, T2 and Marlboro provided evidence in favour of the null hypothesis, $BF_{10} = .34$. Based on the NHST and Bayesian analysis, whether the mugs have different levels of attractiveness in aesthetics is ambiguous.

A one-way ANOVA was also conducted to determine whether participants gave different ethical ratings across the mug conditions.[14] A significant main effect of the ethical rating, $F(2,192) = 102.60$, $p < .001$, $\eta^2 = .52$, indicated that ethical rating varied across different brands. The model which includes the main effect of branding also showed strong

[14] The majority of the participants (N= 33. 51.56%) in the T2 (control) condition indicated that they did not know how ethical or unethical the company was on the Likert scale (1 = Very Unethical to 5 = Very Ethical; 6 = Do not know). These participants' indications were recoded as 'neutral' = 3 for the analysis as not knowing about the ethical status of the company implies that they did not make their valuation judgements thinking the company to be ethical or unethical.

evidence in favour of the alternative hypothesis when analysing the data in a Bayesian framework, BF_{10} = 5.04e+27.

Post-hoc, LSD comparisons revealed significant differences between WWF (M = 4.18, SD = .69) and T2 (M = 3.28 SD = .62), p <.001, d = 1.38, T2 and Marlboro (M = 2.31, SD = .87), p < .001, d = 1.28, and WWF and Marlboro, p < .001, d = 2.38. Consistent results were also found in the Bayesian analysis. The difference in ethical ratings between WWF and Marlboro provided the strongest evidence in favour of the alternative hypothesis, BF_{10} = 1.92e+22. The comparison between WWF with T2 provided the second strongest evidence, BF_{10} = 6.07e+9 and the comparison between T2 and Marlboro provided the least evidence in favour of the alternative hypothesis, BF_{10} = 4.98e+8.

A 2 (buyer vs. seller) × 3 (WWF vs. T2 vs. Marlboro) factorial ANOVA was conducted in which the dependent variable was the price participants gave in their first role as a buyer or seller. See Figure 6 for the display of the means. Similar to Experiment 3, on average, sellers (M = \$9.41, SD = 3.80) valued the good more highly than buyers (M = \$6.37, SD = 4.22), F(1,189) = 29.95, p < .001, η^2 = .14. Furthermore a main effect of branding F(2,189) = 9.60, p < .001, η^2 = .09, and a significant interaction between role and branding, F(2,189) = 3.79, p = .02, η^2 = .04, was revealed. In the Bayesian analysis, the full model which includes both the main effects of role and branding and the interaction between these two factors provided the strongest evidence for the alternative hypothesis, BF_{10} = 8.85e+6. The model which includes the two main effects without the interaction provided the second strongest evidence, BF_{10} = 4.51e+6. A comparison between these two models (8.85e+6/4.51e+6) showed that the observed data are 1.96 times more likely under the full model than the model which only includes the two main effects.

Post-hoc, LSD comparisons showed a significant endowment effect in the Marlboro (M_{buyers} = \$4.45, *SD* =3.60, $M_{sellers}$ = \$9.36, *SD* = 3.69), p <.001, d = 1.35, and T2 (M_{buyers} = \$5.81, *SD* = 3.38, $M_{sellers}$ = \$8.67, *SD* = 4.12), p =.006, d = .76, mug conditions, but not in the WWF mug condition (M_{buyers} = \$9.03, *SD* = 4.48, $M_{sellers}$ = \$10.22, *SD* = 3.53), p = .66, d = .30. Similarly, when analysing the data in the Bayesian framework, strong evidence in favour of the alternative hypothesis was found for the T2, BF_{10} = 15.07, and the Marlboro mug conditions, BF_{10} = 11467.89, whereas evidence in favour of the null hypothesis was found for the WWF mug condition, BF_{10} = .46.

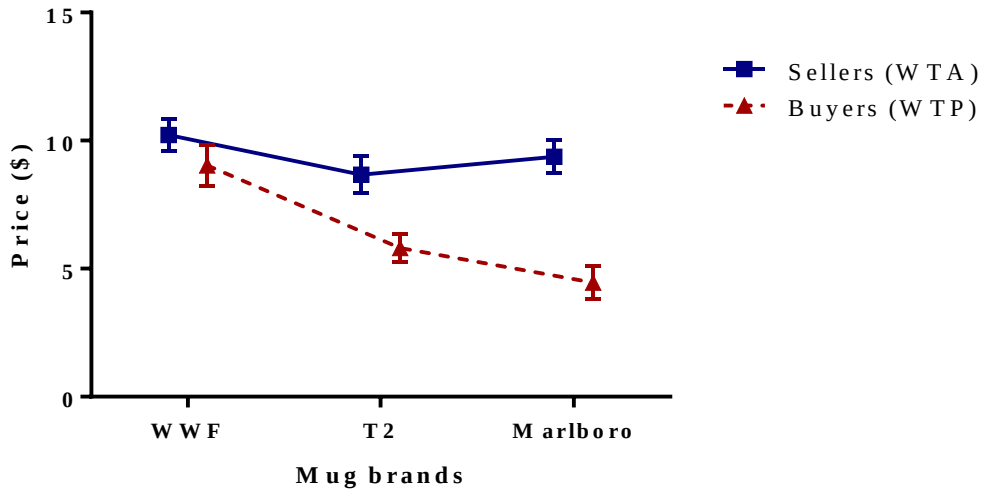


Figure 6. Experiment 4: Buying (willingness to pay; WTP) and selling (willingness to accept; WTA) prices for a WWF, T2 (control) and Marlboro mug. Error bars indicate ±1 standard error of the mean.

To test whether people would sell the Marlboro mug for more than what they would be willing to pay, relative to how people would buy and sell the WWF mug, a 2 (1st task: buyer vs 2nd task: seller; within) × 3 (WWF vs. T2. vs Marlboro; between) mixed ANOVA was

conducted.[15] See Figure 7 for the display of the means. A significant main effect of role, $F(1,84) = 34.68$, $p < .001$, $\eta^2 = .29$, indicated that the average selling price (M = \$9.21, SD = 4.18) was significantly greater than the average buying price (M = \$6.47, SD = 4.21). A significant main effect of branding, $F(2,84) = 8.29$, $p = .001$, $\eta^2 = .17$, also suggested that when ignoring the differences in role, people valued the WWF mug higher than the other mugs. Furthermore, the pattern of the means shows a larger price discrepancy between the prices in the buying and selling task for the Marlboro mug compared to the WWF mug. However, the interaction between role/order and branding did not reach significance, $F(2,84) = 2.02$, $p = .14$, $\eta^2 = .05$, indicating that the buying and selling price discrepancy across the different mug conditions was not reliably different. That is, there is insufficient evidence to suggest that buyers, when given the opportunity, will seek a higher selling price for the Marlboro mug compared to other branded mugs.

Similar results were also found in the Bayesian analysis. The model which includes the two main effects of role and branding provided the strongest evidence in favour of the alternative hypothesis, BF_{10} = 1.10e+7. The full model which includes both the main effects and the interaction provided the second strongest evidence in favour of the alternative, BF_{10} = 5.56e+6. A comparison between these two models (1.10e+7/5.56e+6) indicates that the model which only includes the two main effects is 1.98 times more likely given the data than the full model.

[15] Participants who were given the seller's task first (N = 98) or those who were given the buyer's task first, but met the exclusion criteria for the responses pertaining to their selling role (N = 12) were not included in the analysis. Thus, 87 participants were left for the analysis.

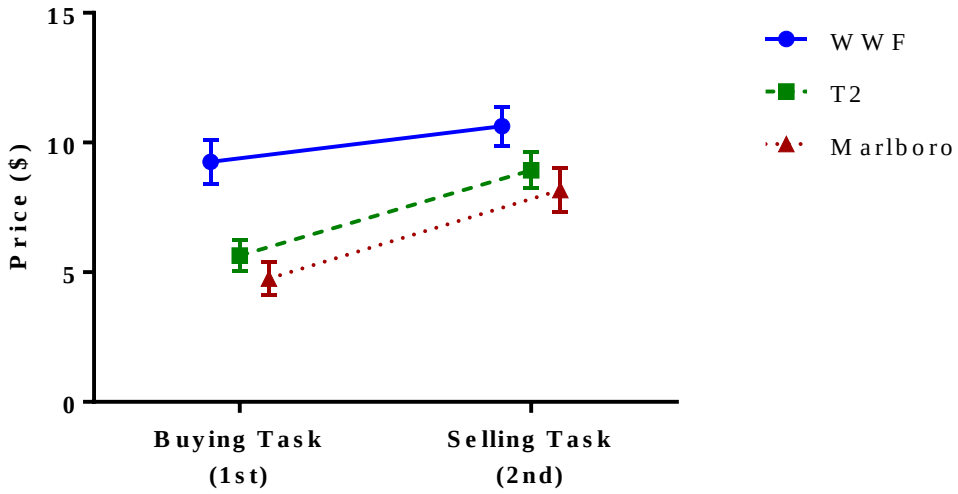


Figure 7. Experiment 4: Price means for the group that elicited WTP (willingness to pay) first and WTA (willingness to accept) second for the WWF, T2 (control) and Marlboro mug conditions. Error bars indicate ±1 standard error of the mean.

Discussion

The between-groups analysis revealed a similar pattern of results to Experiment 3. The overall pattern provides more evidence suggesting that neither the biased information processing account nor the attribute sampling bias account can fully explain how people trade ethically and unethically associated goods. Furthermore, the within-subjects analysis revealed no significant interaction. However, a pattern consistent with the assumption that buyers might aim to profit more from selling a Marlboro mug than a WWF mug, is graphically shown. Thus, further investigation is required before making a conclusion regarding whether buyers would aim to profit from selling unethically perceived goods.

Another aspect which has yet to be addressed relates to the moral accountability of the participants' trading decisions. Although Experiment 3 attempted to increase the moral accountability of the participants' trading decisions, values provided by these participants were based on hypothetical elicitations. Thus, it could be argued that the participants' buying

and selling behaviour were not truly morally accountable. Furthermore, Experiments 1, 2 and 4 have only demonstrated so far that the branding of the good alone can induce participants to behave differently toward ethically and unethically perceived goods. Consequently, whether the moral asymmetry observed between buyers and sellers can be replicated when traders' decisions are incentivized and have real moral consequences still remains to be determined.

To address these questions, Experiment 5 employed a new design in an attempt to re-examine the within-subject relationship between WTP, WTA and ethical status of the good. Moreover, similar to Experiment 3, the following experiment attempted to increase the moral accountability of the participants by making it clear that their decisions would have direct financial consequences for the companies associated with the branded mugs.

Experiment 5

The results from Experiment 3 indicated that sellers and buyers are asymmetrically affected by the moral aspect of the good, even when their decisions were hypothetically described as being morally accountable (i.e., the companies associated with the mug could potentially benefit from the participants' trade). Experiment 4 showed that branding and incentivization alone (without the participants' decision being morally accountable) could produce similar effects. Experiment 5 combines both aspects.

To increase the moral accountability of the traders' decisions, a similar method used in Experiment 3 was adapted. First, the buyers were asked to assume that they had $20 which they could use to purchase the mug. They were also told that any money left over after the transaction will be theirs to keep. Sellers on the other hand were asked to assume that they owned the mug and they can sell it to earn real money. Participants were then told that 50% of their WTP/WTA would go to a fund that will be used to buy merchandise made by the company associated with the mug. This 50% would come from the experimenter's own, separate funds. For example, if the participant gave a WTP of $15 for the Marlboro mug then the experimenter would contribute $7.50 to the fund for buying Marlboro merchandise.

This alternative approach to the BDM method was designed to encourage honest decisions based on the participants' moral accountability. In other words, participants should make a serious decision regarding their WTP/WTA prices given that Marlboro or WWF could financially benefit from their transaction. Consequently, this method provided an additional way to test whether participants were influenced by the moral aspect of the good. If participants did not care about the moral implications of their actions, then there would be no reason for the participants to not maximize their earnings or minimize their losses. Hence, a large price discrepancy between WTP and WTA should be observed for all the mug

conditions. However, if the participants did care about the moral implications of their trade, then the results should be similar to the previous findings.

Consistent with previous experiments (except Experiment 2), participants were also told that the market price for the mug was $10 and a brief description of what the companies do was provided. Lastly, the within-subjects aspect of the experiment was again included in order to seek further evidence on whether people will sell the Marlboro mug for more than their WTP, relative to the WTA/WTP discrepancy for the WWF mug.

Method

Participants. One hundred and sixty-two, first year psychology students at UNSW participated in this experiment for course credit. Twenty-two participants were excluded from the analysis for either failing to correctly answer the multiple choice question designed to test their understanding of the valuation procedure and/or not being able to name the brand (N = 3) that was shown on the mug prior to the valuation task.[16] This left 140 participants (50.71% Males, M_{age} = 19.63, SD = 2.98). Consistent with the previous experiments, the aim for this experiment was to have at least 30 participants per cell. Due to the randomization procedure, the final sample sizes for the cells ranged between 31 and 38.

Design. The experimental design was identical to Experiment 4, except the control buyer and seller conditions were not included. These conditions were omitted because, in contrast to the WWF and Marlboro mug conditions, there would be no moral motivation to encourage participants to provide honest responses. For example, 50% of the WTP/WTA going to a morally neutral (control) company has no moral implications for the traders. Therefore, it is likely that the participants in the control condition would simply sell the mug at the highest

[16] The low incidence of failures to name the brand shown on the mug suggests that the brand name was not difficult to find on the mug. It is likely to be the same case for the previous experiment (in which this question was not asked) as identical mugs were used.

price or buy it at the lowest price possible, making the data incomparable with the moral conditions. Buyers and sellers were again asked to reverse their role within the same experiment. Thus, this experiment employed a 2 (buyer vs. seller) x 2 (ethical vs. unethical) x 2 (role reversal: buyer-seller vs. seller-buyer) mixed-groups design in which the role of the trader and the moral conditions were set up as between-groups and the reversal of the role of the traders as within-groups manipulations.[17]

Materials and procedure. Participants were randomly allocated to either a seller or a buyer role and were given a real Marlboro or a WWF mug to examine carefully. They were then asked to write down the brand of the mug. Afterwards, participants were given practice trials to help and test their understanding of the valuation procedure (see Appendix B for details).

In the actual task, participants were asked to indicate a single WTA or WTP price based on a range between $0 and $20 for the target good. Participants were then asked to complete the task for the other trader's role. The attractiveness rating of the mug and the ethical rating of the company associated with the mug were again measured. Note that similar to Experiment 4, four numbers were randomly generated a priori to determine which participants' trades would be binding based on their participation-order number (e.g., the 16th, 53rd… person to do the experiment). The buying or selling condition in which the trade would be binding was also randomly predetermined. Participants were given instructions on this procedure before and during the experiment. Furthermore, from the experimenter's own, separate funds, 50% of the participants' WTP/WTA were allocated to buy merchandise goods from WWF and Marlboro.

[17] As in Experiment 4, the only interest was examining how participants would sell the target good after they had completed the buying task to test whether the buyers would sell the mug at a price above their WTP.

Results

WWF (M = 4.26, SD = .76) was rated as significantly more ethical than Marlboro (M = 2.10, SD = .76), $t(137.87) = 16.84$, $p < .001$, $d = 2.85$. Furthermore, WWF (M = 3.38, SD = .77) and Marlboro (M = 3.10, SD = 1.11) mugs did not significantly differ in their attractiveness/aesthetics, $t(124.83) = 1.73$, $p = .09$, $d = .29$. Similarly, when analysing the data in a Bayesian framework, the difference in ethical ratings between WWF and Marlboro mugs showed strong evidence in favour of the alternative hypothesis, BF_{10} = 5.75e+31, whereas the levels of attractiveness/aesthetics between these mugs showed evidence in favour of the null hypothesis, $BF_{10} = .70$.

A 2 (buyer vs. seller) × 2 (WWF vs. Marlboro) factorial ANOVA was conducted. Identical to Experiment 4, the dependent variable was the price participants gave in their first role as a buyer or seller. See Figure 8 for the display of the means. Consistent with Experiments 3 and 4, a main effect of role, $F(1,136) = 32.95$, $p < .001$, $\eta^2 = .20$, suggested that sellers, on average, had significantly higher WTA (M = \$11.45, SD = 3.92) compared to buyers' WTP (M = \$7.64, SD = 4.96). A main effect of branding was also statistically significant, $F(1,136) = 24.57$, $p < .001$, $\eta^2 = .15$, suggesting that, on average, the WWF mug (M = \$11.13, SD = 4.39) was valued more highly than the Marlboro mug (M = \$7.79, SD = 4.78). Furthermore, an interaction between role and branding, $F(1,136) = 8.55$, $p = .004$, $\eta^2 = .06$, indicated that the decrease in price for the Marlboro mug compared to the WWF mug was larger for the buyers than the sellers.

The Bayesian analysis also showed that the full model, which includes both the main effects and the interaction, provides the strongest evidence in favour of the alternative hypothesis, BF_{10} = 7.02e+8. The model which includes both the main effects of role and branding without the interaction provided the second strongest evidence, BF_{10} = 7.23e+7. A

comparison between these two models (7.02e+8/7.23e+7) indicates that the observed data are 9.71 times more likely under the full model than the model which only includes the two main effects.

Post-hoc, LSD comparisons revealed a significant price difference between the buyers and sellers in the Marlboro mug condition (M_{buyers} = 4.86, SD = 3.69; $M_{sellers}$ = 10.80, SD = 3.83), $p < .001$, d = 1.58, but not in the WWF mug condition (M_{buyers} = 10.26, SD = 4.60; $M_{sellers}$ = 12.19, SD = 3.94), p = .20, d = .45. Furthermore, the Bayesian analysis showed strong evidence in favour of the alternative hypothesis for the Marlboro mug condition, BF_{10} = 1.61e+6, whereas weak evidence was found for the WWF mug condition, BF_{10} = 1.05.

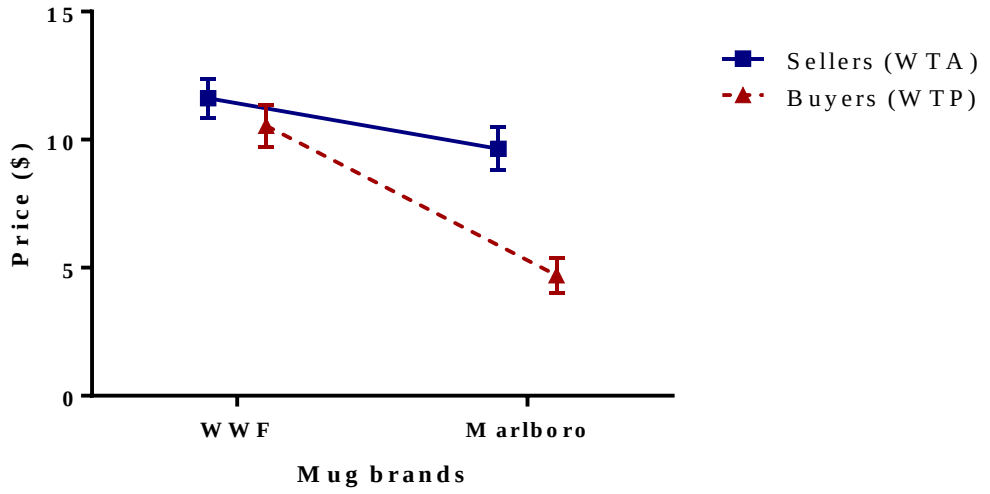


Figure 8. Experiment 5: Buying (WTP - willingness to pay) and selling (WTA - willingness to accept) prices for a WWF and Marlboro mug. Error bars indicate ±1 standard error of the mean.

In addition, a 2 (1st task: buyer vs 2nd task: seller; within) × 2 (ethical vs unethical; between) mixed ANOVA was conducted to test whether the within-groups endowment effect

for the Marlboro mug would be more prominent compared to the WWF mug.[18] The mean evaluations are shown in Figure 9. Consistent with Experiment 4, the analysis revealed a main, within-subjects effect between the buying (M = \$7.63, SD = 5.13) and selling (M = \$10.63, SD = 4.57) prices, $F(1,60) = 21.09$, $p < .001$, $\eta^2 = .26$, and a main, between-subjects effect between WWF (M = \$11.08, SD = 4.45) and Marlboro (M = \$7.18, SD = 4.92), $F(1,60) = 18.99$, $p < .001$, $\eta^2 = .24$. Furthermore, a significant interaction between order/role and branding, $F(1,60) = 8.78$, $p = .004$, $\eta^2 = .13$, was also present.

The results from the Bayesian analysis provided similar findings to the NHST. The full model, which includes both the main effects of role and branding and the interaction between these two factors, provided the strongest evidence for the alternative hypothesis, BF_{10} = 1.44e+6. The model which only includes the two main effects provided the second strongest evidence, BF_{10} =144,469.66. The evidence in favour of the full model compared to the model which only assumes two main effects without the interaction was by a factor of 1.44e+6/144,469.66 = 9.97.

Post-hoc, LSD comparisons showed that for the WWF mug condition, participants' WTP values were not significantly higher than their WTA values (M_{buyer} = 10.55 SD = 4.61; M_{seller} = 11.61, SD = 4.29), p = 1.00. Whereas in the Marlboro mug condition, the WTA values were significantly higher (M_{buyers} = 4.71, SD = 3.81; M_{sellers} = 9.65, SD = 4.69, $p < .001$, d = 1.16. The results from the Bayesian analysis were also consistent with the findings from the NHST. Evidence in favour of the null hypothesis was found for the WWF mug condition, BF_{10} = .40, whereas strong evidence in favour of the alternative hypothesis was found for the Marlboro mug condition, BF_{10} = .821.22. These results indicate that when

[18] Based on the same criteria used in Experiment 4, 62 participants were left for the analysis.

buyers are given the opportunity, they will seek a higher selling price for the Marlboro mug compared to the WWF mug.

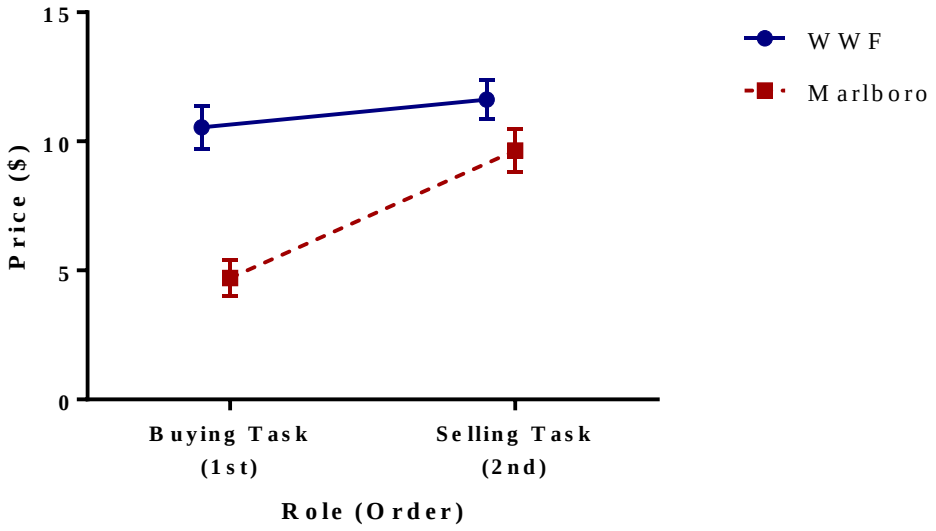


Figure 9. Experiment 5: Price means for the group that elicited WTP first and WTA second for the WWF and Marlboro mug condition. Error bars indicate ±1 standard error of the mean.

Discussion

Consistent with Experiments 3 and 4, the results indicate that even when the participants' decisions are morally accountable and incentivized, sellers are less sensitive towards the moral impact of their decisions compared to the buyers. Furthermore, the mixed design (repeated measures) analysis revealed a larger price discrepancy between the buying and selling price for the Marlboro mug compared to the WWF mug. This pattern provides stronger evidence that when given the opportunity, people indeed adopt a 'buy low, sell high' policy for the Marlboro mug but not for the WWF mug.

Discussion of Part 1

The results of five experiments suggest that sellers are influenced less by the ethicality of companies associated with goods than are buyers. This finding was consistent across hypothetical, incentive compatible and morally accountable settings. The results also revealed that people can be hypocritical and opportunistic in market settings. Experiment 5 showed that the same people would first indicate a relatively low WTP for goods associated with unethically perceived companies, but then would be willing to sell the same good for a much higher price. These results do not fit with what the attribute sampling bias or the biased information processing accounts appear to predict.

As described in Figure 1, the attribute sampling bias theory predicts an endowment effect for the WWF mug and a reversal/elimination of the endowment effect for the Marlboro mug. This pattern is predicted because this theory assumes that both sellers and buyers would sample positive and negative attributes associated with the good. Moreover, it assumes that ownership of the mug would increase the sampling of the good's positive and negative attributes as ownership provides additional attributes that only owners (sellers) could access to determine the value of the good. As the sampling of the positive attributes associated with the WWF mug is increased by the sellers, the WTA-WTP gap is predicted to become larger, whereas the increased sampling of the negative attributes associated with the Marlboro mug is predicted to eliminate or reverse the endowment effect. In contrast, the biased information processing account predicts an endowment effect for both the WWF and Marlboro mugs. This prediction is generated based on the assumption that sellers mainly access value increasing attributes whereas buyers access value decreasing attributes associated with the good.

Although, both theories accurately predict that the buyers would be willing to pay more for the WWF mug than the Marlboro mug, they fail to account for the similar selling prices observed between WWF and Marlboro. Consequently, the buyers' willingness to pay more for the WWF mug than the Marlboro mug suggests that buyers focused more on negative moral attributes associated with Marlboro and positive moral attributes associated with WWF. This practice resulted in a strong endowment effect for the unethically perceived good (or 'bad' from the buyer's perspective) but the elimination of a WTA-WTP discrepancy for the ethically perceived item.

The biased information processing account cannot explain the observed results because it predicts an endowment effect for both bads and goods. However, the attribute sampling bias theory could be modified to explain the patterns found in these experiments. Rather than valuations being influenced by ownership, results suggest that buyers and sellers had different underlying priorities or goals while trading. According to the attribute sampling bias theory, in addition to ownership, goals can also act as endogenous frames, which may bias attention toward goal-consistent attributes (Morewedge & Giblin, 2015). Although ownership is much more prominent in the endowment effect literature than goals (e.g., Kahneman et al., 1990; Morewedge et al., 2009; Shu & Peck, 2011), results suggest that goals may play a more significant role in predicting market behaviour for ethically and unethically perceived goods.

This focus on goals seem to lead existing frames such as buying, selling or ownership to become contested or less apparent. For example, previous studies have shown that the desire to improve one's situation of being sad (a goal) can significantly increase how much one is willing to pay for goods that would help improve one's mood (Cryder, Lerner, Gross & Dahl, 2008). Conversely, sadness can also significantly decrease the selling price for owned goods as getting rid of one's possessions could change one's circumstances (Lerner et al., 2004).

People also show strong tendencies to hold on to items given by someone who is very close to them. This tendency is reflected in the extremely high selling prices people place on these items relative to the buying (estimated market) price, and the unwillingness to part with these items in the circumstance that someone else bought them (McGraw, Tetlock & Kristel, 2003).

These findings all appear to indicate that ownership becomes less important and goals become more important when ownership and goals oppose one another. Thus, goal-consistent attributes largely determine the price of the good, not ownership-consistent attributes. However, when ownership and goals both promote keeping the good, the WTA significantly increases. The same rules seem to apply to buyers. When frames specific to buying and goals oppose one another, goals tend to become the main frame buyers will use to determine their price. However, when frames specific to buying and goals both promote keeping one's money, WTP significantly decreases.

The challenge, then, for a theory like the attribute sampling bias account is in predicting which frame will take precedence when multiple endogenous frames, such as ownership and goals, are in conflict with each other. How do we predict what people will place more weight on when frames specific to ownership and goals are both available? As outlined in Figure 1, predictions based purely on ownership do not appear to account for the results from these experiments. Rather, differences in goals between buyers and sellers also need to be considered.

Specifically, results from Experiments 1 and 2 suggest that the sellers' goal was to sell the different branded mugs below the market price using the 'fast sale' approach which tends to be often used by independent sellers for second hand goods or goods that are still in 'new' condition. This approach is typically observed in auction websites and garage/yard sales where the good is usually sold below the market price. Furthermore, selling below the market

price in this situation may be the most optimal because it would be difficult for independent sellers to guarantee to the buyers that the good is brand new.

For goods that had no prior ownership, results from Experiments 3 to 5 suggest that the sellers' goal was to sell the different branded mugs similar to the $10 market price. This strategy would have been advantageous for the sellers as they would not be selling the good over or under value. By focusing on goal-consistent attributes, sellers could have ignored the moral attributes associated with personal ownership and focused on other attributes that would help justify selling the mug close to $10, such as attributes relating to the utility (i.e., practical use) of the mug. Given, that all mugs serve the same function, this similarity should produce similar prices across the different branded mugs.

Conversely, the results suggest that the buyers' goal was to make ethically motivated decisions. By willing to pay much less for the Marlboro mug than the WWF mug, participants would be able to show that they care about the environment, and that they do not support the production and consumption of cigarettes. In other words, the frame of being a buyer provides an opportunity for individuals to achieve the goal of being identified as someone who is ethical. However, evidence of hypocrisy shown in Experiment 5, in which the buyers were also willing to make a profit from selling the Marlboro mug suggests that their moral intentions were less genuine. Specifically, this evidence suggests that ethical decisions were made for altruistically impure intentions. For instance, the intention to do good could have been driven by one's self interest to protect their moral self-image (Mazar et al., 2008) or to feel morally good about oneself (Andreoni, 1989) rather than for genuine moral concerns surrounding the product (Griskevicius et al., 2010). Contradicting statements elicited from participants after finishing their trades such as "I don't want too much money to

be given to a cigarette company, but I still wanted to make some profit by selling the mug", seems to support this explanation.

The buyers' pattern of results also provide support to several key assumptions. First, it shows that the WWF mug can be operationalized as a 'good', and the Marlboro mug can be operationalized as a 'bad'. Second, when the effects of exogenous (buying, selling) and endogenous frames (goals, ownership) do not oppose one another, the accessibility of positive and negative attributes can increase as a function of the product being 'good' or 'bad', respectively.

Overall, these results provide new insights into how people trade goods that differ in their ethical status. Results from these experiments suggest that sellers and buyers have different goals when trading these types of goods. Sellers aim to sell unethically and ethically associated goods in accordance with the market environment (i.e., the market price) and buyers aim to buy the goods in a way that would allow them to be perceived as ethical. In accordance with the alternative (modified) version of the attribute sampling bias account, these goals seem to work as endogenous frames, allowing the traders to more readily access attributes that are consistent with their goals. By focusing on goal-consistent attributes, it seems that sellers tend to ignore the moral attributes and focus on the utility-based attributes allowing them to sell these goods similar to the market price. Buyers, on the other hand seem to focus on the moral attributes to increase their WTP for the ethically associated good and decrease their WTP for the unethically associated good.

Limitations and Future Directions for Part 2

The trades completed by buyers and sellers in the experiments in Part 1 only relied on using a mug as a target good. Although the same good was consistently used to avoid further complications such as having varying price ranges across experiments, there is some

uncertainty as to whether the results found in Part 1 would hold for other types of goods (e.g., intangible goods). Replicating the effects found in Part 1 using goods with less tangible properties, such as company shares, would provide evidence that the moral asymmetry observed between buyers and sellers can be generalized to other types of goods. Moreover, it would provide further evidence supporting the notion that sellers are less inclined to behave morally in trading situations than buyers.

Another matter relates to the assessment of testing whether buyers and sellers asymmetrically focused on different attributes (e.g., positive or negative) of the good which was predicted by the biased information processing account and the attribute sampling bias theory. The traditional endowment effect paradigm uses valuations provided by the traders to infer that they focused on different types of attributes. Lower values tend to indicate that the traders focused on the negative, value decreasing attributes and higher values tend to indicate that the traders focused on the positive, value increasing attributes of the good.

However, attributes that are specific to psychological concepts, such as goals, may be difficult to define in relation to positive and negative valence. More specifically, making assumptions about whether the traders would perceive the target good as helpful (i.e., positive) or detrimental (i.e., negative) in achieving their goals could be perceived as a rather indirect way of testing theories that makes predictions about people accessing different types of attributes before making their judgments. Although some previous endowment effect studies have also incorporated a thought eliciting task where participants provide statements about the positive and negative aspects of the good (e.g., Carmon & Ariely, 2000; Johnson et al., 2007), the qualitative aspect of this task may lead to the interpretation of the results being less accurate due to interpretation bias. Nevertheless, applying this thought listing task in addition to the endowment effect paradigm for ethically and unethically perceived goods

should show buyers mentioning the ethical aspect of the good more than sellers. In contrast, sellers should make more reference to the market price than buyers.

Alternatively, using a process orientated approach (e.g., Newell & Shanks, 2003), which directly measures how much participants would sample information pertaining to specific attributes, could test these assumptions. This method could help confirm that the moral asymmetry observed between buyers and sellers in Part 1 is due to buyers and sellers having different goals that they want to achieve. Based on the results from Part 1, it is predicted that when using this alternative approach, buyers would sample moral attributes more frequently than sellers to make ethical decisions. In contrast, sellers would sample financially related attributes more than buyers to make financially rewarding decisions.

Part 2 of this thesis aims to address the limitations regarding whether the results from Part 1 can be generalized to other types of goods. Furthermore, it aims to directly examine which attributes (i.e., moral or financial) buyers and sellers weigh more when buying or selling shares. Other potential limitations which are not addressed in Part 2 are discussed in the General discussion.

Part 2

Chapter 4
Is it Money or is it Morals? Processing Good and 'Bad' Information about Companies to Buy or Sell Shares

Introduction

The results of Part 1 suggest that when trading ethically and unethically perceived goods, buyers and sellers tend to access different attributes associated with the target good due to the traders having different goals. Buyers seem to more readily access moral attributes, thus allowing them to act more ethically. In contrast, sellers seem to access financially related attributes (e.g., the market price or the functional utility of the good), allowing them to maximize their profit. However, these assumptions have not yet been directly tested as the traditional endowment effect paradigm used in Part 1 only allows for indirect inferences regarding which attributes traders have accessed before making their valuation judgements. Furthermore, due to having only used one type of good across all the experiments in Part 1, whether the same trends can be generalized to other goods has yet to be confirmed.

Part 2 of this thesis aims to address these issues by re-examining the theoretical interpretation of the results obtained in Part 1 by 1) using shares to test whether the results from Part 1 can be generalized to other types of good (Experiment 6); and 2) using a process orientated approach (see Payne, Bettman, & Johnson, 1993) to directly assess which types of attributes buyers and sellers tend to sample the most when buying or selling shares (Experiments 7 & 8). Although there are many experimental versions of this approach, this thesis will implement a version in which there are multiple options characterized by multiple attributes and cues (e.g., Newell & Shanks, 2003).

Experiments based on this approach tend to consist of two parts. First, participants are given the opportunity to obtain information pertaining to different attributes associated with multiple options. This method is akin to how people might end up choosing one particular product over another by making comparisons. For example, they may sample a range of information (e.g., specifications of a computer) about several products and choose the one

that they prefer the most (e.g., a powerful computer that processes large amounts of data quickly). For the experiments in Part 2, the information available to participants relates to moral and financial attributes associated with companies and participants choose which company's share they want to buy or sell. When participants select an attribute (e.g., aims to be environmentally friendly), yes/no cues are revealed to show whether companies engage in these practices. Additionally, having costs associated with obtaining information allows the researchers to determine which type of attribute participants prioritized the most.

Second, once participants are satisfied with the information that they have obtained, they are then forced to make a preferential choice by indicating which company's shares they want to buy or sell. Implementing this information processing approach may provide a better understanding of how people search and process available information prior to making a final decision (Reisen, Hoffrage, & Mast, 2008).

It is predicted that buyers will more frequently sample moral attributes (i.e., buy more information about ethical status of the companies) when buying shares. In contrast, sellers will more frequently sample financial attributes (i.e., buy more information about the profitability of the shares) when selling shares. As a result, buyers will tend to make more ethically motivated decisions than sellers, and sellers will tend to make more financially rewarding decisions than buyers.

Pilot Experiment

To develop the multi-attribute choice task used in the experiments in part 2, novel attributes relating to ethical, unethical and financial aspects of companies were created. This pilot experiment aimed to determine which attributes would most strongly relate to ethical, unethical and financial aspects of companies. The best candidates would then be used to characterize hypothetical companies to assess which type of company attributes people will focus on sampling when buying or selling shares. Thirty novel attributes were created for testing which consisted of ethical (e.g., sponsors charity organizations), unethical (e.g., has poor working conditions) and financial (e.g., is going public) attributes that companies could hypothetically have. Thus, each attribute category consisted of 10 attributes. Furthermore, 5 attributes within each category were worded positively (e.g. sponsors charity organizations) and the other five were worded negatively (e.g., does not sponsor charity organizations). Both positively and negatively worded attributes had to be considered as the information processing tasks requires participants to know about whether these attributes would or would not be applied to different companies based on yes/no cues. For example, the 'yes' cue in the task would indicate that the company engages in the practice specific to the attribute, whereas, the 'no' cue would indicate that the company does not engage in that practice. This approach of having binary cues (e.g., yes or no) to provide information about the goods' attributes has been commonly used in previous process-orientated experiments (e.g., Lohse & Johnson, 1996; Newell & Shanks, 2003). For the attribute selection process, results from the descriptive statistics and principle component analysis were examined to assess the attributes' association with ethical, unethical and financial aspects of companies.

Method

Participants. 80 participants were recruited from Mturk situated in the US. Participants had to have a 95% approval rating to be eligible to participate in this survey. Participants were compensated $1.30USD for completing the task. Four participants were excluded for incorrectly answering the attention check question. Thus, 76 participants were left (60.5% Male, M_{age} = 37.17, *SD* = 10.75).

Materials & Procedure. Participants were given a list of 30 novel attributes relating to hypothetical companies. These attributes were designed to relate to ethical (e.g., sponsors charity organizations), unethical (e.g., has poor working conditions) and financial attributes (e.g., is going public) that companies could hypothetically have. There were 10 attributes for each attribute category. Furthermore, 5 attributes within each category were worded positively (e.g. sponsors charity organizations) and the other five were worded negatively (e.g., does not sponsor charity organizations).

In the questionnaire, participants were asked to rate on a 10 point Likert scale (1 = Very Unethical, 10 = Very Ethical), how ethical or unethical they found companies to be for each of the ethical and unethical attributes that was associated with a company. The attention check question was embedded in this ethical/unethical attribute questionnaire where participants had to specifically indicate ‘Very Unethical’ in the Likert scale. For the financial attributes, participants had to rate on a 5 point Likert scale (1 = Very Bad, 5 = Very Good), what the financial prospect would be for a company associated with each of the financial attributes. Both the ethical/unethical and financial attributes were randomized.

Results

The descriptive statistics for the ethical and unethical attributes are reported in Table 2. Attributes 1 to 5 consists of unethical attributes that were worded positively. The negatively worded versions for these unethical attributes are shown in Attributes 11 to 15. Attributes 6 to 10 consists of ethical attributes that were worded positively. The negatively worded versions for ethical attributes are shown in Attributes 16 to 20. Most attributes leaned towards being either ethically or unethically related. Attributes 19 and 20 were the exception. Attributes 13 and 20 also showed relatively higher variability.

Table 2. Descriptive statistics for ethical and unethical attributes.

Attributes	M	SD
Unethical - Positive wording		
1 Has poor working conditions	1.59	0.91
2 Uses minors for labor shortages	1.70	1.41
3 Is subject to gender inequality	1.87	1.34
4 Causes excessive environmental harm	1.86	1.57
5 Evades taxes through loop holes	1.89	1.22
Ethical - Positive wording		
6 Aims to be more environmentally friendly	7.93	1.15
7 Supports disabled workers	8.37	0.98
8 Company donates to charity	8.03	1.23
9 The owner of the company is a true philanthropist	7.51	1.57
10 Products are made more affordable for impoverished countries	7.63	1.77
Unethical - Negative wording		
11 Does not have poor working conditions	7.75	1.47
12 Does not use minors for labor	7.86	1.39
13 Is not subject to gender inequality	7.37	2.01
14 Does not cause excessive environmental harm	7.59	1.81
15 Does not evade taxes	7.78	1.45
Ethical - Negative wording		
16 Does not aim to be more environmentally friendly	2.62	1.40
17 Does not support disabled workers	2.00	1.36
18 Does not donate to charity	3.17	1.50
19 The owner of the company is not a true philanthropist	3.79	1.41
20 Products are not made cheaper in impoverished countries	5.08	2.50

Note: N = 76; Responses are based on a 10 point Likert scale (1 = Very Unethical, 10 = Very Ethical)

A principle components (unrotated) analysis was conducted to examine the factor loading for each of the attributes. These factor loadings would show which attributes would

most strongly associate with the factor relating to the ethical/unethical aspect of companies. Attributes with factor loadings equal to and above 0.5, and have factor loadings below 0.4 in other potential factors were considered the best candidate for use in subsequent experiments. Additionally, attributes which could be used in both negative and positive forms were of interest. Attributes which met these expectations are bolded in Table 3.

Table 3. Factor loadings for ethical/unethical attributes.

	Factor Loading				
Attributes	1	2	3	4	5
Unethical - Positive wording					
1 **Has poor working conditions**	-0.569				
2 **Uses minors for labor shortages**	-0.578				
3 **Is subject to gender inequality**	-0.626				
4 Causes excessive environmental harm	-0.430			0.431	
5 Evades taxes through loop holes	-0.579				
Ethical - Positive wording					
6 **Aims to be more environmentally friendly**	0.778				
7 Supports disabled workers	0.695	0.479			
8 Company donates to charity	0.516				
9 The owner of the company is a true philanthropist	0.660	0.447			
10 Products are made more affordable for impoverished countries	0.764				
Unethical - Negative wording					
11 **Does not have poor working conditions**	0.714				
12 **Does not use minors for labor**	0.691				
13 **Is not subject to gender inequality**	0.724				
14 Does not cause excessive environmental harm	0.407		0.636		-0.401
15 Does not evade taxes			0.821		
Ethical - Negative wording					
16 **Does not aim to be more environmentally friendly**	-0.638				
17 Does not support disabled workers	-0.746				
18 Does not donate to charity	-0.456	0.526		-0.439	
19 The owner of the company is not a true philanthropist		0.533		-0.620	
20 Products are not made cheaper in impoverished countries		0.439			-0.649

Note: N = 76; Factor loadings below .4 are not displayed in the table.

Based on the descriptive statistics and factor loadings, Attributes 1, 11 and 6,16 were considered best candidates for use in subsequent experiments. Although Attributes 2, 12 and 3, 13, were also viable, they were not chosen for qualitative reasons; Attribute 2, 12 differed to the rest of the attributes as it clearly violated international law whereas the rest of the attributes remained ambiguous in regard to its legal status. Furthermore, future responses for

Attribute 3, 13 might potentially be susceptible to individual differences based on gender or political ideology. The Cronbach's alpha for the four selected attributes was .69 indicating reasonable internal reliability.

The descriptive statistics for the financial attributes are displayed in Table 4. The financial prospect ratings for the 1st attribute was the highest. Furthermore, the negative form of the 1st attribute (Attribute 6) also had the lowest financial prospect rating. Other attributes were shown to be near the mid-range indicating that participants were uncertain about these attributes' financial prospects.

Table 4. Descriptive Statistics for financial attributes.

	Attributes	M	SD
Positive wording			
1	Is one of the top 2000 companies in the world	4.11	0.83
2	Is doing a merger	3.29	0.71
3	Is going public	3.58	0.72
4	Is opening factories overseas	3.26	0.90
5	Has acquired a growing private company	3.66	0.83
Negative wording			
6	Is not one of the top 2000 companies in the world	2.78	0.56
7	Is not doing a merger	3.04	0.50
8	Is not going public	2.89	0.48
9	Is not opening factories overseas	3.22	0.67
10	Has not acquired a growing private company	2.97	0.52

Note: N = 76; Responses are based on a 5 point Likert scale (1 = Very Bad, 5 = Very Good).

A principle components (unrotated) analysis was conducted to examine the factor loading for each of the attributes. Factor loadings are shown in Table 5. Although the first five attributes loaded on to the first factor, the negative form of these attributes either did not load on to the first factor or loaded on to other potential factors. This result suggests that the first five attributes all relate to the financial prospect of a company. However, the negative form of these attributes do not, suggesting that the negative versions of these attributes do not imply the opposite of showing financial prospects (i.e., they do not indicate that the

companies are performing badly). As the financial attributes all failed to meet the factor loading criteria used previously for the ethical and unethical attributes, descriptive statistics were used for the selection process. Attributes 1 and 6 showed the most discriminability (i.e., showed the highest and the lowest financial ratings), thus were selected to be used for the subsequent experiments.

Table 5. Factor loadings for financial attributes.

	Factor Loadings			
Attributes	1	2	3	4
Positive wording				
1 Is one of the top 2000 companies in the world	0.685			
2 Is doing a merger	0.675			
3 Is going public	0.636			
4 Is opening factories overseas	0.812			-0.443
5 Has acquired a growing private company	0.812			
Negative wording				
6 Is not one of the top 2000 companies in the world		0.557		-0.435
7 Is not doing a merger	-0.523		0.646	
8 Is not going public		0.818		
9 Is not opening factories overseas	-0.714			0.521
10 Has not acquired a growing private company		-0.612	-0.462	

Note: N = 76; Factor loadings below .4 are not displayed in the table.

Conclusion from pilot study

From 30 novel attributes designed to characterize a hypothetical company based on ethical, unethical and financial attributes, three attributes (including their negatively worded counterparts) were selected to be used for subsequent experiments. The chosen unethical and ethical attributes were Attribute 1: ‘Has poor working conditions’ and Attribute 6: ‘Aims to be environmentally friendly’. For the financial attribute, Attribute 1: ‘Is one of the top 2000 companies in the world’ was selected. These attributes were selected mainly based on the indications from the descriptive statistics and factor loadings from the principle component analyses. However, face validity had to also be considered in relation to the sensitivity of the

ethical issue and susceptibility to individual differences relating to political ideology and gender bias when considering these attributes.

Experiment 6

To examine how people would trade shares of companies differing in their ethical, unethical and financial aspects, attributes selected from the pilot experiment were used to create unique hypothetical companies with different characteristics. Different combinations of yes/no cues were used to differentiate across companies. Attributes accompanied by a 'yes' cue indicates that companies have these characteristics (e.g., does aim to be environmentally friendly). In reverse, attributes accompanied by a 'no' cue indicates that they do not have these characteristics (e.g., does not aim to be environmentally friendly). The different combinations of the attributes used to characterize different companies for this experiment are shown in Table 6.

Table 6. Types of Companies' Shares.

Attribute	Types of Companies' Shares							
	E+	E-	C_a+	C_a-	C_b+	C_b-	U+	U-
Aims to be environmentally friendly	Yes	Yes	Yes	Yes	No	No	No	No
Is one of the top companies in the world	Yes	No	Yes	No	Yes	No	Yes	No
Has poor working conditions	No	No	Yes	Yes	No	No	Yes	Yes

Note: E = Ethical (environmentally friendly and do not treat workers poorly), C_a = Conflicting - Type A (environmentally friendly and treat workers poorly), C_b = Conflicting - Type B (not environmentally friendly and do not treat workers poorly), U = Unethical (not environmentally friendly and treat workers poorly), + = Top company, - = Not a top company.

Specifically, this experiment aimed to examine how people would buy or sell shares of companies which have different combinations of moral and financial attributes. For example, how people would buy or sell shares of companies that are ethical (E): *aims to be environmentally friendly and does not have poor working conditions*, in comparison to other companies associated with different moral attributes. For instance, companies that are unethical (U): *does not aim to be environmentally friendly and does have poor working conditions*, or morally conflicting companies which act both ethically and unethically (C_a) or do not act ethically and unethically (C_b). Furthermore, this experiment also aimed to examine whether the companies' financial status (i.e., is one of the top companies (+) vs. is not one of

the top companies (-)) would have an effect on trading behaviour for these shares with different moral characteristics.

Based on the results from Part 1, it was predicted that buyers would be influenced more by the ethical status of the companies than sellers, and sellers would be influenced more by the market environment (market price of the shares). Hence, buyers would be willing to pay the most for shares of companies that are ethical (E), and least for unethical (U) companies' shares. In contrast, sellers would be influenced more by the market price of the shares, in which their selling prices would be centred around the market price for the different companies' shares. Such a pattern of results would suggest that the findings from Part 1 can be generalized to other types of goods.

Method

Participants. Eighty-four UNSW 1st year undergraduate students participated in this experiment for course credit. 15 participants were excluded in the analysis for either incorrectly answering the attention check question (N = 9), providing values that were very extreme ($200+, 10 times the anchor value per share; N = 4), or if they did not provide any values (N = 2). This left 69 participants (Male: 45%; M_{age} = 19.87, SD = 2.52).

Design. This experiment aimed to examine how people would buy or sell shares across companies with different combinations of moral and financial attributes, with role (buyer or seller) manipulated as between-subjects, different combinations of moral attributes as within-subjects and different financial prospects also as within-subjects. Hence, a 2 (role: buyers vs. sellers; between) × 4 (ethical status: ethical (E) vs. morally conflicting type A (C_a) vs. morally conflicting type B (C_b) vs. unethical (U); within) × 2 (financial status: top company (+) vs. not a top company (-); within) mixed-design was implemented. Refer to the note in Table 6 for how these combinations of attributes is classified.

Procedure. Participants were randomly allocated to either a buyer or a seller role. Sellers were asked to imagine that they are interested in selling company shares that they own in the near future. Conversely, buyers were asked to imagine that they are interested in buying shares in the near future. Participants were also told that their financial adviser has recommend the following (eight) companies' shares based on their financial prospects and provided them with factual knowledge about these companies. Each of the companies were presented separately and the order in which these companies were presented was randomized across participants. Each company was displayed to the participants in a table format. See Figure 10 for the layout in which attributes were displayed in the task.

Attributes	Company
Aims to be more environmentally friendly	Yes
Is one of the top 2000 companies in the world	Yes
Has poor working conditions	Yes

Figure 10. The layout of the attributes displayed in the task for both buyers and sellers. Companies' attributes are displayed on the left column and yes/no cues are displayed in the right column. In this specific example the hypothetical company is a top company that is also morally conflicting as it engages in both ethical (environmentally friendly) and unethical (poor working conditions) practices (C_a+).

The attributes were displayed in the left column and the Yes/No cues were displayed in the right column. Each attribute was displayed in each row in the following order: 1) Aims to be more environmentally friendly, 2) Is one of the top 2000 companies in the world, 3) Has poor working conditions. Buyers were asked to indicate the highest amount they would be willing to pay (WTP) and sellers were asked to indicate the lowest amount they would be willing to accept (WTA) for each of the companies' shares. The market price for all the different companies' share was indicated as $20. The market price was set to be consistent with each other so that comparisons could be made across each companies' shares.

Results

A 2 (role: buyers vs sellers; between) × 4 (ethical status; within) × 2 (financial status: top company vs. not a top company; within) mixed Analysis of Variance (ANOVA) was conducted. The means are shown in Figure 11. There was a significant main effect of ethical status, $F(1.53,100.78) = 38.31$, $p < .001$, $\eta^2 = .37$. The contrast for this main effect was also significant, $F(1,66) = 55.86$, $p < .001$, indicating that share prices for the ethical company (E) was greater compared to the companies with different ethical profiles (i.e., conflicting (C_a and C_b) and unethical (U)). Furthermore, a significant main effect of financial status, $F(1, 66) = 62.71$, $p <.001$, $\eta^2 = .49$, indicated that top companies tended to have higher share prices ($M = 24.20$, $SD = 14.48$) compared to other 'non top companies' ($M = 15.93$, $SD = 11.13$). However, the main effect of the trader's role was not significant, $F(1,66) = .56$, $p = .46$, $\eta^2 = .008$, indicating that, on average, the buyers' ($M = 20.88$ $SD = 16.11$) and sellers' ($M =19.34$ $SD = 10.76$) prices did not significantly differ from one another. Results also revealed a significant interaction between ethical status and role, $F(1.53, 100.78) = 8.56$, $p = .001$, $\eta^2 = .12$. The contrast for this interaction was significant, $F(1,66) = .10.40$, $p = .002$, suggesting that the increase in share prices for the ethical company (E) was greater for buyers than sellers. A significant interaction between financial status and role, $F(1, 66) = 10.07$, $p = .002$, $\eta^2 = .13$, indicated that buyers are more strongly affected by the companies' financial status than the sellers. Furthermore, an interaction between ethical status and financial status, $F(2.06, 136.03) = 5.35$, $p = .005$, $\eta^2 = .08$, indicated that the decrease in share prices for top companies that engage in unethical practices is steeper compared to non-top companies. Lastly, the three-way interaction of role, ethical status, and financial status did not reach significance, $F(2.06, 136.03) = 2.203$, $p = .09$, $\eta^2 = .03$ indicating that the relationship between the role and ethical status was not affected by the financial status of the companies.

The Bayesian analysis showed that the model which includes all three main effects and two two-way interactions: an interaction between role and ethical status, and an interaction between role and financial status, provides the strongest evidence in favour of the alternative hypothesis, BF_{10} = 2.90e+40. The model which includes all three main effects and all three two-way interactions yielded the second highest Bayes factor, BF_{10} = 1.58e+40. The evidence in favour of the less complex model compared to the model which includes all main effects and all three two-way interactions was by a factor of 2.90e+40/1.58e+40 = 1.84.

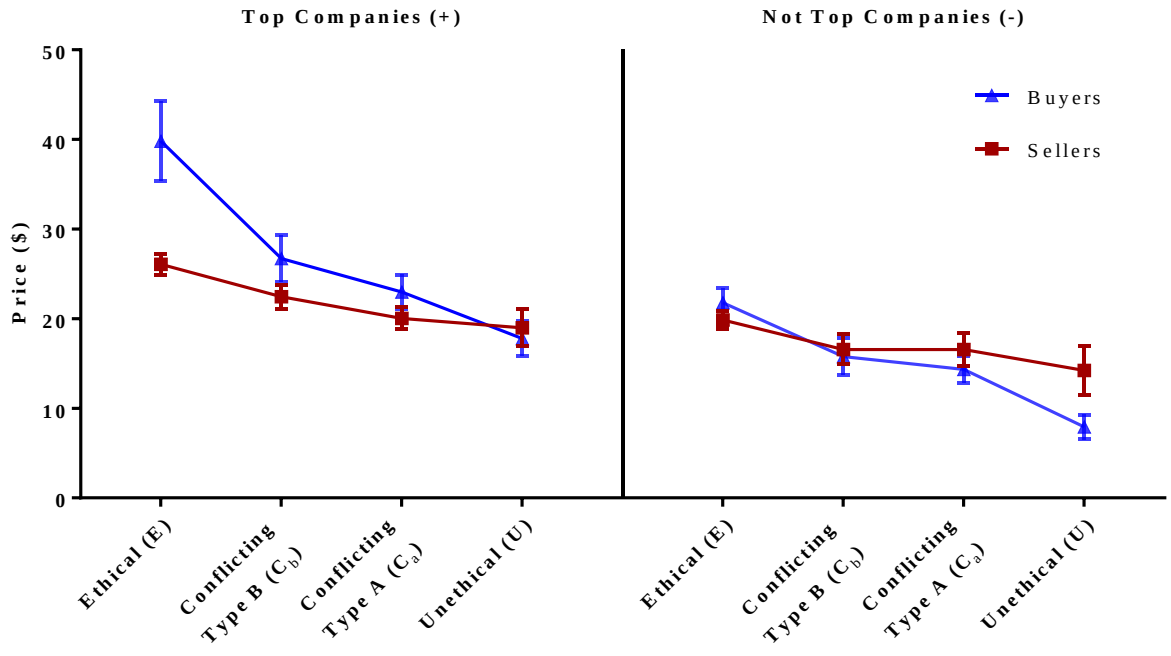


Figure 11. Buying (WTP) and selling (WTA) prices for shares differing in their combination of ethical and financial status. Refer to Table 6 for explanation of the company types. Error bars indicate ±1 standard error of the mean.

Discussion

Consistent with the results from Part 1, results from this experiment indicate that sellers tend to rely on the market environment (i.e., the market price) to determine their WTA. Whereas, buyers tend to pay more for an ethical company's share than an unethical

company's share. This finding shows that the results in Part 1 can be generalized to other, less tangible goods such as shares.

The results also revealed some unexpected findings such as buyers valuing shares that are associated with top companies more highly than sellers. This result suggests that buyers are more sensitive to the companies' financial prospects. Therefore, buyers may be more prone to consider the rewards one might gain later in the future than sellers. One possible explanation is that buying and selling shares in the near future may have different implications. Buying in the near future could mean that buyers can think about buying shares for short and long-term investments, whereas selling in the near future means that one must think more about the current market situation (i.e., the current market price) when selling shares. Put differently, buyers and sellers seem to have different goals: buyers tend to look more into the future for longer-term gains, whereas sellers tend to focus on the short-term gains from selling shares in the near future.

Another possible explanation for why sellers were less affected by the companies' financial prospects than buyers could be due to the information about the market price being more concrete or factual. As the financial prospects of a company is speculative, sellers may have been more reliant to base their price on the market price. By having a more reliable anchor (reference price), sellers can provide a more accurate valuation than buyers. Consequently, this result indicates that sellers tend to be more accurate in their valuations, not just with lotteries (Yechiam, Ashby & Pachur, 2017), but also with shares.

Lastly, although the previous pattern of results in Part 1 were replicated, an endowment effect was not found. Moreover, given that the participants in this experiment consisted of students, it seems unlikely that the failure to replicate the endowment effect in Experiments 1 and 2 was due to using different samples (i.e., using an online population via Mturk). Again,

this finding contradicts the body of research which has consistently demonstrated the WTP-WTA gap, including studies which have specifically shown evidence for the endowment effect in the stock market (Furche & Johnstone, 2006). However, Experiments 1 to 3 also demonstrates that the endowment effect is not as robust as it appears to be in the literature. Rather, certain experimental settings seem to be more successful at replicating the endowment effect than others. Specifically, experiments in Part 1, suggest that the endowment effect can be observed much more frequently when implementing incentivized experiments using real goods than in non-incentivized experiments that rely on hypothetical scenarios. Although many previous studies have demonstrated the WTP-WTA gap using hypothetical questions (Horowitz & McConnell, 2002) findings from Part 1 suggest that further investigations should be conducted to determine whether more ecologically valid procedures (i.e., involving real trades) will increase the chances of finding the endowment effect.

Experiment 7

Experiments in Part 1 used different variations of the endowment effect paradigm to test the assumption that sellers and buyers access different attributes associated with a good. Based on the valuations provided by the buyers and sellers, the results indicate that buyers attend to moral attributes (i.e., the ethical status of the good) and sellers attend to financial attributes (i.e., the market price of the good). Collectively, this pattern of results suggests that buyers and sellers have different goals where buyers aim to be an ethical investor and sellers aim to maximize their profit from their investment by relying on the market price. However, whether buyers and sellers actually assess these different types of attributes to make ethical or financially rewarding decisions has not yet been directly examined.

Experiment 7 implements a process-orientated approach adapted from Newell and Shanks (2003). In this paradigm, participants can obtain different information about goods or objects and utilize the obtained information to make an informed or partially informed decision regarding which good they prefer. A typical example that is frequently used to describe this process relates to how a person may purchase a car (Payne, et al., 1993). A person may want to know about different information relating to cars such as fuel consumption, horse power, safety, price and so forth. Although all these features are useful to know and contribute to value of the car, some individuals may not look at all of these attributes to make a choice. For example, some may be more interested in knowing about how much fuel a car consumes rather than the performance of the car. From the information the individual collected, the person may select a car that is most suited to their preference.

Following this concept, Experiment 7 aimed to examine which company's shares participants would be willing to buy or sell based on the different attributes associated with companies. That is, instead of looking at individuals' WTP/WTA for different share profiles,

this experiment aims to look at which shares individuals *choose* to buy or sell in the marketplace. The attributes that are of interest relates to the ethical (i.e., environmentally friendly), unethical (i.e., treats workers poorly) and financial aspects (i.e., a top company) hypothetical companies could have. By having costs associated with obtaining information, it would be possible to determine which type of attributes participants wanted to know about the most when making preference-based decisions. The more frequently bought information may have a greater emphasis in the decision making process than those that have been bought less.

In line with the findings from previous experiments, it was predicted that buyers would more frequently utilize (buy) information pertaining to moral attributes to make *ethical decisions* than sellers. Sellers were predicted to more frequently utilize information pertaining to the financial attributes to make *financially rewarding decisions* than buyers. For the buyers, ethical decisions are operationalized as buyers investing in ethical companies (i.e., aims to be environmentally friendly and does not treat workers poorly) whereas unethical decisions are operationalized as investing in unethical companies (i.e., does not aim to be environmentally friendly and treat workers poorly). Note that this experiment also uses the same method from Experiment 6 to characterize companies based on their association with moral and financial attributes using yes/no cues (refer to Table 6 for more detail).

Due to the opposite form of investment being divestment, the way in which ethical/unethical decisions were operationalized were reversed for the sellers. Ethical decisions for the sellers were operationalized as them divesting out of unethical companies. In contrast, unethical decisions were operationalized as sellers divesting out of ethical companies. Although divesting for ethical reasons is a relatively recent phenomenon, movements for educational institutes to divest from environmentally unfriendly companies

such as oil and gas companies has been growing (Ayling & Gunningham, 2017). See Figure 12 for more details regarding how ethical and unethical decisions were operationalized.

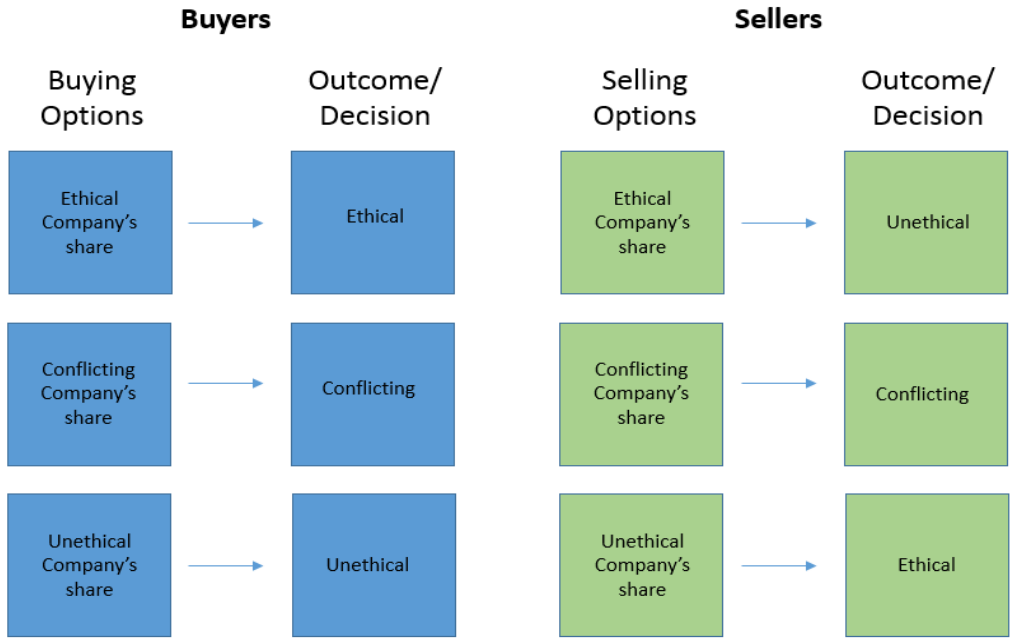


Figure 12. How ethical, conflicting and unethical decisions were operationalized based on which companies' shares traders bought or sold. For example, buying (investing in) ethical companies' shares (aims to be environmentally friendly and does not treat workers poorly) were operationalized as an ethical decision. In contrast, selling (divesting from) ethical companies' shares were operationalized as an unethical decision. Vice-versa, buying unethical companies' shares (does not aim to be environmentally friendly and does treat workers poorly) were operationalized as an unethical decision, whereas selling unethical companies' shares were operationalized as an ethical decision. Morally conflicting decisions were cases where participants would buy or sell shares of companies that do or do not engage in both ethical and unethical practices (e.g., aims to environmentally friendly and treat their workers poorly or does not aim to be environmentally friendly and does not treat their workers poorly).

Operationalizing financially rewarding decisions were the same for buyers and sellers. Buying or selling profitable companies' shares (i.e., a top company) were operationalized as financially rewarding decisions and buying or selling less profitable companies' shares (i.e., not a top company) were operationalized as financially unrewarding decisions.[19]

[19] Note that Experiments 7 and 8 do not actually look at buying and selling behavior per se (i.e., buyers do not forgo money to buy shares), rather it is focused on preference choices in relation to which companies participants want to invest in or divest from.

The incentive structure of the task also aimed to reflect and reinforce the way in which moral and financial decisions were operationalized. See Table 7 for how the incentives were structured for buying and selling shares of different companies. To reflect the notion that making an ethical investment or divestment decision would benefit the society, participants would earn donation money when they make an ethical decision (shown in the E column in Table 7). These earnings would accumulate until the task is finished and be pooled across all the participants to be donated to the charity organizations of their choosing (WWF or Amnesty).[20] In contrast, when traders make an unethical investment or divestment decision (shown in the U column in Table 7), they would lose some of the donation money that they earned. Additionally, if the accumulated donation amount ends up being negative, the same (negative) amount would be taken away from the participants' pooled donation amount and the charity organization that they chose to donate to would incur the loss.

When traders make a financially rewarding decision (shown in the + columns in Table 7), they would earn profit which would go to themselves, whereas not making a financially rewarding decision (shown in the – columns in Table 7) would earn them nothing. No deception was involved in this or subsequent experiments. Note that top companies which are ethical (E+) or unethical (U+) contribute to higher increase or decrease in donation amounts for making ethical or unethical choices, respectively. This increase in potential gain or loss for the donation amount is to reflect the notion that bigger companies have more influence in society than smaller companies.

[20] The total donation amounts were calculated and given to the respective charities after the experiment had finished. Furthermore, participants were given the opportunity to provide their email address so that they could also know the amount donated to these charities. Any profits made by participants were paid to them at the end of the experiment.

Table 7. Payoff structure for choosing to buy/sell different types of companies' share for each trial.

Earning/reward (per trial)	Incentive structure based on the types of companies							
	E+	E-	C_a+	C_a-	C_b+	C_b-	U+	U-
Buyers								
Profit	$0.10	$0.00	$0.10	$0.00	$0.10	$0.00	$0.10	$0.00
Donation	$0.06	$0.04	$0.00	$0.00	$0.00	$0.00	-$0.06	-$0.04
Sellers								
Profit	$0.10	$0.00	$0.10	$0.00	$0.10	$0.00	$0.10	$0.00
Donation	-$0.06	-$0.04	$0.00	$0.00	$0.00	$0.00	$0.06	$0.04

Note: E = Ethical (environmentally friendly and do not treat workers poorly), C_a = Conflicting - Type A (environmentally friendly and treat workers poorly), C_b = Conflicting - Type B (not environmentally friendly and do not treat workers poorly), U = Unethical (not environmentally friendly and treat workers poorly), + = Top company, - = Not a top company. Profit = the amount of money the participants themselves receive for each choice they make. Donation = the amount of money a charity organization would receive for each choice participants make.

In summary, Experiment 7 aimed to examine how participants would choose in buying or selling shares of different companies via purchasing information about companies' moral and financial attributes. In line with previous findings, it was predicted that buyers would more frequently utilize information pertaining to moral attributes to make ethical decisions. In contrast, sellers would more frequently utilize information pertaining to the financial attributes to make financially rewarding decisions. This pattern of results would provide direct evidence to indicate that buyers and sellers consider moral and financial attributes to make ethical and financially rewarding decisions, respectively.

Method

Participants. Seventy-nine 1st year psychology students from UNSW participated in exchange for course credit. Participants were required to correctly answer a comprehension question correctly after they had completed the practice trials. 19 participants failed to meet this criterion, thus 60 participants were left (Male: 50%; M_{age} = 19.38, SD =1.78).

Design, Materials & Procedure: This experiment consisted of two independent groups: buyers and sellers. Participants were allocated to either a buyer or a seller role. Buyers were instructed to imagine being interested in buying shares. Conversely, sellers were instructed to

imagine being interested in selling shares of companies that they own. Both buyers and sellers were told that their financial advisor had provided them with three different companies' shares they can buy/sell. However, a cost would incur in obtaining information about these companies' moral and financial attributes.

To help the participants understand how ethical and unethical decisions would be operationalized, the instructions participants were given also explained the implications of investing in and divesting from ethical and unethical companies (see Appendix B for details). The instructions were split into smaller sections and each section was given with sufficient breaks in between where participants could only click to read the next section after a certain amount of time has passed (20sec to 30sec depending on the length of the paragraph). Afterwards, participants were shown the schematic of the task. Furthermore, information pertaining to each feature of the task was provided in order with breaks in between (e.g., what the yes/no cues represent, how the task is incentivized, and so forth).

Participants were then given 16 practice trials to assist in the understanding of the procedure and how the task is incentivized (refer to Table 7 for how the task was incentivized). Information regarding the pay-off structure and all other aspects of the task was also provided to the participants before and during the practice trials (see Appendix B for details). After the practice trials, participants were given a multiple choice comprehension question to test whether they understood how ethical and unethical decisions would be operationalized. The practice question asked the participants to answer the following question: By selling my share of a company/buying a share in a company that does not aim to be environmentally friendly and treat overseas workers poorly, I will… a) Make a profit, b) Earn donation money, c) Lose donation money, d) Lose profit. Those that failed this question were excluded from the analysis. For the sellers, b) was the correct answer, whereas c) was the correct answer for the buyers.

Afterwards, participants were given the main task in which they had to choose between buying or selling ethical, morally conflicting, and unethical company shares. The additional information provided in the practice trials were removed in the main task to focus the participants' attention to the attributes associated with different companies rather than them focusing on the pay-off structure. Furthermore, participants could only make a choice after they had bought at least one piece of information relating to the companies' attributes. This restriction was applied to the practice trials and in the main task. The schematic of the main task is shown in Figure 13.

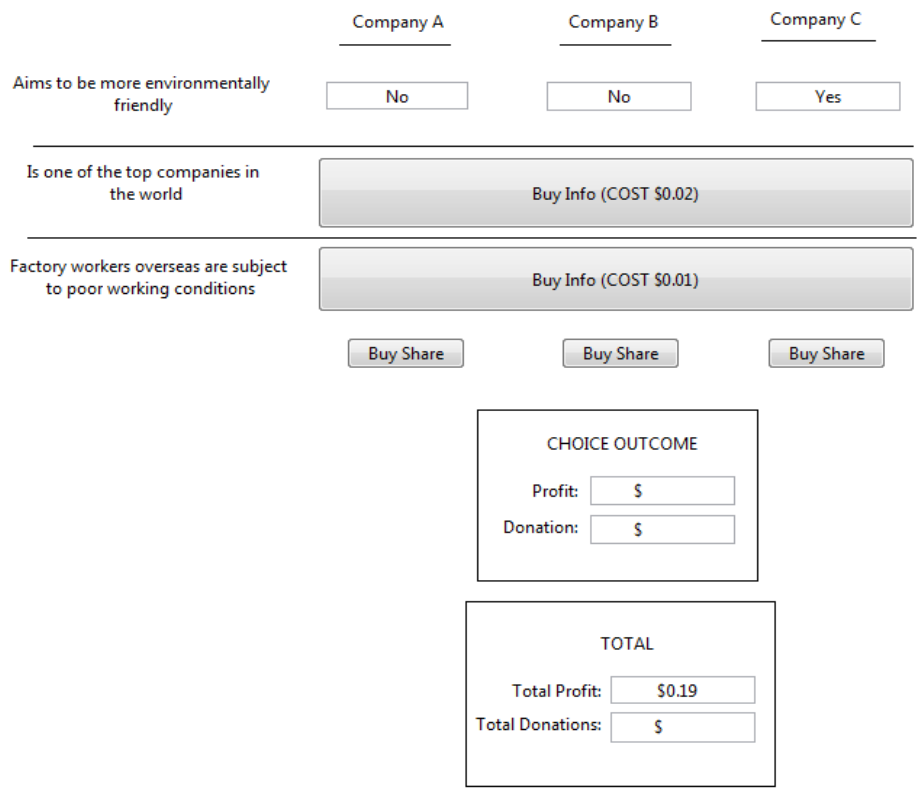


Figure 13. The schematic of the task for the buyers' condition. Participants can purchase information pertaining to the attributes shown on the left to reveal how they are associated with Companies A, B and C. The moral attributes cost $0.01 each whereas the financial attribute costs $0.02. In this example, the information for the ethical attribute has already been purchased. Once the participants have obtained the information they wanted to buy, they can choose to buy a share in Company A, B or C. The CHOICE OUTCOME box indicates how much profit and donation amount the participant earned in the last trial and the TOTAL box shows the amount of profit and donation that had accumulated over the previous trials. The schematic of the task for the sellers were the same as the buyers, with the only exception that the "Buy Share" button was labelled as "Sell Share".

Table 8 shows all the combinations in which the three types of companies' shares (ethical, conflicting, unethical) were provided in a given trial. In the main procedure, the 16 trials displayed in the table were given 4 times (total of 64) all in one block with all the trials being randomized. The order in which the different types of companies' shares were displayed was also randomized across trial so that one type of share (e.g., ethical) would not be shown in the same location repeatedly. This procedure was implemented to encourage people to search for the type of company's share they wanted to buy or sell before they make their choice. The order in which the attributes were displayed were counterbalanced.

Table 8. The combinations of profitable and unprofitable ethical, conflicting and unethical companies' shares shown in a given trial.

Trials	Options		
	A	B	C
1	E+	C_a+	U+
2	E+	C_a-	U+
3	E+	C_b+	U+
4	E+	C_b-	U+
5	E+	C_a+	U-
6	E+	C_a-	U-
7	E+	C_b+	U-
8	E+	C_b-	U-
9	E-	C_a+	U+
10	E-	C_a-	U+
11	E-	C_b+	U+
12	E-	C_b-	U+
13	E-	C_a+	U-
14	E-	C_a-	U-
15	E-	C_b+	U-
16	E-	C_b-	U-

Note: E = Ethical (environmentally friendly and do not treat workers poorly), C_a = Conflicting - Type A (environmentally friendly and treat workers poorly), C_b = Conflicting - Type B (not environmentally friendly and do not treat workers poorly), U = Unethical (not environmentally friendly and treat workers poorly), + = Top company, - = Not a top company.

Results

The internal consistency of the participants' choices (i.e., how likely one would choose the same option when presented with the same trial) were examined to determine the degree in which participants randomly chose the options presented in the task. To calculate participants' internal consistency of their responses, the percentage of the same option chosen across four of the same repeated trials were averaged based on all 16 different trials. By default, the base rate for the internal consistency was 50% as the same option would be chosen at least twice across the same four trials in the task. Note that the order in which the trials were given was randomized. The high level of internal consistency (>.85) indicated that the traders did not randomly choose the options presented in the task. The level of internal consistency was not statistically different between buyers *(M* = .90, *SD* = .08) and sellers (*M* = .85, *SD* = .11), $t(52.93) = 1.789$, $p = .08$. The level of internal consistency between buyers and sellers also provided no evidence in favour of the alternative hypothesis in the Bayesian framework, $BF_{10} = .99$.

The means shown in Figure 14 indicates that buyers bought information regarding the ethical attribute of the companies on more trials than sellers ($M_{buyers} = .70$, $SD = .27$; $M_{sellers} = .61$, $SD = .30$) and bought information about the financial attribute of the companies on fewer trials than the sellers ($M_{buyers} = .67$, $SD = .40$; $M_{sellers} = .76$, $SD = .33$). However, buyers also bought information regarding the unethical attribute of the companies on fewer trials than sellers ($M_{buyers} = .57$, $SD = .38$; $M_{sellers} = .67$, $SD = .32$).

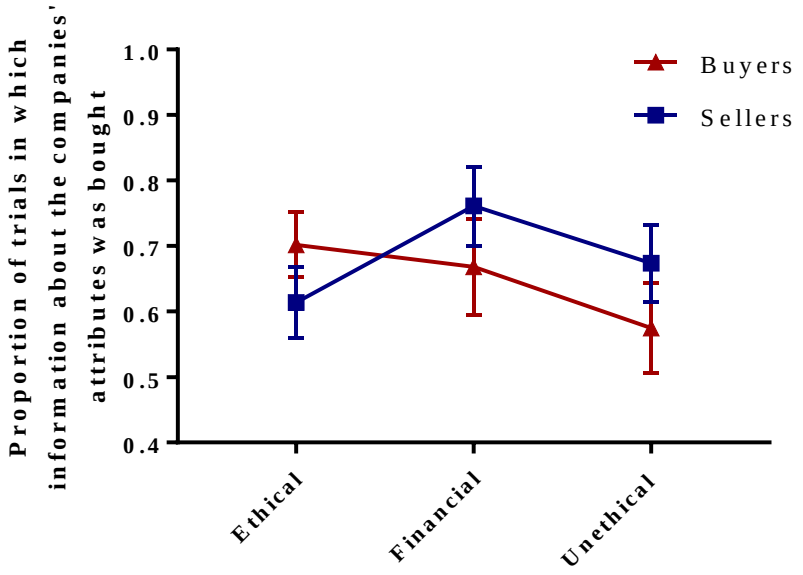


Figure 14. Experiment 7: The proportion of trials in which information was bought by sellers and buyers relating to the ethical, financial and unethical attributes of the companies displayed in the task. Note that purchasing information pertaining to each attribute is not restricted by one another (i.e., participants do not have to choose one information over another). Thus, proportions reflect the number of times in which they saw how these attributes were associated with Company A, B and C out of a total of 64 trials. Thus 60% on this measure indicates that on average the piece of information was accessed on 38/64 trials. Error bars indicate ±1 standard error of the mean.

A 2 (role: buyer vs seller; between) x 3 (type of information: ethical vs financial vs unethical; within) mixed ANOVA revealed no main effect of role, indicating that there was no significant difference in the amount of information that was obtained between buyers (M = .65, SD = .35) and sellers (M = .68, SD = .32), $F(1, 58) = .56$, $p = .46$, $\eta^2 = .01$. There was also no main effect of the type of information that participants obtained, $F(1.61, 93.48) = 1.37$, $p = 0.26$, $\eta^2 = 0.02$, indicating that, on average, the traders obtained similar amounts of information across the different attributes. Furthermore, there was no interaction between role and type of information bought, $F(1.61, 93.49) = 1.37$, $p = .26$, $\eta^2 = .02$, suggesting that the amount of information bought across the different attributes was not significantly different between buyers and sellers. The Bayesian analysis also showed that the null model

outperformed all other models (BF_{10} >1). The model which includes the effect of role yielded the second highest Bayes factor, BF_{10} = .22. Evidence in favour of the null model which assumes no effects compared to the model which assumes a main effect of role was by a factor 1/.22 = 4.55.

The proportion of ethical, conflicting and unethical choices made by buyers and sellers are shown in Figure 15. Overall, participants overwhelmingly made more ethical decisions compared to conflicting and unethical decisions. Furthermore, sellers made marginally fewer ethical choices and more conflicting and unethical choices than buyers.[21]

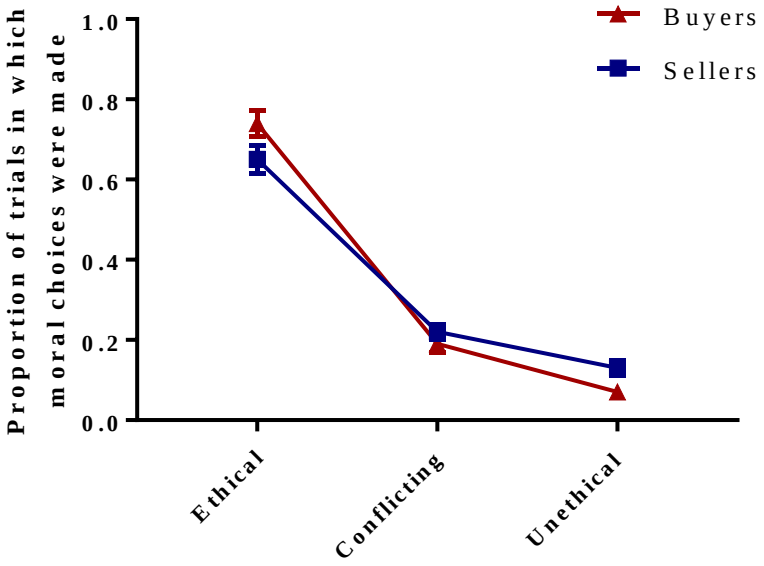


Figure 15. Experiment 7: The proportion of ethical, conflicting and unethical choices made by both buyers and sellers. Note that participants can only make one of these choices in a given trial. Thus, the proportion would sum to 1 by adding the proportion of ethical, conflicting and unethical decisions made. Error bars indicate ±1 standard error of the mean.

[21] Note that the proportion of ethical, conflicting and unethical choices made in Experiment 7 is conditional based on the information participants bought (i.e., the data may not reflect the actual intentions of the participants' decisions due to missing information).

A mixed effects logistic regression was performed to determine how role (buyers = 0, sellers = 1), and obtaining information relating to different attributes (not bought = 0, bought = 1) affected making ethical decisions (unethical = 0, ethical = 1).[22] Subjects had random intercepts and all the predictor variables were set as fixed effects.[23] See Table 9 for the display of the coefficients.

Table 9. Coefficients of the model predicting ethical (vs. unethical) decision making.

	b	*SE*	*Z*	Odds Ratio	95% CI for Odds Ratio	
					Lower	*Upper*
Intercept	1.20					
Ethical Info	1.67 ***	0.14	12.27	5.31	4.04	6.99
Financial Info	-.52 **	0.18	-2.81	0.59	0.42	0.85
Unethical Info	1.60 ***	0.14	11.05	4.95	3.76	6.52
Role	-.67 ***	0.13	-5.05	0.51	0.39	0.66

Note: * = p <.05, ** = p <.01, *** = p <.001.

The first model indicates that when participants bought information relating to the ethical, and unethical attributes of the company, the likelihood of making an ethical choice significantly increased. However, when participants bought information relating to the financial attribute of the companies, the likelihood of making an ethical decision significantly decreased. Moreover, the model also shows that the likelihood of making an ethical decision decreased from buyers to sellers indicating that sellers were significantly less likely to make ethical decisions than buyers.

In the next model, shown in Table 10, interactions between role and each of the attributes were examined (Role × Ethical Info, Role × Financial Info, Role × Unethical

[22] Morally conflicting choices are excluded in the mixed effects regression models which predict ethical and unethical decisions. Furthermore, morally conflicting choices were not analysed as it provides limited information regarding how people make ethical or unethical decisions when buying and selling shares. Rather, morally conflicting options were included for increasing the amount of trade-off decisions in the task where one must choose either financially rewarding decisions (C_a+ or C_b+) or financially unrewarding ethical decisions (E- or U-). These trade-off trials are displayed in Table 8.
[23] Subjects having random intercepts addresses the concern that individuals might have different amount of information about the shares that they bought as it allows the model to account for missing data (see Field, 2013).

Info).[24] By including the interactions, it is possible to determine whether the change in the likelihood of making an ethical decision (vs unethical decision) differed between buyers and sellers when buying information relating to these different attributes. All three interactions were statistically significant. The interaction between Role and Ethical Info, and Role and Unethical Info, and the direction of the coefficients indicates that the increase in the likelihood of making an ethical decision was greater for buyers than sellers when information relating to ethical and unethical attributes was bought. However, the interaction between Role and Financial Info indicates that the decrease in the likelihood of making an ethical decision was greater for the buyers than sellers when information about the financial attribute was bought.

Table 10. Coefficients of the model predicting ethical (vs. unethical) decision making including the interactions between role and each of the attributes.

	b	*SE*	*Z*	Odds Ratio	95% CI for Odds Ratio	
					Lower	*Upper*
Intercept	0.99					
Ethical Info	3.20 ***	0.28	11.38	24.62	14.22	42.62
Financial Info	-1.21 **	0.47	-2.58	0.30	0.12	0.75
Unethical Info	2.76 ***	0.36	7.69	15.80	7.82	31.93
Role	-0.32	0.54	-0.59	0.72	0.25	2.10
Role*Ethical Info	-2.11 ***	0.32	-6.51	0.12	0.07	0.23
Role*Financial Info	1.04 *	0.51	2.03	2.82	1.04	7.69
Role*Unethical Info	-1.48 ***	0.39	-3.76	0.23	0.10	0.49

Note: .* = p <.05, ** = p <.01, *** = p <.001.

An additional mixed effects logistic regression was performed to determine how role (buyers = 0, sellers = 1), and obtaining information relating to different attributes (not bought = 0, bought = 1) affected making financially rewarding decisions (financially unrewarding =

[24] Note that by including the interactions, the main predictors without the interaction (e.g., Ethical Info) represents the change in the log-odds for the buyers (code as 0).

0, financially rewarding = 1). Again, subjects had random intercepts and all the predictor variables were set as fixed effects. See Table 11 for the display of the coefficients.[25]

Table 11. Coefficients of the model predicting financially rewarding (vs. financially unrewarding) decision making.

	b		*SE*	*Z*	Odds Ratio	95% CI for Odds Ratio	
						Lower	*Upper*
Intercept	1.79						
Ethical Info	-0.98	***	0.14	-8.35	0.38	0.29	0.49
Financial Info	1.35	***	0.18	12.32	3.86	2.71	5.49
Unethical Info	-1.33	***	0.14	-10.53	0.26	0.20	0.35
Role	0.08		0.13	10.43	1.08	0.83	1.41

Note: .* = p <.05, ** = p <.01, *** = p <.001.

The model predicting financially rewarding (vs financially unrewarding) decisions indicates that when participants bought information relating to the ethical or unethical attributes of companies, the likelihood of making financially rewarding choices significantly decreased. Furthermore, the results indicate that when participants bought information relating to the financial attribute, the likelihood of making a financially rewarding decision significantly increased. However, the model also shows that the increase in the likelihood of sellers making a financially rewarding decision compared to the buyers was minimal. Note that the interactions between role and information about the different attributes (not shown in the table) were all not statistically significant when predicting financially rewarding decisions. Consistent with these results, the proportion of trials in which financially rewarding decisions were made in the task was marginal between buyers and sellers (M_{buyers} = .67, SD = .13; $M_{sellers}$ = .69; SD = .13).

Lastly, the direction of the relationship observed in the models were consistent with the profit and donation amounts the traders accumulated in the task. Buyers made significantly

[25] Trials which only consisted of top companies or non-top companies' shares were excluded from the analyses that compared people's tendency to choose financially rewarding versus non-financially rewarding choices.

more donations than sellers (M_{buyers} = \$2.54, SD = .55; $M_{sellers}$ = \$1.66, SD = 1.36) $t(38.13)$ = 3.30, p = .002, d = .85. However, the profit buyers and sellers made were not reliably different (M_{buyers} = \$2.42, SD = .68; $M_{sellers}$ = \$2.61, SD = .92), $t(53.67)$ = -.87, p = .38, d = .23.[26] Similar results were found in the Bayesian framework with the difference in profits earned between buyers and sellers showing evidence in favour of the null hypothesis, BF_{10} = .36, and the difference in donations earned showing strong evidence in favour of the alternative hypothesis, BF_{10} = 20.23.

Discussion

Based on the information that participants bought, there was little evidence to indicate that buyers more frequently buy information about the moral attributes associated with companies than sellers. The evidence for sellers buying more information about companies' financial status than buyers was also weak. The result pertaining to buyers showing less interest to moral attributes than what was predicted is somewhat consistent with previous research which has found that consumers may be aversive towards seeking information about the ethical concerns regarding a product. For instance, Ehrich and Irwin (2005) found that participants who are tasked with requesting information about a product make less use of the ethical information associated with the product compared to those that were given complete information about the product.

The results from the regression model provided more insight regarding how people used information to make informed or partially informed decisions. As predicted, the results from the first two models indicate that buyers were more likely to make an ethical decision than sellers after purchasing information about the ethical or unethical attributes associated with

[26] Note that profit and donation amounts participants accumulated in the task may vary considerably based on the amount of information they bought.

companies. Interestingly however, the results also revealed that buyers are more likely to make unethical decisions than sellers after purchasing information about the companies' financial attribute. Despite the effect being somewhat marginal (buyers being 19% more likely to make an unethical decision than sellers) this result suggests that buyers are more susceptible in making unethical decisions for financial rewards than sellers. This result seems to support the findings from Experiment 5 which suggests that buyers can also behave in a morally hypocritical manner.

Lastly, the final model revealed that the increase in the likelihood of sellers making a financially rewarding decision compared to the buyers was minimal. Furthermore, the interactions between role and other types of information was not statistically significant indicating that buyers and sellers have similar likelihoods of making financially rewarding choices when buying information about the moral and financial attributes of companies.

Overall, the results do not seem to provide strong evidence to suggest that sellers are more likely to utilize financial attributes of companies to try and maximize profit. Buyers on the other hand behave in line with previous findings indicating that they aim to utilize moral attributes of companies to invest in ethical companies. However, the results also indicate that buyers are more prone to being influenced by monetary rewards to make unethical decisions than sellers (i.e., investing in financially rewarding, unethical companies).

Although the process orientated approach used in this experiment has provided a deeper understanding of how people sample information to make decisions, this information came with a cost. Perhaps because of a reluctance to bear this cost, on many of the trials, participants did not have perfect information about the shares that they were buying or selling. Therefore, some shares may have been bought or sold unintentionally or in contradiction to a participant's goal. More specifically, not having full information could lead

people astray. For instance, when purchasing a computer, one could assume that a computer with high processing power would also have large amounts of memory. However, this generalization may not necessarily be true.

Similarly, in this experiment, buyers may have found that a company is environmentally friendly, thus they may have also assumed that this company would treat their workers fairly. However, there was only a 50% chance of this assumption being true. Consequently, this limitation may have influenced the participants' decisions to vary leading to inconclusive results. The final experiment in this thesis aims to address this limitation by providing participants with perfect information about the companies' attributes. With perfect information, it was predicted that sellers would aim to more consistently maximize profit than buyers by more frequently choosing to make financially rewarding decision. In contrast, it was predicted that buyers would aim to more consistently make ethical decisions than sellers. This potential finding would provide further evidence that consumers who are given the opportunity to request information about a product make less use of the ethical information about the product compared to those that are given complete information about the good (Ehrich & Irwin, 2005).

Experiment 8

Experiment 8 aims to disentangle the issue of participants having imperfect information about the companies' attributes when choosing to buy or sell a company' share. By allowing participants to have perfect information about the companies' attributes, it is expected that more robust effects can be found regarding sellers making more financially rewarding decisions than buyers and buyers making more ethical decisions than sellers. Additionally, such evidence would provide further support for previous findings which show that buyers are more likely to utilize information about the goods' ethical attribute when complete information about the good is provided compared to when they could request information about the product (Ehrich & Irwin, 2005).

Method

Participants. Eighty-nine 1st year psychology students from UNSW participated in exchange for course credit. Participants were excluded from the analysis if they failed the comprehension question designed to test their understanding of the task. Twenty-eight participants met this criterion, thus 61 participants (Male: 51.67%, M_{age} = 19.33, SD = 1.89) were left for the analysis. This high attrition rate was unexpected given that removing the information buying component should have reduced the complexity of the task compared to the previous experiment.

Design, Materials & Procedure. Experiment 8 implemented almost the same design, materials and procedure as Experiment 7. The only difference was that participants did not have to buy information about the companies' attributes. Instead, the information pertaining to the moral and financial attributes of hypothetical companies were completely revealed throughout the practice trials and in the main task. See Figure 16 for the schematic of the task.

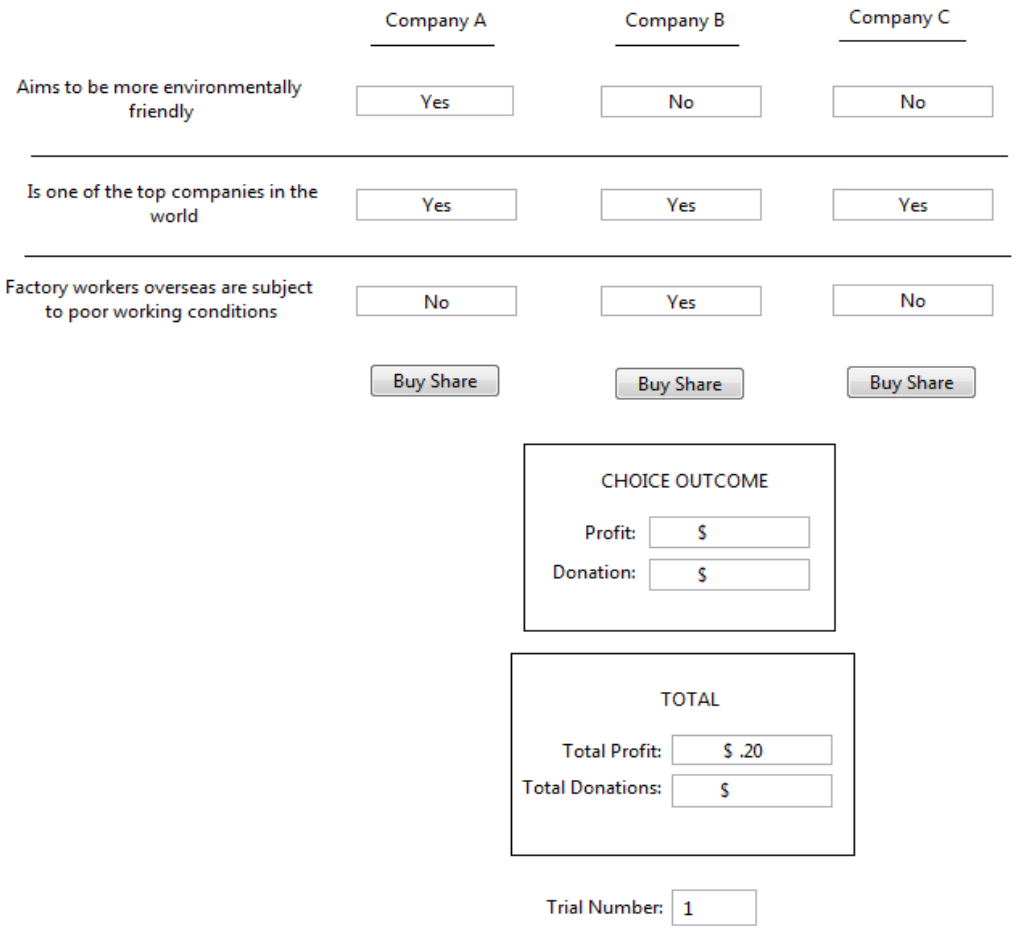


Figure 16. The schematics of the task for the buyers' condition. Yes/No indicates the association between the ethical (top, left), financial (middle, left), unethical (bottom, left) attributes and Companies A, B and C. Participants are forced to choose to buy/sell a share of Companies A, B or C. The CHOICE OUTCOME box indicates how much profit and donation amount the participant earned in the last trial and the TOTAL box shows the amount of profit and donation that had accumulated over the previous trials. The only difference for the sellers' condition was that the "Buy Share" button was labelled as "Sell Share".

Results

The level of internal consistency was not statistically different between buyers *(M* = .94, *SD* = .05) and sellers (*M* = .90, *SD* = .10), *t*(49.51) = 1.77, *p* = .08., *d* = .51. Internal consistency, when collapsed across role, was greater in Experiment 8 (*M* = .92, *SD* = .08) than in Experiment 7 (*M* = .88, *SD* = .08), *t*(111.84) = -2.55, *p* = .01, *d* = .50. Bayesian analysis also provided similar results with the internal consistency between buyers and sellers

in Experiment 7 showing evidence in favour of the null hypothesis, BF_{10} = .91, and the internal consistency between Experiment 7 and 8 showing substantial evidence in favour of the alternative hypothesis, BF_{10} = 3.68. As predicted, these results suggest that participants were more consistent in their responses when information about the companies' attributes were completely revealed compared to when costs were attached to revealing this information. Figure 17 displays the proportion in which ethical, conflicting and unethical decisions were made by buyers and sellers. Sellers made fewer ethical choices and more conflicting and unethical choices than buyers.

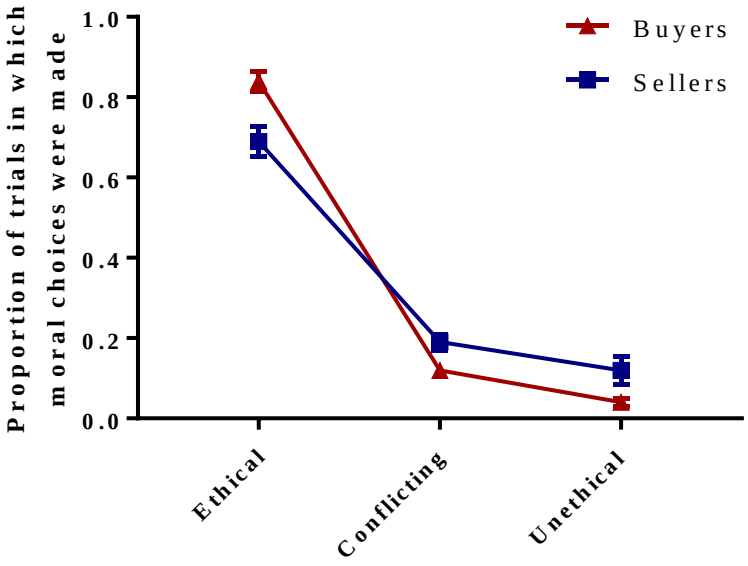


Figure 17. Experiment 8: The proportion of ethical, conflicting and unethical choices made by both buyers and sellers. Note that participants can only make one of these choices in a given trial. Thus, the proportion would sum to 1 by adding the proportion of ethical, conflicting and unethical decisions made. Error bars indicate ±1 standard error of the mean.

A mixed-effects logistic regression was performed with subjects having random intercepts and role as fixed effects to examine how the role of either being a buyer or a seller (coded as 0 and 1) affected making unethical or ethical (coded as 0 and 1) decisions. Similar to our previous experiment, the results revealed a significant negative effect, b = -1.34, Z = -

9.38, p <.001, indicating that the likelihood of making an ethical decision significantly decreased from buyers to sellers.

Additionally, another regression was performed to examine how role predicts financially rewarding behaviour (financially unrewarding decision = 0, financially rewarding decision = 1). The coefficient shows a positive relationship indicating that the likelihood of selecting profitable shares increased from buyers to sellers, b = 0.31, Z = 4.39, p <.001. See Figure 18 for the proportion of financially rewarding decisions made by buyers and sellers. Note that the results from the two regression models were robust even when including the excluded participants' data in the analysis. The likelihood of making an ethical decision decreased from buyers to sellers, b = -.77, Z = -7.92, p <.001, whereas the likelihood of making a financial rewarding decision increased from buyers to sellers, b = .21, Z = 2.82, p = .005.

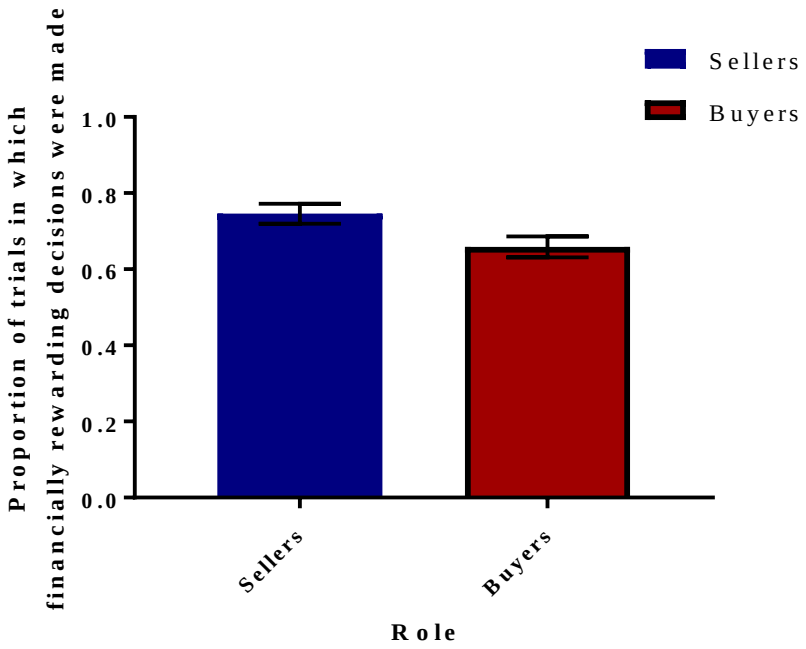


Figure 18. Experiment 8: The proportion of financially rewarding choices made by both buyers and sellers. Note that participants can only make one of these choices in a given trial. Error bars indicate ±1 standard error of the mean.

The direction of the relationship observed in these two models were consistent with the profit and donation amounts the traders accumulated in the task. Sellers made significantly more profit than buyers ($M_{sellers}$ = \$4.73, SD = .72; M_{buyers} = \$4.29, SD = .76), $t(59) = -2.29$, $p = .03$, $d = .59$, but also made significantly less donations than buyers ($M_{sellers}$ = \$1.93, SD = 1.24; M_{buyers} = \$2.61, SD = .58), $t(40.75) = 2.76$, $p = .009$, $d = .70$. These results were partially consistent with the results from the Bayesian analysis. Weak evidence was found in favour of the alternative hypothesis based on the profit earned between buyers and sellers, $BF_{10} = 2.27$. However, substantial evidence in favour of the alternative hypothesis was found for the difference in donations earned between buyers and sellers, $BF_{10} = 6.20$. Based on these results, the difference in the profit earned between buyers and sellers is ambiguous.

Discussion

The results from Experiment 8 provide stronger evidence to suggest that buyers have more motivation to make ethical decisions than sellers, whereas sellers have stronger desires to make profitable decisions than buyers. Furthermore, when comparing the results from Experiment 7 and 8 together, the buyers' willingness to make ethical choices seem to be more prominent when information about moral attributes is completely revealed compared to when buyers have the option to access this information (Ehrich & Irwirn, 2005).

Given the large attrition rate, one could suspect that these findings may have been influenced by the exclusion criteria imposed onto the participants. However, these effects were robust even when all the excluded participants' data had been included into the regression models. Overall, results from Experiment 8 help to address some of the limitations raised in Experiment 7. When people have perfect information about companies' attributes, evidence suggests that they can make decisions which are aligned with their goals with less error. The higher internal consistency in participants' responses in Experiment 8 than

Experiment 7 also supports this interpretation of the results. In other words, sellers may more consistently aim to maximize profit, whereas buyers more consistently aim to make ethical decisions when information associated with companies' attributes is not restricted.

Chapter 5
General Discussion: Why Goals Better Explain How People Buy and Sell Ethically and Unethically Perceived Goods than Ownership

General Discussion

This thesis aimed to shed light on the debate regarding whether ethics plays an important role in marketing and consumer behaviour (Carrigan & Attalla, 2001). To address this question, cognitive process theories relating to the endowment effect were used to generate predictions regarding how people might buy or sell goods associated with ethically and unethically perceived companies. These theories included the biased information processing account and the attribute sampling bias theory (Morewedge & Giblin, 2015). The biased information processing account predicted an endowment effect for both ethically and unethically perceived goods. This prediction was generated based on the biased information processing framework which shares much similarity with the query theory account of the endowment effect (Johnson et al., 2007). Both of these accounts assume that sellers will only focus on the positive, value increasing aspect of the good, whereas buyers will only focus on the negative, value decreasing aspect of the good. In contrast, the attribute sampling bias theory predicted an endowment effect for the ethically perceived good, but a reversal/elimination of the endowment effect for the unethically perceived good. These contrasting predictions were generated based on the notion that ownership would allow the sellers to consider both the positive attributes associated with the ethically perceived good and the negative attributes associated with the unethically perceived good (Morewedge & Giblin, 2015).

The results from Part 1 were not consistent with these theories. However, an alternative, modified version of the attribute sampling bias theory that takes into account people's goals instead of ownership, was introduced as a possible explanation for the obtained results. Indeed, previous studies on consumer behaviour have demonstrated the importance of goals when it comes to sampling information about ethical attributes associated with goods (Ehrich

& Irwin, 2015; Reczek, Irwin, Zane, & Ehrich, 2017). However, this type of research has mainly been focused on the buyers, not the sellers. Through the implementation of the process-orientated paradigm, (see Payne et al., 1993 for more details), this alternative theory was tested in Part 2 (Experiments 7 and 8). This general discussion summarizes the results obtained in this thesis. Furthermore, it aims to expand on why goals, rather than ownership, provide a better explanation of how people trade ethically and unethically perceived goods.

The results from Experiments 1 to 6 consistently show that sellers are less affected by the ethical status of the companies associated with the mugs and are less sensitive to the moral implications of their decisions than buyers. Additionally, Experiment 1 and 2 indicates that participants may find it difficult to conceptualize the good as being brand new when it has been hypothetically given to them from another person (e.g., a company employee). As a result, sellers would consistently sell below the provided market price, similar to how people would sell in online auction websites. Furthermore, when the market price is not provided, sellers would still ignore the ethical status of the good (Experiment 2). This outcome suggests that when people are given fewer clues about the market environment (i.e., the market price), they would focus on the functional utility of the good (i.e., the mug can be used to drink coffee or tea) to set their selling price.

Experiment 3 also shows that even in hypothetical situations where people's trades have moral consequences (i.e., companies associated with the good financially benefiting from the trade), the moral asymmetry between buyers and sellers is observed. Experiment 4 and 5 replicates these effects in incentivized experimental settings in which the BDM valuation procedure is used or when the traders' decisions are genuinely, morally accountable. These two experiments also show that the endowment effect can be more frequently observed in morally neutral (control) conditions when the experiment is incentivized and a real good is

used for the trade compared to experiments based on hypothetical scenario questions. Although many studies which have used hypothetical scenarios for their valuation tasks have replicated the endowment effect (Horowitz & McConnell, 2002), given that only the incentivized experiments in this thesis were able find the endowment effect, more research should be done to examine the types of experimental conditions in which the endowment effect can be found.

In the interest of further investigation, future research could examine whether the levels of transaction demand differ between hypothetical and incentivized experiments. Mandel (2002) found that higher motivation to complete a transaction (i.e., higher willingness to sell or buy) can decrease the endowment effect. As incentivized endowment effect experiments usually allow the participants to examine the target good, sellers' transaction demand (i.e., motivation to sell) may decrease as being able to see and touch the object may increase one's attachment towards the good. Indeed, previous studies have shown that touching the object leads to an increase in perceived ownership and that this increase in perceived ownership leads to higher valuations (Peck & Shu, 2009). Although touch can also increase buyer's valuation of the good (Peck & Shu, 2009, the results from Part 1 suggest that being able to examine the target good may affect sellers' transaction demand more than the buyers'.

Results from Experiment 6 indicate that the moral asymmetry between buyers and sellers can be generalized to other types of goods, such as shares. Collectively, these results suggest that buyers and sellers have different goals which they aim to attain. Sellers aim to act in accordance with the market environment to maximize their earning potential. In contrast, buyers aim to act in accordance with their moral values.

Results from Experiment 7 and 8 also provide more evidence to support the assumption that buyers and sellers have different goals using a different methodological approach.

Furthermore, these experiments highlight the importance of the participants having complete information about the ethical and financial attributes associated with companies (Ehrich & Irwin, 2005; Reczek et al., 2017) when trading shares. By implementing a process-orientated approach, results from Experiment 7 show that buyers are more likely than sellers to utilize information associated with companies' ethical and unethical attributes to make ethical decisions. Experiment 8 also shows that when traders have complete information about companies' financial and moral attributes, buyers are more likely to make ethical decisions than sellers, whereas sellers are more likely to make financially rewarding decision than buyers. Overall, these results from Experiment 7 and 8 indicate that the differences in goals between buyers and sellers can be more clearly demonstrated when traders have full knowledge about the shares that they are trading compared to when they do not have complete information.

Cognitive-process Accounts of the Endowment Effect

Initially, two different predictions were generated based on the interpretation of the biased information processing account and attribute sampling bias theory (Morewedge & Giblin, 2015). Both of these accounts predict that sellers and buyers will be affected by the ethicality of a company associated with the good. In other words, buyer and sellers will value the unethically perceived good lower than the ethically perceived good. However, the degree to which sellers would be affected by the moral aspect of the good drastically differs between these two theories.

The attribute sampling bias theory predicts that sellers would value the unethically perceived good much less compared to what the biased information processing account predicts due to sellers being influenced by ownership. As ownership is expected to increase the awareness of both negative and positive aspects of the good (Shu & Peck, 2011), the

attribute sampling bias theory predicts that the selling price for the unethically perceived good to be lower than or similar to the buying price, resulting in a reversal/elimination of the endowment effect. For example, owners may not want to keep the unethically perceived good as it may threaten their moral identity (see Tetlock et al., 2000, for more details regarding moral cleansing). In contrast, the biased information processing account predicts an endowment effect for both ethically and unethically perceived goods due to ownership not being taken into account (see Figure 1 for more details).

The results from Part 1 do not completely map onto either the biased information processing account nor the attribute sampling bias theory. Although buyers behave in accordance with these two accounts, sellers behave in contradiction to what these two accounts predict. Consistent with previous findings based on surveys (Elliot & Freeman, 2003) and field studies (Hainmnueller et al., 2015), buyers tend to value the ethically perceived good more highly than the unethically perceived good. This result suggests that buyers access information pertaining to the moral aspect of the good to make ethical decisions. As a result, the buyers' tendency to behave more ethically than sellers seem to reduce the WTP-WTA gap. The sellers, however, seem to be relatively unfazed by the ethical status of the good, hence, their WTA prices vary less across the different branded mugs compared to the buyers. This result suggests that contrary to the biased information processing account, sellers do not access information associated with the moral aspect of the good. Moreover, in contradiction to the attribute sampling bias theory, ownership does not seem to increase the sellers' motivation to access information pertaining to the moral aspect of the good. Ownership having no effect is clearly evident as a reversal/elimination of the endowment effect for the unethically perceived good was not found.

As mentioned in the discussion in Part 1, the biased information processing account cannot explain the observed results because it predicts an endowment effect for both bads and goods. However, the initially proposed attribute sampling bias theory could be modified to explain the results obtained from Part 1. Rather than valuations being influenced by ownership, evidence suggests that buyers and sellers have different underlying priorities when trading goods that differ in moral valence. Note that similar inferences have previously been made, especially in regards to how mood can influence people's priorities when buying or selling goods (Liberman, Idson, Camacho, & Higgins, 1999, Cryder et al., 2008). In the case for the experiments in this thesis, buyers aim to make ethical consumer decisions, whereas sellers aim to maximize profit by relying on the market environment (i.e., the market price). When the market price is absent, sellers may consider the functional utility of the good to determine their price.

Although the attribute sampling bias theory mainly focuses on ownership to explain the endowment effect and other trading patterns, alternative endogenous frames (i.e., goals) have also been suggested to explain various market behaviours (Morewedge & Giblin, 2015). Results from Part 2 supports this assumption. Experiment 7 shows that buyers are more likely than sellers to utilize information associated with companies' ethical and unethical attributes to make ethical decisions. Experiment 8 shows that when people are given perfect information about companies moral and financial attributes, buyers are more likely to make ethical investment decisions than sellers making ethical divestment decisions. Furthermore, sellers are more likely to make financially rewarding decisions than buyers when provided with full information about the shares that they are trading.

Overall, the results from Part 1 and 2 support the main underlying assumption of the cognitive process accounts: that buyers and sellers focus on different information about the

good resulting in different valuations. However, the information that the traders sample regarding ethically associated goods seem to not simply relate to the influence of exogenous and endogenous frames of selling and buying, or ownership. Rather, goals seem to have a stronger influence than ownership in situations in which endogenous frames are in conflict with each other. An important follow-up question would then be: how are different goals generated between buyers and sellers when trading ethically and unethically perceived goods?

Why do Sellers and Buyers have Different Goals?

Evidence from Part 1 and 2 indicates that the sellers' goal is to maximize profit by relying on the market environment, whereas the buyers' goal is to behave in an ethical manner due to social demands. One possible explanation for why buyers and sellers have different goals may be contributed by the difference in the degree of control buyers and sellers have when trading goods. As a seller, the primary objective is to sell the good for maximum profit as the amount earned determines the utility they received from the trade. However, the degree of control over the selling prices for ethically and unethically perceived goods may be constrained by the market environment for the sellers to stay competitive (Simonson & Drolet, 2004). By being competitive, sellers are optimizing their chances to sell the product without making potential losses.

In contrast, buyers' valuations may be more subjective (Simonson & Drolet, 2004). The utility one receives from buying ethically associated goods may be higher than from buying unethically associated goods in relation to how morally good they feel from the purchase (Andreoni, 1989). This *warm-glow* effect is a result of impure altruism, as opposed to pure altruism, as people personally benefit from the transaction. Alternatively, the motivation for buyers to behave morally could also have been due to social demands or impression

management whereby buyers are willing to pay more for ethically perceived goods to prevent damaging their self-moral image (Mazar et al., 2008). Indeed, when people contemplate about making a taboo-trade off decision (i.e., trading moral values for money), they may engage in ethical behaviour to reaffirm their moral status within their community (Tetlock, Kristel, Elson, Green & Lerner, 2000). In either case, the evidence of moral hypocrisy shown in buyers indicates that their motivation for behaving ethically may have been altruistically impure.

Another area of research which could help explain buyers' contradictory behaviour, relates to previous studies which have focused on how consumers sample information about products' ethical attributes. These studies have found that participants who are tasked with requesting information about a product make less use of the ethical information than those who are given complete information about the products (Ehrich & Irwin, 2005). This counterintuitive behaviour has also been demonstrated in medical research where people who have certain genes which increase the chance of breast cancer (Bieseker, et al., 2000) or have previously experienced false positive results (Kahn & Luce, 2003; Luce & Kahn, 1999), tend to not seek test information as it can invoke negative emotions.

Based on such findings, Ehrich and Irwin (2005) proposed that consumers tend to be "wilfully ignorant" about ethical information associated with products to prevent themselves from confronting stressful, trade-off situations where they might have to sacrifice quality or aesthetics over making an ethical choice. In support of this claim, these authors also found that people who have more ethical concerns tend to request less ethical information about the product than those who have less ethical concerns. Although the results from Experiment 7 and 8 cannot confirm whether the buyers were actually behaving wilfully ignorant, the results were consistent with the previous finding which show that having the option to request for

ethical information products leads to less ethical choices being made (Ehrich & Irwin, 2005). Specifically, the results from Experiment 7 and 8 together show that buyers' willingness to make ethical decisions tend to be more prominent when information about the shares' moral attributes are completely revealed compared to when obtaining this information is optional.

The Distinction between Ethical Status and Valence

People's buying patterns indicates that the ethically and unethically associated goods can be defined more broadly in relation to the valence of the good. Specifically, people's willingness to pay less for unethically perceived goods than ethically perceived goods indicates that these goods can be categorized as 'bads' and 'goods', respectively. However, similar selling prices for ethically and unethically associated goods also indicate that the valence in relation to the goods' ethical status can also be ignored, especially by the sellers. This evidence contradicts previous studies which demonstrate a reversal/elimination of the endowment effect for bads which have no moral association (Brenner et al., 2007; Shu & Peck, 2011). Consequently, this contradiction suggests that morally related goods may be treated differently to non-morally related goods.

One possible reason for why people may treat morally related and non-morally related goods and bads differently, could be due to the differences in their functionality. Non-morally related bads generally tend to be undesirable due to their functionality being less than optimal such as by making the grip of a pen sticky (Shu & Peck, 2011). Setting a high selling price for such goods may not be possible as consumers could easily recognize the goods' flaws. In contrast, the functionality of morally associated bads remains the same. For instance, the mug being associated with a cigarette company does not have any effect on its functional use. Through processing information akin to confirmatory hypothesis testing (Morewedge & Giblin, 2015), in which sellers focus on the goods' functionality while ignoring its moral

association, unethically perceived goods could be sold for a higher price than less functional goods.

Nayakankuppam and Mishra (2005) also found results which supports the idea that sellers are more resistant to differentiating the valence of the good than buyers. They found that in comparison to the buyers, sellers will be better at recalling positive attributes than negative attributes of a good. In other words, sellers are more biased towards valuating a good more highly than buyers. As a result, in a between-subjects design where sellers are given either a better pen or a lesser pen, in which the quality of both pens are not assessable, the selling prices for these pens were almost identical. However, when using a within-subjects design, in which comparisons can be made between these pens, sellers were willing to sell the worse pen for less than the better pen.

Overall, the results from Nayakankuppam and Mishra (2005) and the results from this thesis both indicate that sellers are more prone than buyers to rely on the functionality of the good to set their selling price. As pens with or without a better design serve the same function, similar selling prices are elicited. This result is also shown with ethically and unethically associated mugs in Experiments 1 to 5. However, when the valence of these pens are compared (i.e., where one can assess which pen looks to be of higher quality), their selling prices become different. Finding a price difference between people's WTA for ethically and unethically perceived good using a similar, within-subjects design would further demonstrate that only when direct comparisons are available across such goods would seller focus on the moral aspect of the good.

Sacred vs Secular Goods

The results from the experiments in Part 1 show that people are willing to sell unethically associated goods for financial gain. Moreover, Experiment 5 in particular

demonstrates this behaviour even when the participants are explicitly told that these trades may have unethical consequences (i.e., Marlboro making a profit). This type of trading behaviour can be considered a *taboo trade-off* as people are willing to trade their moral values for secular values (i.e., money). Studies which have shown that people are willing to trade counterfeit goods (Cole, 1989; Cox, Cox, & Moschis, 1990; Eisend & Schuchert-Güler, 2006) or are willing to lie for money (Hilbig & Thielmann, 2017) also provide evidence for people engaging in taboo trade-offs.

This behaviour may come across as a challenge to the idea that people have *protected* or *sacred* values. Baron and Spranca (1997) have argued that protected values are expressed as *deontological rules*; the perspective in which the means of an action do not justify the ends. To demonstrate this, Ritov and Baron (1999) developed a trade-off scenario where opening a dam will kill two species of fish whereas not opening the dam will kill 20 species. Participants who had protected values for fish species were less likely to open the dam, thus displaying *quantity insensitivity*. Research in sacred values has also shown similar findings where people tend to provide valuations that are extremely high when asked to appraise an object endowed by the closest of kin or friend (McGraw et al., 2003).

However, previous research to some extent has also shown that people are morally *flexible* when it comes to *tragic* trade-offs: situations where sacred values are traded with other sacred values (Bartels, Bauman Cushman, Pizarro, & McGraw, 2015). For instance, moral outrage is not as severe when participants are given a scenario where an agent has two children who are in need of an organ transplant but can only choose one child to get the operation (Tetlock et al., 2000). McGraw and Tetlock (2005), also found that moral outrage can be partially mitigated when taboo trade-offs can be explained in a way that it invokes other moral values such as reciprocity to be the cause of it. For example, when participants

were provided with a scenario in which the Clinton administration allowed large contributors to their campaign to stay in the Lincoln bedroom of the White House, they reacted with moral outrage. However, when they were also provided with an explanation that Bill Clinton was reciprocating favors for a friend, then the moral outrage expressed was mitigated by the Clinton supporters, but not by non-Clinton supporters.

Research in both sacred and protected values provides a detailed account of how people would behave when moral values are threatened. In most cases, people tend to show aversive reactions when confronted with taboo trade-offs (Tetlock et al. 2000). This area of research also provides some insights as to how sacred values can be exchanged in a partially permissible way. However, findings from this thesis challenges the notion that protected or sacred values cannot be exchanged for secular values such as monetary values. Specifically, evidence for sacred values would imply that having ownership of unethically associated goods (goods that are morally tainted) would be met with *moral cleansing* (i.e., the good being thrown out or being sold at the lowest price possible). However, the results show that in a market environment, sellers are willing to engage in taboo trade-offs.

One possible explanation for why people tend to more readily engage in taboo trade-offs in the experiments in this thesis could be due to the framing of the question (Bartels & Medin, 2007). Asking participants for a value in the context of trading may shift their attention to the net benefit of the trade rather than its moral implications. Connolly and Reb (2003) have also found that people are much more accepting in sacrificing their protected values when using a slightly different version of Ritov and Baron's (1999) scenario. In this scenario participants have to indicate yes or no to killing X number of fish species to save 20 fish species based on a list in which the number of fish species sacrificed is increased incrementally. This approach is similar to the price elicitation task in Experiment 4 where

participants have to indicate whether they would trade or not trade based on a price list that ranged between $0 and $20 in $1 increments. Framing the question this way may encourage participants to be more utilitarian in their answer, whereas directly asking participants whether they would trade goods associated with unethical companies may encourage participants to be more deontological in their response.

Limitations and Future Directions

This thesis aimed to apply cognitive process based theories to explain how people might trade ethically and unethically perceived goods. Although contrasting predictions were generated based on the interpretation of the biased information processing account and the attribute sampling bias theory, the results in Part 1 did not fit with either of these theories. An alternative explanation for this outcome, besides these theories failing to explain how people trade ethically and unethically perceived goods, is that these two accounts could not be generalized to goods with different moral valence. This explanation seems plausible given that the biased information processing account and the attribute sampling bias theory were initially developed to explain why various trading patterns could be observed for goods and bads with no moral associations.

Furthermore, the results from Part 1 suggest that people's trading behaviour for ethically associated goods is even more complex than how people trade non-morally associated goods as buyers and sellers can focus on different types of attributes. Specifically, the results indicate that buyers tend to focus more on moral attributes, whereas sellers tend to focus more on functional utility based attributes of the good. Nevertheless, this thesis was able to present novel findings for goods which had yet to be empirically tested. Moreover, Part 2 of this thesis provided an alternative hypothesis based on the observed results, proposing that goals rather than ownership play a more significant role when trading ethically associated

goods. This alternative hypothesis was tested in Part 2. Following on from this thesis, this section provides additional ways to more robustly test whether goals can better account for how people trade ethically associated goods than ownership.

One potential limitation of Experiments 1 to 6 relates to the inducement of ownership or psychological ownership in the endowment effect paradigm. Although in all of our experiments, sellers were told to assume that they owned the target good, our results suggest that sellers were not particularly influenced by the attributes that are associated with ownership (i.e., associating oneself with the brand). One possibility as to why the sellers showed no attachment towards the goods could have been due to the trades being based on hypothetical scenarios (Experiments 1 to 3 and 6) or not being able to provide all the participants with a binding trade (Experiments 4 to 5). Thus, ownership may not have been as salient as previous endowment effect studies or the sellers may have thought that the mug was not theirs to own. An experiment which controls for these aspects could test whether not having attachment towards the good influenced the sellers to not consider the moral aspect of the good.

Another aspect which could have influenced people's buying and selling behaviour relates to the participants being told about the market price of the good. Although the market price was included to increase the ecological validity of the valuation task, knowing about the market price could have also led to a ceiling effect. For instance, sellers may not be willing to sell above the market price as it could decrease their chances of making a trade (profit). Buyers may also not be willing to pay above or close to the market price as they could potentially buy the same good for cheaper from different source (Simonson & Drolet, 2004).

Experiment 2 also indicated that on average, providing the market price reduces the traders' valuations of the good. However, when looking at the means across the different mug

conditions, the price differences between the market price absent and present conditions were only noticeable for the control conditions. In contrast, the prices for the WWF and Marlboro mugs stayed relatively similar between these two conditions (see Figure 4 for the mean evaluations). This result suggests that providing the market price had little to no effect on the valuations of WWF and Marlboro mugs. Nevertheless, a more robust examination could be conducted by rerunning the incentivized Experiments 4 and 5 without the presence of the market price. Replicating the previous results would indicate that the market price had minimal effect on people's market behaviour for these goods.

The other concern relates to the participants being explicitly told about the ethical status of the companies associated with the good. Although the ethical and unethical aspects of WWF and Marlboro were highlighted to make the ethical status of these companies more salient, this additional information could also have led to a demand effect. For instance, by mentioning that cigarettes cause harm to people, this statement could have led the participants to think that providing a lower price for the Marlboro mug would be the 'correct' choice to make.

The results for Experiment 1, however showed no price differences between the explicit and implicit conditions in which the information about the companies' ethical status was manipulated (see Figure 2 for the mean evaluations). This result indicates that providing explicit information about the companies' ethical status had similar effects to those participants that only received basic information about these companies (i.e., Marlboro is a popular cigarette brand). Furthermore, sellers seem to not at all be affected by this potential demand characteristic as their selling prices remain constant across the different mug conditions. Although the obtained pattern of results being influenced by this potential demand characteristic seem unlikely, one might argue that the presence of the market price

could also have acted as a demand characteristic which specifically targeted the sellers. By replicating the results without the presence of the market price and without providing additional information about the ethical aspects of these companies, it would be possible to rule out these alternative explanations.

In regards to Experiment 7 and 8, more effort could have been put to reduce the attrition rate of the participants. Loops could have been added into the programming of the task so that participants who failed the multiple choice comprehension question would start again from the beginning of the task where they would have to read the instructions a second time. However, this approach is also not perfect as participants who have been sent to the beginning of the task may feel frustrated, thus performing worse or not take the task seriously.

A better alternative may have been to develop an experiment with a simpler procedure to reduce the complexity of the task. Although choosing which companies' shares to buy or sell may be considered to be an easy task, the way in which ethical and unethical decisions are operationalized may not have been easy to conceptualize. Based on the previous shares experiments conducted in this thesis, complexity seems more pronounced when using a forced-choice paradigm compared to a price elicitation task. This is clearly evident from the high attrition rate shown in Experiment 8. Many participants failed to answer the comprehension question designed to test the understanding of how selling or buying unethical companies' shares could lead to morally good or bad outcomes.

By incorporating the price elicitation task from Experiment 6 and the information processing aspect from Experiment 7, the complexity of the task could be reduced. In this proposed experiment, which follows similarly to the design implemented by Konstantinidis, van Ravenzwaaij, and Newell (2017), participants would provide a WTP/WTA price for a

single company's share in each trial. The company's ethical, unethical and financial attributes would also differ across each trial. Limitations regarding participants having imperfect information could be addressed by measuring the time participants looked at the information pertaining to the attributes. Furthermore, restrictions could be made so that participants can only move on to the next trial after each attribute has been looked at. The order in which the participants looked at the attributes could also be measured to examine how the participants prioritised acquiring different types of information.

Through this alternative procedure, it may be possible to determine which attribute participants placed the most emphasis on when sampling information about companies' ethical and financial status prior to making a valuation judgement. Based on the results from Experiment 8, it is predicted that sellers would attend more to the financial attribute compared to the moral attributes. In contrast, buyers would attend more to the moral attributes compared to the financial attributes. The prices participants elicit should more strongly reflect the attributes buyers and sellers attended to the most.

A recent investigation into bads using the exchange paradigm has shown that when people are endowed with an incentivized task that is unpleasant to do (i.e., a bad), they tend to stick with the endowed task rather than switching for another equally unpleasant task (Dertwinkel-Kalt & Köhler, 2016). This challenges the reversal of the endowment effect previously found for bads (Brenner et al., 2007), in which only hypothetical scenarios were used. Although our results support the endowment effect being observed for bads, our explanation for it is different to the explanation provided by Dertwinkel and Köhler (2016).

These authors suggest that the endowment effect for bads is due to loss aversion. However, this thesis provides a different argument that is in accordance with the modified version of the attribute sampling bias theory, sellers and buyers may focus on goal-consistent

attributes to determine the value of a good. Moreover, it could also be argued that in the incentivized exchange paradigm used by Dertwinkel-Kalt and Köhler (2016), participants were also aiming to achieve their goal (finishing the task as soon as they can). For instance, participants may have thought that switching to another task could potentially extend the duration of the task, even if in reality, it made little difference.

One approach to disentangling the effects of ownership and goals would be to remove the ownership component from the task. Morewedge and colleagues (2009) used a strategy where they asked the participants to act as brokers in which their task was to buy or sell a good on behalf of another participant. Due to the participants being brokers, they had no ownership of the good. By comparing the conditions in which the participants have or do not have ownership of the good, the magnitude of the effect of ownership can be measured.

Although there is no clear way in which this broker approach could be transferred to the exchange paradigm, as the endowment of the bad (menial task) cannot be avoided, this strategy could still be applied to the endowment effect experiments conducted in this thesis. If the previous pattern of results drastically changes as a result of the ownership component being removed, this outcome would indicate that ownership had a significant influence on the buyers' and sellers' trading behaviour. However, if the results are not affected, then this outcome would provide more evidence to suggest that the difference in goals between buyers and sellers had a significant contribution to observing the previous effects, not ownership.

Lastly, further investigation is required to assess the generalizability of the results obtained in this thesis. The results from this thesis indicates that sellers aim to maximize their potential earnings by relying on environmental (i.e., the market price) and/or internal (functional utility of the good) cues to set their selling price. In contrast, buyers aim to behave

more ethically by assessing the moral valence of the good. Consequently, the buyers' prices are much more subjective than the sellers (Simonson & Drolet, 2004).

The difference in goals or aims could be explained by the amount of control buyers and sellers have in a market setting. Sellers' prices are dictated by the market environment as their most optimal selling price is determined by the market price of the good. Sellers aim to sell the good in accordance with the market environment as it is the best strategy to minimize loss and maximize gain. Buyers, on the other hand, have much more freedom in how and what they might like to purchase. Specifically, the WTP prices seem to strongly correlate with the perceived utility the good might bring to the buyer. For instance, buying ethically perceived goods allows the buyers to promote their own self-moral image (Mazar et al., 2008) or self-satisfaction (Andreoni, 1989). Indeed, previous studies based on lotteries indicate that sellers are more accurate in evaluating the actual price of a good than buyers (Yechiam et al., 2017).

To test the generalizability of the results from this thesis, others goods which can be located on the far ends of the valence spectrum could be used. For example, looking at how people would trade super luxury items (positive) or expensive, illicit goods such as guns or drugs (negative) could test the robustness of the patterns observed in this thesis. It is predicted that, when a reference price is provided and the good is perceived to be brand new, the sellers' prices for such goods will be similar to its market price. In contrast, the buyers would provide much higher prices for goods with positive valence than negative valence as the perceived utility for the positive valence goods will be much higher than negative valence goods.

Conclusion

The debate regarding the role of ethics in the marketplace is still ongoing with some studies indicating that ethics plays an important role (Hainmueller et al., 2015), whereas others suggesting the opposite (De Pelsmacker et al., 2005; Auger & Devinney, 2007). The results obtained from this thesis provides answers which partially agrees with both perspectives. The results consistently show that for the sellers, ethics is not as important as making money or not 'losing out' on the trade. This is evident from the way in which sellers rely on external cues (i.e., the functional utility of the good or the market price) in making their valuations.

In contrast, the buyers' valuations resemble how an ethical consumer would behave as they are willing to pay more for an ethically perceived good than an unethically perceived good. The shares experiments also provide a similar account in which buyers are more likely than sellers to utilize information pertaining to the companies' ethical and unethical attributes to make ethical trading decisions. However, the intentions regarding why buyers would behave ethically seems to be morally questionable as buyers also show a willingness to profit from selling unethically perceived goods when given this opportunity. This evidence of moral hypocrisy suggests that the buyers' intentions to behave ethically were altruistically impure (for their own benefit) which could have been driven by the warm-glow effect (Andreoni, 1989) or for protecting their self-moral image (Mazar et al., 2008). In other words, consumers may tend to behave ethically, but for the wrong reasons.

Appendix A

Pilot Study 1

Heard of (1 = Yes, 2 = No)			
Organisations	MEAN	SD	N
Greenpeace	1.09	0.30	32
WWF	1.03	0.18	32
Conservation Int.	1.71	0.46	31
Forest Stewardship Council	1.90	0.30	31
Rainforest Alliance	1.53	0.51	32
Unicef	1.00	0.00	32
Oxfam	1.06	0.25	32
Childfund	1.58	0.50	31
World Food Program	1.42	0.50	31
Cancer Society	1.48	0.51	31
BP	1.09	0.30	32
Chevron (Caltex)	1.09	0.30	32
Shell	1.03	0.18	32
Mobil	1.13	0.34	32
Philip Morris International (Marlboro)	1.19	0.40	32
British American Tobacco (Dunhill)	1.44	0.50	32
Imperial Tobacco (Davidoff)	1.53	0.51	32

Most want to donate to		
Organisations	Frequency	%
Greenpeace	1	3.1
WWF	14	43.8
Unicef	7	21.9
Oxfam	6	18.8
World Food Program	2	6.3
Cancer Society	2	6.3

Note: N = 32

Least want to consume from		
Companies	Frequency	%
BP	1	3.3
Chevron (Caltex)	1	3.3
Shell	3	10.0
PMI (Marlboro)	13	43.3
BAT (Dunhill)	6	20.0
IT (Davidoff)	6	20.0

Note: N = 30

Appendix B

Experiment 1

Below we have described a hypothetical scenario in which you have to make a decision about a consumer good. Please read the scenario carefully and provide an honest and accurate answer.

WWF Mug Buyer's Scenario

Imagine that someone who works at World Wildlife Fund*(*) (WWF) is selling a new, collectable WWF merchandise mug. The market price for this mug is $10. If you were to consider buying this mug, what would be the highest price you would buy this mug for? Please write the price below.

*WWF is an international non-governmental organization that does work for the environment.

** WWF is an international non-governmental organization that helps to prevent harm to the environment by working on issues such as conservation, research and restoration of the environment.

Note: *Implicit Condition; **Explicit Condition

Marlboro Mug Seller's Scenario

Imagine that you've been given a new, collectable Marlboro*(*) merchandise mug from a person who works at that company and now you own it. The market price for this mug is $10. If you were to consider selling this mug, what would be the lowest price you would sell this mug for? Please type in the price below.

* Marlboro is one of the most popular cigarette brands in the world.

**Marlboro is one of the most popular cigarette brands in the world. Note that cigarettes are addictive, cause harm to humans and are responsible for millions of deaths every year.

Note: *Implicit Condition; **Explicit Condition

Experiment 2

Note: In Experiment 2, the explicit condition scenarios from Experiment 1 were used. The market price was either provided or not provided to the participants in Experiment 2.

Experiment 3

Below we have described a hypothetical scenario in which you have to make a decision about a consumer good. Please read the scenario carefully and provide an honest and accurate answer.

WWF Mug Seller's Scenario

Imagine that you work for World Wildlife Fund* (WWF) and you have been given an opportunity to sell a **new**, collectable WWF merchandise mug. The market price for this mug is $10. As compensation, WWF will give you 50% of the profit. The other 50% will go to WWF. If you were to consider selling this mug, what would be the lowest price you would sell this mug for? Please type in the price below.

*WWF is an international non-governmental organization that helps to prevent harm to the environment by working on issues such as conservation, research and restoration of the environment.

Marlboro Mug Buyer's Scenario

Imagine that someone who works for Marlboro* is selling a **new**, collectable Marlboro merchandise mug. The market price for this mug is $10. You know that 50% of the profit will go to Marlboro. The other 50% will be compensated to the employee. If you were to consider buying this mug, what would be the highest price you would buy this mug for? Please type in the price below.

*Marlboro is one of the most popular cigarette brands in the world. Note that cigarettes are addictive, cause harm to humans and are responsible for millions of deaths every year.

Experiment 4

World Wildlife Fund

T2 (Control)

Marlboro

Practice trials

Prior to the actual task, participants were given two practice trials. First, participants were given a real Marlboro, T2 or a WWF mug and were ask to examine it carefully. Buyers/choosers were asked to assume that they were potential buyers of this new mug, and sellers were asked to assume that they were owners/potential sellers of this new mug. They were then given the valuation task. Buyer/choosers had to indicate whether they would prefer to buy (i.e., receive the mug) or not buy (i.e., receive money instead) the mug for each of the corresponding amount shown on the price list. Sellers had to indicate whether they would prefer to sell (receive the money) or not sell the mug (keep the mug) for each of the corresponding amounts. After the participants had given their responses, they had to answer two questions asking whether they would receive the mug or receive the money based on two different market prices. They were then given feedback as to whether they had answered each of the questions correctly. In the second practice trial, participants were again given a similar practice trial as the previous trial, but they had to provide answers based on three different market prices. No feedback was given and participants had to answer all three questions correctly for their data not to be excluded in the analysis.

WWF Mug Buying Task

Please assume that you are a **potential buyer** of a **brand new** mug that is placed in front of you. Please **examine** the mug carefully and make sure to identify the brand of the mug. **The retail price for this mug is $10.** For each of the amounts of money listed below please indicate whether you would **prefer to buy the mug (i.e., receive the mug) or not buy the mug (i.e., receive the money instead of the mug)** by ticking the box corresponding to your preference. You must tick **one** of the two options for each price.

Note: World Wildlife Fund (WWF) is an international non-governmental organization that helps to prevent harm to the environment by working on issues such as conservation, research and restoration of the environment.

	I will buy the mug	I will **not** buy the mug
At a price of $0	○	○
At a price of $1	○	○
At a price of $2	○	○
At a price of $3	○	○
At a price of $4	○	○
At a price of $5	○	○
At a price of $6	○	○
At a price of $7	○	○
At a price of $8	○	○
At a price of $9	○	○
At a price of $10	○	○
At a price of $11	○	○
At a price of $12	○	○
At a price of $13	○	○
At a price of $14	○	○
At a price of $15	○	○
At a price of $16	○	○
At a price of $17	○	○
At a price of $18	○	○
At a price of $19	○	○
At a price of $20	○	○

Marlboro Mug Selling Task

Please assume that you are a **owner/potential seller** of a **brand new** mug that is placed in front of you. Please **examine** the mug carefully and make sure to identify the brand of the mug. **The retail price for this mug is $10.** For each of the amounts of money listed below please indicate whether you would **prefer to sell the mug (i.e., trade the mug for money) or not sell the mug (i.e., keep the mug)** by ticking the box corresponding to your preference. You must tick **one** of the two options for each price.

Note: Marlboro is one of the most popular cigarette brands in the world. Cigarettes are addictive, cause harm to humans and are responsible for millions of deaths every year.

	I will sell the mug	I will **not** sell the mug
At a price of $0	○	○
At a price of $1	○	○
At a price of $2	○	○
At a price of $3	○	○
At a price of $4	○	○
At a price of $5	○	○
At a price of $6	○	○
At a price of $7	○	○
At a price of $8	○	○
At a price of $9	○	○
At a price of $10	○	○
At a price of $11	○	○
At a price of $12	○	○
At a price of $13	○	○
At a price of $14	○	○
At a price of $15	○	○
At a price of $16	○	○
At a price of $17	○	○
At a price of $18	○	○
At a price of $19	○	○
At a price of $20	○	○

Experiment 5

Practice Trials

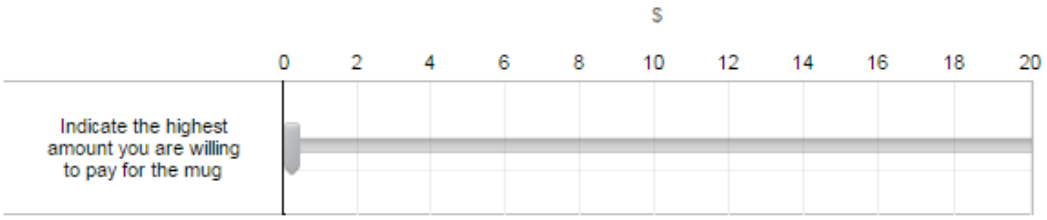
Participants were given three multiple choice questions to help and test their understanding of the valuation procedure. In the first two practice questions, participants were provided with scenarios where a hypothetical buyer or a seller of the mug had indicated their WTP/WTA to be $0 and $20. The participants had to choose from multiple choice answers what the outcome of the trade will be based on these two prices. Participants were then given feedback as to whether they got the answers correct or incorrect for each question. For the last practice question, participants had to correctly answer what the outcome of the trade will be if the hypothetical buyer or seller indicated their WTP/WTA as $10. If they got these questions wrong, their data were excluded from the analysis. The first two prices ($0 and $20) were counterbalanced and the multiple choice answers were randomized.

Marlboro Mug Buying Task

Please assume that **you have $20** and you can spend that money to buy the **new** mug that is in front of you. Please examine the mug carefully and make sure to identify the brand of the mug. **The retail price for this mug is $10.** Please indicate the highest amount you would be willing to pay for the mug by using the slider.

Reminder: If you have been preselected for your response to be binding, you will really **receive the mug if you decide to buy the mug. You will also get the amount that is left over.** However, the amount you get will depend on your response. Furthermore, **50% of the amount of what you are willing to pay to buy the mug will go to the fund that will be used for buying the same branded goods from the company associated with the mug.**

Note: Marlboro is one of the most popular cigarette brands in the world. Cigarettes are addictive, cause harm to humans and are responsible for millions of deaths every year.

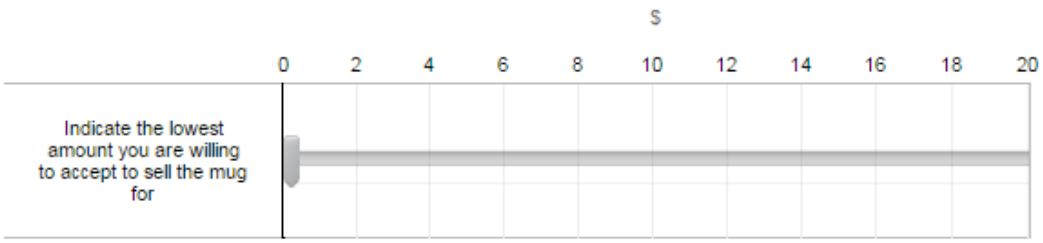


WWF Mug Selling Task

Please assume that you **own the new mug** that is in front of you and you can sell it to earn money. Please examine the mug carefully and make sure to identify the brand of the mug. **The retail price for this mug is $10.** Please indicate the lowest amount you would be willing to accept to sell the mug by using the slider.

Reminder: If you have been randomly preselected for your response to be binding, you will really **receive the money if you decide to sell the mug.** However, the amount you get would depend on your response. Furthermore, **50% of the amount of what you are willing to accept to sell the mug will go to the fund that will be used for buying the same branded goods from the company associated with the mug.**

Note: World Wildlife Fund (WWF) is an international non-governmental organization that helps to prevent harm to the environment by working on issues such as conservation, research and restoration of the environment.



Experiment 6

Seller's task

Imagine that you are interested in selling company shares that you own in the near future. Your financial adviser has recommended selling the following companies' shares based on their financial prospects and provided you with factual information regarding these companies based on whether they are engaged (indicated as Yes) or not engaged in (indicated as No) the business practices shown in the tables below. The current market share price is $20 per share for all of the following companies.

What is the lowest price you would be willing to accept per share for the following companies? Please write your price in the space provided below for each of the following companies' shares, and next to it, please briefly explain how you decided on the price you've elicited.

Attributes	Company
Aims to be more environmentally friendly	Yes
Is one of the top 2000 companies in the world	Yes
Has poor working conditions	Yes

Buyer's Task

Imagine that you are interested in buying company shares in the near future. Your financial adviser has recommended buying the following companies' shares based on their financial prospects and provided you with factual information regarding these companies based on whether they are engaged (indicated as Yes) or not engaged in (indicated as No) the business practices shown in the tables below. The current market share price is $20 per share for all of the following companies.

What is the highest price you would be willing to pay per share for the following companies? Please write your price in the space provided below for each of the following companies' shares, and next to it, please briefly explain how you decided on the price you've elicited.

Attributes	Company
Aims to be more environmentally friendly	Yes
Is one of the top 2000 companies in the world	Yes
Has poor working conditions	Yes

Experiment 7.

Buyer's Instructions

Note that the sellers also received an almost identical script. The only difference being that the instructions were described in the context of a seller.

SLIDE 1: In trading, people will generally try and buy shares in top performing companies to try and make profit. However, one aspect that people usually do not take into account when buying shares is determining whether the company they are investing in is ethical or not. This may be an important aspect to consider given that investing in ethical companies will usually have a positive impact on society, whereas investing in unethical companies will have a negative impact on society, Furthermore, the impact the company can have on society will most likely vary depending on the size of the company. The larger the company, the bigger the impact the company can have on society.

SLIDE 2: With this in mind, imagine that you are interested in buying shares and your financial adviser has recommended three different companies based on their financial prospects. At the start of the experiment, you will be allocated a small amount of money to help you get started, and with it, you will be able to buy information regarding: 1) whether the companies engage in ethical or unethical practices, and 2) whether the companies are one of the top companies in the world, or not.

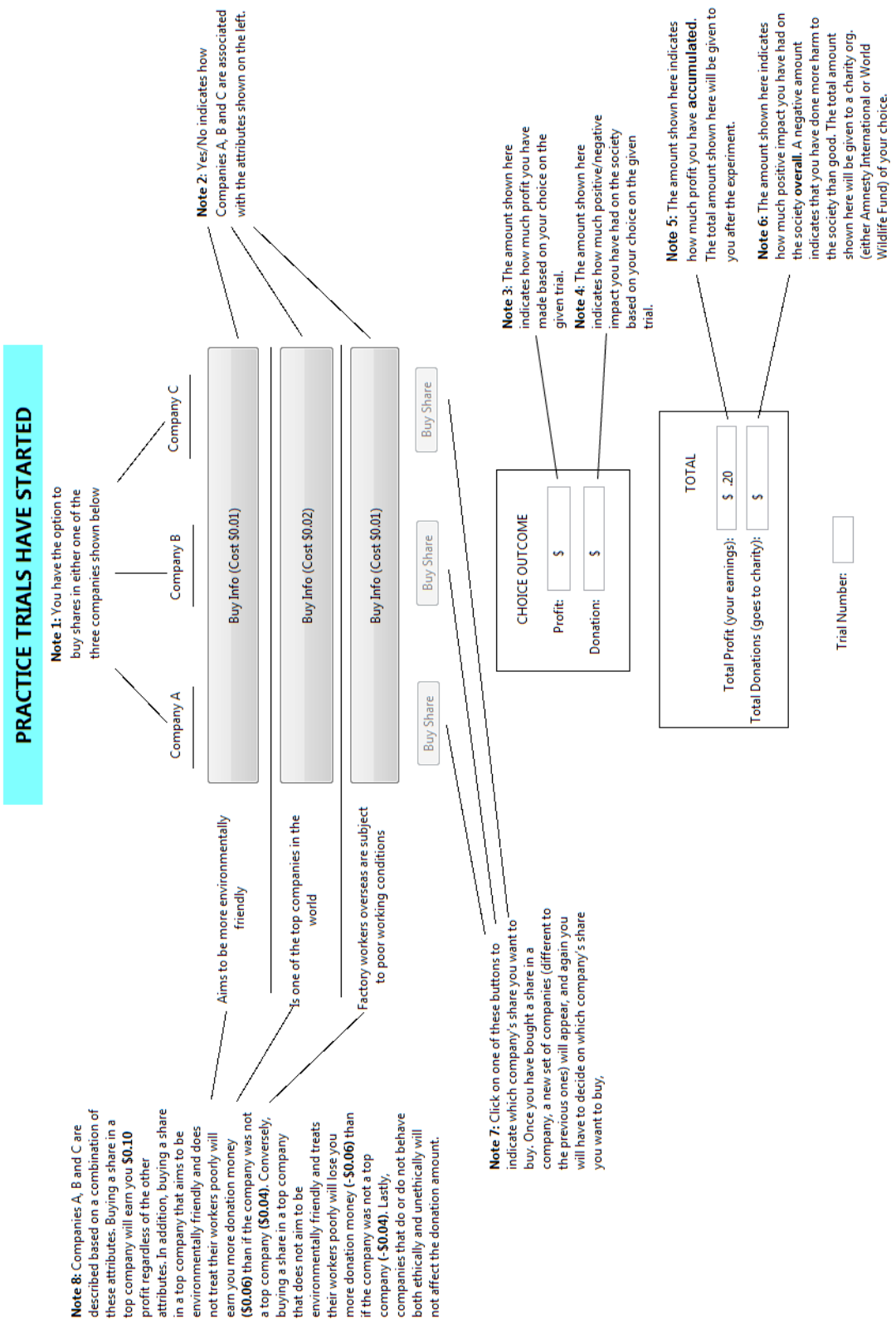
SLIDE 3: Once you are satisfied with the amount of information you have obtained, you must choose which company's share you want to buy. However, the outcome of your choice (e.g., how much you earn or the impact you have on society) will depend on which company's share you buy. For example, if you choose to buy a share in a top company, you will earn a profit. However, if you buy a share in a top company that is also ethical, you will earn a profit, and also earn donation money which represents the amount of positive impact you have had on society.

SLIDE 4: In contrast, if you decide to buy a share in a company that is unethical and also financially well off, you will indeed make a profit for yourself, but you will also lose donation money as a way of representing the negative impact you have had on society. Once you have bought a share in a company, a new set of companies (different to the previous ones) will appear, and again you will have to decide on which company's share you want to buy, following the same procedure as before.

SLIDE 5: Lastly, note that the profit you have accumulated will be given to you after the experiment. Furthermore, the donation amount you have accumulated will be pooled (with the other participants' donations) and given to either Amnesty International (a non-government organization that aims to fight injustice) or World Wildlife Fund (a non-government organization that aims to protect the environment) based on your preference. If you end up with a negative donation amount, you amount will be subtracted from the pooled donation amount.

SLIDE 6: To allow you to get familiar with the task, you will first be shown what it will look like. Furthermore, additional notes will be shown to you step by step to help you understand the underlying mechanisms behind how the task will work. Then you will be given a set of practice trials before you start the actual task. Note that your responses in these practice trials will not count or have an effect on later task. To begin demonstration, click 'next'

Practice Trials



Experiment 8.

Note that the instructions in Experiment 8 for buyers and sellers were almost identical to Experiment 7. The only difference was that the information buying component was not described in the instructions. The schematic for the practice trials was also almost identical to Experiment 7, except that the yes/no cues behind the ‘Buy Info’ Tabs were completely revealed.

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