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**Polluting for (Higher) Profits: Does an Economic Gain Influence Moral Judgment of
Environmental Wrongoings?**

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Polluting for (Higher) Profits: Does an Economic Gain Influence Moral Judgment of Environmental Wrongoings?

Abstract: Pollution is frequently “rationalized” by involved firms as a necessary bad to reach economic or social goals. Unfortunately, little is known about how external observers form moral judgment when confronted to such a dual output, precisely an economic or social gain (e.g., profits, job preservation) and an environmental harm. Using two experimental surveys, we fill this gap by inviting participants to judge the morality of two companies engaging in the same environmental wrongoings (river pollution and deforestation) while varying the generated monetary gain. In the preliminary study, individuals perceive environmental degradations generating higher profits for the firm as more morally acceptable. In the main study, we used a multiple-item measure of behavioral intentions towards the firm and we analyzed potential moderating effects. The results are threefold: *(i)* the attitude towards the firm improves as the profit obtained by the firm increases, up to a tipping point; *(ii)* when the profit gained by the firm increases, environmentally-unconcerned (resp. concerned) individuals display more positive (resp. negative) attitude towards the firm; *(iii)* respondents thinking that the firm main objective should be only about profit and not social well-being express a more lenient judgment. We draw several policy and managerial implications.

Keywords: deforestation; water pollution; outcome bias; moral judgment.

JEL numbers: C91; Q54; Q58.

1. Introduction

When corporations engage in activities causing environmental degradation, they frequently justify their decisions by economic and social considerations such as the need to remain competitive and profitable, or preserving jobs. For instance, Brecher (2014) states that “the media repeat the jobs vs. environment frame again and again”. Companies frequently claim that polluting or degrading the environment is a necessary evil (Morgenstern et al., 2002). At best, corporate wrongdoings generate an environmental harm and an economic or social gain. A typical example is deforestation, which leads to both economic gains, at least in the short run, and clear environmental degradation (Banerjee et al., 2021; Bergamo et al., 2022). Nevertheless, little is known about how external observers form a moral judgment when they face this kind of dual outputs: an environmental degradation and a claimed or presumed economic or social gain that possibly “justifies” the environmental harm.

Thanks to two experimental surveys, we fill this knowledge gap by examining how the moral judgment of onlookers is affected when the revenues the firm receives from its business activities vary while keeping fixed the environmental harm. Is a similar environmental wrongdoing judged less severely because it is associated with a substantial economic gain? Addressing this issue is important because moral judgment on environmental-related decisions is rarely formed in a decontextualized context, where only the environmental dimension is considered. A better understanding of how observers consider (maybe subconsciously) these two dimensions in forming their moral judgment can explain the corporate communication strategy and the subsequent public reaction (e.g., granting or not the ‘social license’ to operate). For instance, regulators and promoters of green progress can have difficulties to get public support for regulating or enforcing environmental regulations towards entities that contribute to economic or social progress while polluting. In a similar vein, if observers discount the environmental harm because of concomitant economic or

social gains, companies can be tempted to manipulate, and even exaggerate their gains in order to benefit from a preferential treatment.

Compared to other methods (e.g., case studies, observational data, incentive compatible experiments), we preferred an experimental survey. Indeed, experimental surveys allow to reach larger sample size to investigate rigorously the relative importance of various elements in forming the moral judgment of observers, without costing too much. Experimental surveys are frequently used because they have several attractive properties such as a high degree of control, the random assignment of respondents to treatments, the establishment of causal relationships with a reasonable external validity (see, e.g., Hainmueller et al., 2015).

While several studies examined how people form their moral judgment in the case of corporate wrongdoings and the effect of various contextual features (e.g., Grolleau et al., 2020; Efron, 2022; Grolleau et al., 2023b), none of these studies focused on whether and how people take into account a concomitant economic gain when forming their moral judgment. The originality of our contribution is at least threefold. First, to our knowledge, there is a lack of studies examining whether and how the economic gains resulting from an environmental wrongdoing influence the moral judgment of observers. We perform two experimental surveys to test whether varying the gains generated by an identical environmental wrongdoing (river pollution, deforestation) affects the moral judgement of the company that committed the environmental wrongdoing. Considering two distinct environmental domains also allows to check the effect robustness. Second, we enrich the literature on the outcome bias. This bias depicts the way others' actions are judged by paying too much attention to outcomes while neglecting the processes and intentions that led to these outcomes (see Baron and Hershey, 1988; Gino et al., 2016). We extend this literature by studying the case of a dual outcome, with both a positive and negative outcome. Third, we also test two boundary conditions by

examining whether the moral judgment by (i) individuals highly concerned by the environmental dimension and (ii) individuals thinking that the firm main objective should be to make profits (vs. increase the well-being of stakeholders) can moderate the studied relationship.

The remainder of the paper is organized as follows. The following section provides the conceptual framework explaining why the non-environmental outcome (captured here by an economic gain) influences the moral judgment by observers. We draw several testable hypotheses. Sections 3 and 4 are devoted to the preliminary and main study, respectively. Section 5 discusses policy and managerial implications, mentions several limitations, and concludes.

2. Conceptual framework and hypotheses

Forming a moral judgement on decisions and actions of individuals and entities (e.g., corporations, governments) is a common human activity and has been scholarly studied in numerous directions.

On one hand, a sizeable part of this literature has examined how the side effect from a given decision influences the intentionality ascribed to the decision maker. The so-called Knobe effect (or “side-effect effect”) posits that people are more likely to consider that a side effect (e.g., impacting the environment) is intentional when it is morally bad (e.g., littering) rather than morally good (e.g., cleaning, see Knobe, 2003; Cova et al., 2016 and references therein). This effect corresponds to an asymmetry where respondents are more likely to judge that a side effect of an agent action is intentional if they think the side effect is morally bad than if they think it is morally good (Knobe, 2003). Interestingly, Cova et al. (2016) discussed methodological objections to this Knobe effect and provided new evidence suggesting that moral evaluations play an irreducible role in shaping judgments about intentional action. Thus, a negative effect (e.g., an environmental degradation) might increase the belief in the

intentionality of the agent, possibly leading to a more severe negative judgment. On the opposite, a positive outcome (e.g., an environmental improvement) diminishes the attribution of intentionality and responsibility and may correspond with a more lenient judgment.

On the other hand, and more directly related to our research question, scholars have studied how end outcomes of a given action unduly influences the moral judgment formed by observers on the action itself (e.g., Baron and Hershey, 1988; Gino et al., 2016). These works showed that people engaging in (undesirable) behaviors are frequently judged by paying too much attention to the end outcomes while the information about the original processes and intentions leading to those outcomes is often overlooked. Although the outcomes are objectively independent of the deciders' actions, the judgment formed on these actions gives to outcomes a disproportionate and undeserved weight. This outcome bias implies that the quality of the process is pushed to the background and overshadowed. The judgment is mainly formed on the basis of the decision results. When the outcome is positive, a morally condemnable act is judged less severely (Gino et al., 2016).

Let us emphasize how our contribution differs from and adds to the existing studies, at least on three aspects. First, the intentionality ascribed to the decision maker is beyond the scope of our contribution. We do not study whether observers ascribe a higher intentionality to a worse outcome (e.g., emitting 5 metric tons of carbon emissions per employee per year) than to a less bad one (e.g., emitting 3 metric tons of carb emissions per employee per year). Indeed, we inform the observers that the morally bad actions and their negative outcomes are fixed, undertaken knowingly and intentionally. Second, we examine how an end-outcome that has a dual nature (e.g., an economic gain and an environmental degradation) influences the moral judgment formed on a morally bad decision. We go further than existing literature that has mainly considered the effect of a one-dimensional end-outcome. Moreover, we fix the morally bad dimension (e.g., pollution) and vary the level of the other dimension (e.g., the

concomitant economic gain) to study whether and how the moral judgment is modified. Third, as mentioned in the previous section, we investigate two potential moderators for this relationship, precisely the environmental concerns of observers and the primary objective they ascribe to companies (profit-making versus contributing to society well-being).

In what follows, we use the existing literature to formulate hypotheses. We start from the postulate that corporate environmental decisions frequently have environmental and non-environmental consequences. When observers are informed on these bi-dimensional consequences, rather than on the processes and intentions that led to these consequences, they can form a moral judgment that could be influenced by this duality. In other words, we extend the line of reasoning of the outcome bias literature by assuming a dual outcome. Given a constant negative environmental outcome, we hypothesize that observers are more likely to temper their moral judgment when the non-environmental dimension is positive (e.g., making profits or preserving jobs). In addition, the higher the level of the positive dimension (e.g., economic gains of 100 K€ compared to economic gains of 10K€), the stronger its ability to tamper the severity of the moral judgment formed on the morally bad behaviour.

Hypothesis 1. A dual outcome (environmental degradation and economic gain) influences the moral judgment formed on a corporate environmental wrongdoing. The higher the economic gain from an identical environmental wrongdoing, the more lenient the moral judgment of the environmental wrongdoing.

Beyond morality judgment, the outcome bias could also influence behavioral intentions towards the incriminated company. It is relevant to also assess behavioral intentions, given that behavioral intentions and actual behaviors are highly correlated (Ajzen and Fishbein,

1980). The same wrongdoing will be less detrimental to the behavioral intentions towards the company, because of the positive non-environmental outcome.

***Hypothesis 2.** The higher the economic gain from the environmental wrongdoing, the more likely participants will develop positive behavioral intentions towards the concerned corporation.*

To better understand the underlying process, we follow the dual process model of moral reasoning (Green and Haidt, 2002; Greene et al. 2004). This model asserts that deontological judgments (based on the intrinsic nature of the action, good or bad) involve the fast and emotional System 1. System 1 is typically sufficient for simple moral judgments (e.g., it is immoral to pollute). However, more complex moral judgments may trigger System 2. Adopting a utilitarian perspective (e.g., it is moral to pollute to make profit) when faced with a moral dilemma requires the use of the deliberative System 2, which needs to override the initial deontological System 1 response.

***Hypothesis 3.** Individuals activating their System 2 during the moral judgment develop more favorable behavioral intentions towards the firm.*

Furthermore, we posit that the supposed relationship between the level of gains and moral judgment may vanish under some circumstances. A natural candidate is the concern level of individuals for the considered environmental domain. Concern for the environment has previously been shown to have a large impact on behavioral intentions (see Saari et al., 2021; Berthold et al., 2022). We follow Lazaric and Toumi (2022) who show that concern for the environment moderates the energy-saving behavior of households subjected to behavioral

interventions. In our case, it can constitute a boundary condition: individuals who are (very) concerned by the considered environmental domain may be less prone to temper their moral judgment even though there is a positive economic outcome.

***Hypothesis 4.** The more concerned individuals are with the considered environmental domain, the less likely they will temper their moral judgment because of the concomitant economic gain.*

Similarly, the vision of corporations' goals can also moderate this relationship. If individuals are convinced that the primary goal of corporations should be to make profit (vs. contribute to social well-being, Friedman, 1970), they are more likely to express more lenient judgment when the environmental wrongdoing also leads to an economic gain.

***Hypothesis 5.** The more individuals believe that the corporations' main goal should be to make profit, the more likely the economic gain will temper their moral judgment.*

Note that in formulating our hypotheses, we consider individuals to be spectators as opposed to stakeholders. For instance, individuals are neither part of the corporation committing the environmental wrongdoing nor does it directly impact them. Using the terminology of Konow (2009), these individuals assume the role of "quasi-spectators"¹: observers with no salient stakes in the matter at hand in possession of some information, tasked with judging the wrongdoing. This precision is important, as research has underlined that the moral judgments of stakeholders tend to be influenced by self-serving considerations,

¹ Konow (2009) posit that the condition for true impartiality are almost never obtained, hence the term "quasi-spectator".

while spectators tend to be more impartial (see, for instance, Croson and Konow, 2009; Johansson-Stenman and Konow, 2010; Francés- Gómez et al. 2015).

We performed two experimental surveys to test our hypotheses. The preliminary study focuses on the main relationship and tests only Hypothesis 1. In the main study, we address several limitations of the preliminary study and test all the above-mentioned hypotheses.

3. The preliminary study

3.1. Participants

A convenience sample of 216 French individuals (46% male, $M_{age} = 34.3$ years) participated voluntarily to the study (families, students, colleagues, friends, acquaintances and so forth).² They were not informed on the precise goal of the study. We did not compensate them for participation. Participants received an e-mail inviting them to participate to the experiment by clicking on a link.

3.2. Procedure

Participants were first asked to read two hypothetical scenarios and were invited to give their honest opinion, since there is no right or wrong answer. Then, the two scenarios were displayed in a fixed order. The first scenario described a river pollution while the second one was related to a deforestation act (realistic scenarios adapted from Grolleau et al., 2020, see Appendix for the full survey). As clearly conveyed to the respondents in the scenarios wording, both scenarios featured a moral and legal violation, related to the firm activity. We

² The sample is slightly younger than the French population, that is, on average, 42.4 years old (INSEE, 2023). While representative samples are generally considered better than convenience ones, Coppock et al. (2018) replicated 27 survey experiments ($n = 101,745$) and found that convenience samples overwhelmingly produce similar findings to representative samples. Given this evidence, it is unlikely that a representative sample would yield different results in our specific case. While participants may have self-selected to participate in our study, they were randomly allocated to each treatment, and treatments were then compared against one another, thus mitigating self-selection bias.

also clearly conveyed to participants that the environmental wrongdoing to make profits was intentional (e.g., we used words such as “deliberately” in scenario 1 and “voluntarily” in scenario 2 to describe the decision resulting in additional profits and environmental damage). In our study, the wrongdoing firm is not aware of the moral judgment of respondents, which has no repercussion on its activity. This does not seem to be an issue, as Nadelhoffer et al. (2013) show that individuals are not less likely to punish wrongdoers even if those are ignorant of this judgment.

For each scenario, participants were asked to indicate the immorality of the wrongdoing on a 7-point Likert scale (1: completely moral; 7: completely immoral). One may argue that a complex issue like moral judgment is somewhat oversimplified with survey items and may provide biased results that need to be addressed (Konow, 2009). Nevertheless, we contend that our findings make sense for several reasons. First, our objective is not to elucidate moral judgment per se but to compare whether participants exhibit differences in moral judgment when the economic benefit level is manipulated. In other terms, our moral judgment measure in itself does not necessarily capture the whole meaning of moral judgment but allows to detect whether the same act is judged differently when the economic benefit is varied. Second, while we cannot rule out the possibility of biases such as the hypothetical bias³, the self-selection bias, or the desirability bias, we have no reason to expect that they will affect the treatments differently according to the levels of economic benefits. Third, our measure of moral judgment is similar to the measure used in several recent scholarly articles

³ A common concern of survey experiments is the potential bias caused by the hypothetical nature of the environmental scenarios. Nevertheless, there is no reason to consider that the hypothetical nature of the scenarios will affect differently treatments. Similar to Henning et al. (2022), we are confident that any hypothetical bias would be similar across treatments as we ensured that all treatments present similar realistic scenarios. Thus, absolute moral judgment levels might be biased but not any treatment effects, i.e., differences in moral judgements levels between treatments.

devoted to corporate social irresponsibility (e.g., [Grolleau et al., 2020](#); [Grolleau et al., 2023a](#); [Grolleau et al., 2023b](#)) or related topics (e.g., [Effron and Raj, 2020](#); [Effron, 2022](#)).

Another common criticism of experimental surveys is their lack of incentive-compatibility. Nevertheless, several scholars have argued that this criticism is frequently misplaced (e.g., [Rubinstein, 2013](#); [Camerer and Hogarth, 1999](#)). For instance, [Rubinstein \(2013, p.541\)](#) argued that he has “never understood how the myth arose that paying a few dollars (with some probability) will more successfully induce real-life behavior in a subject. (...)”. He argued that “human beings generally have an excellent imagination and starting a question with “Imagine that ...” achieves a degree of focus at least equal to that created by a small monetary incentive (...)” While non-incentivized responses can lead respondents to exhibit a social desirability bias, they can provide relevant qualitative insights at low cost ([El Harbi et al., 2015](#); see also [Becchetti et al., 2014](#)).

We used a between-subjects design with four treatments, corresponding to various levels of economic gains (Unspecified, 10,000€, 100,000€, 500,000€). The participants were randomly assigned to one of the four treatments. We operationalized the economic gain as an amount measured in euros. We consider this choice as conservative, as individuals are frequently more sensitive to other dimensions (e.g., job preservation, old and local company). Environmental consequences were fixed. An a priori power analysis indicates that we would be able to detect differences of medium effect size ($d = 0.5$) with simple t-tests with an adequate power $\beta = 0.8$ ([Cohen, 1992, 2013](#)) using a marginal significance level of $p=10\%$, with 51 respondents per group. A larger sample would have enabled us to detect smaller effect sizes, but such effects are likely to be of little practical relevance ([Ferguson, 2009](#)). Consequently, our sample size was thus deemed adequate.

3.3. Results

We analyze the results of both scenarios together, as they displayed similar patterns of results. Descriptive statistics indicate an increase of the perceived morality of the action as the firm's economic gain increases (see Figure 1).

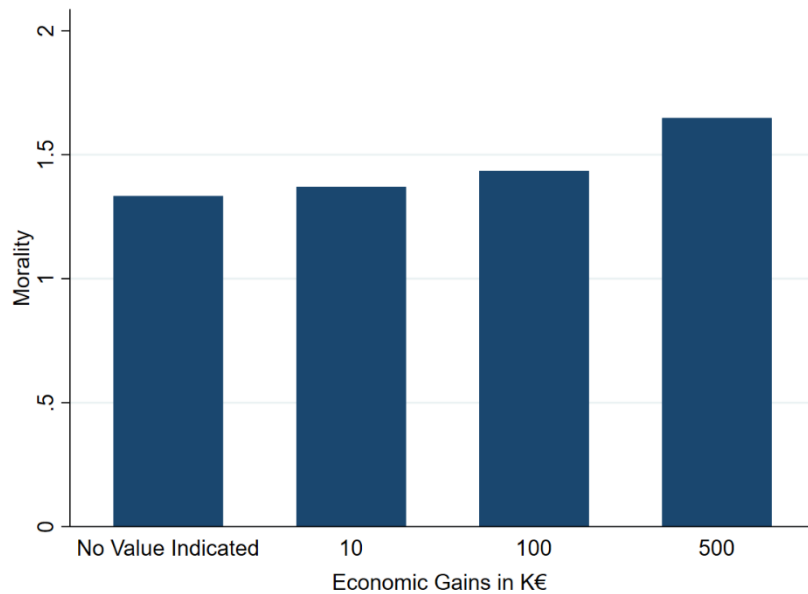


Figure 1. Perceived Morality as a Function of Firm Economic Gains

The difference between the highest level of gain (500,000€) and each of the other levels is significant (see Table A1 in the appendix). Using a simple t-test, we found that people perceive the environmental wrongdoings of the firm as less immoral if it generates gains of 500K€ rather than 100K€ ($p < 10\%$, marginally significant), 10K€ ($p < 5\%$), or when the value is not specified ($p < 1\%$).

We then perform panel regressions (see Table 1). Considering each level of firm gain separately while taking into account covariates yields similar results. Respondents facing the highest level of economic gains (500K€) considered the environmental wrongdoings of the firm as significantly more moral. Coefficients for other levels of economic gain are positive but not statistically significant in the regression. None of the covariates are significant.

Table 1. Moral judgment of environmental wrongdoings as a function of economic gains
(Panel Regressions)

	Coef.	S.E.	P> z	Coef.	S.E.	P> z
Group						
10K€	0.018	0.137	0.893			
100K€	0.083	0.136	0.544			
500K€	0.290**	0.142	0.041			
Deforestation	-0.051	0.052	0.329	-0.051	0.052	0.329
Gains				0.001**	0.000	0.020
Age	0.001	0.004	0.798	0.001	0.004	0.780
Education	0.003	0.025	0.902	0.002	0.025	0.923
Man	0.089	0.097	0.355	0.092	0.095	0.332
Income	-0.027	0.050	0.582	-0.027	0.049	0.579
Constant	1.411***	0.201	0.001	1.422***	0.179	0.001
R ²		0.028			0.028	
Observation		432			432	
N		216			216	

This table displays the results of random effect panel regressions. Deforestation is a binary variable, taking the value 1 for the deforestation scenario. The variable “Gains” is continuous and corresponds to the actual level of gains for the firm displayed in the text. We coded the group that did not see a specific value for firm profit as 0. We performed several other robustness checks. Using robust standard errors or an ordered logit model does not substantially change the results in either regression specification. In the second specification, abstaining from using data from the group who saw no value for the corporate economic gains or use the logarithm of the value of the gains from the firm essentially yield the same results.

We also run a second regression specification (Table 1, 5th to 7th column) by replacing the categorical variable coding for each experimental group with a continuous variable coding for the actual level of economic gains of the firm displayed in the text (i.e., undefined, 10K€, 100K€, 500K€). This regression underlines that as the amount of economic gains increases, the perceived morality of the wrongdoing increases as well.

Result 1. *The higher the economic gains from an identical environmental wrongdoing, the more lenient the moral judgment of the environmental wrongdoing.*

3.4. Limitations

This preliminary study has several limitations. The number of covariates was limited to the socio-demographic characteristics of respondents. We were not able to determine whether some subgroups of participants were more likely than others to alter their moral judgment

because of the economic gains. Moreover, does the quasi-linear relation between profits obtained by a firm through environmental damage hold for higher levels of economic gains? Finally, the morality of the wrongdoing could advantageously be measured through multiple items, by including behavioral intentions. The main study was designed to address these concerns.

4. The main study

4.1. Participants

A convenience sample of 205 French individuals ($M_{age} = 34.4$ years)⁴ participated to the main study. Participants to the preliminary study were not solicited. Similar to the preliminary study, they were contacted via e-mail and participated on a voluntary basis, without monetary compensation.

4.2. Procedure

The procedure is the same as in the preliminary study, with some noticeable variations. First, we used slightly different amounts of economic gains earned by the firm (no value indicated, 50K€, 500K€, 5,000K€). The 5,000K€ amount enables us to assess whether very high economic gains from an environmental wrongdoing also lead to a higher perceived morality. Second, we used a two-itemed measure of morality and two items to measure behavioral intentions related to products and services manufactured by the involved company (see Effron and Raj, 2020). These items were pooled together in the analysis, as they displayed strong

⁴ Unfortunately, due to a technical error, participants' gender was not gathered. As gender did not prove a significant covariate in the first study, we contend that this issue is not decisive for this second study. The lack of significance of gender is consistent with the results of Konow (2009), whose methodology is close to ours (use of vignette, positioning of the subject as a spectator, or "quasi spectator" to use the terminology of Konow, 2009).

correlations (Cronbach's $\alpha = 0.821$). Third, we analyzed potential moderating effects. We asked participants to indicate the importance they give to the environmental domain that was harmed and the main goal corporations should pursue (making money v. contributing to well-being) on a 7-point Likert scale. We also used a multi-items scale measuring whether participants used their intuitive System 1 or deliberative System 2 (see Effron and Raj, 2020). All these additional questions were asked after the main questions regarding the case (i.e., immorality and behavioral intentions).

4.3. Results

Similar to the first experimental survey, since there was no significant difference between the two scenarios, the data was pooled. The descriptive results show that the attitude towards the firm improves as the economic gain obtained by the firm increases, as in the first experiment (Figure 2 and Table A1). The one-item morality, identical to the first experiment, follows the same pattern. We thus only discuss the four-item measure of attitude towards the firm in the following. Using simple t-tests, we found that respondents develop more positive attitudes towards the company when it gains 500K€ compared to gaining 50K€ (marginal significance, $p < 10\%$), or when the value is not mentioned ($p < 1\%$). If the firm economic gain is 5,000K€ (an amount only present in the second experiment), the overall attitude deteriorates slightly compared to 500K€, albeit just shy of statistical significance ($p = 10.2\%$, using a t-test). This deterioration is mainly driven by the intention to speak positively about the firm, which declines significantly between gains of 500 to 5,000K€ ($p < 5\%$).

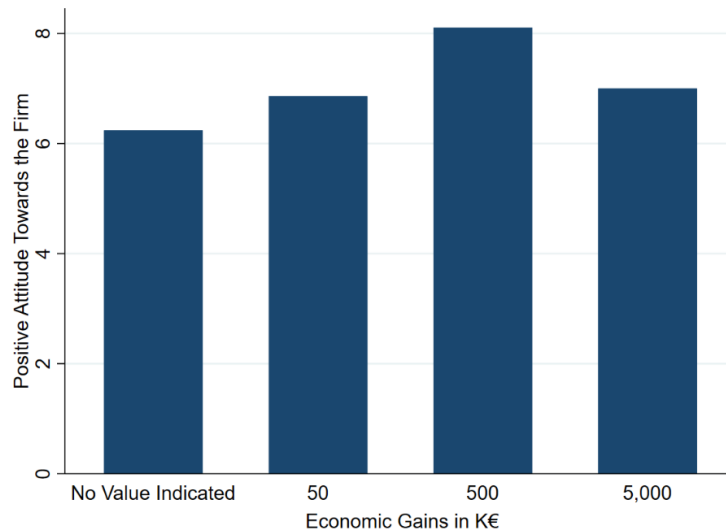


Figure 2. Attitude Towards the Firm as a Function of Firm Economic Gains (Main study)

Result 2. *The higher the economic gains from the environmental wrongdoing, the more positive the behavioral intentions towards the concerned corporation, up to a threshold where behavioral intentions deteriorate as the economic gains from the wrongdoing increase.*

Then, we run panel regressions (see Table 2). The first regression reiterates what we depicted with descriptive statistics, controlling for the impact of various variables. Respondents have a more positive attitude towards the company if the corporate misbehavior leads to gains of 50K€ or 500K€ compared to when no value is indicated.

Table 2. Moral judgment of environmental wrongdoings when the economic gain varies (Main study; Panel Regressions)

	Coef.	S.E.	P> z	Coef.	S.E.	P> z	Coef.	S.E.	P> z	Coef.	S.E.	P> z
Group												
50K€	2.034***	0.723	0.005	3.862	3.169	0.223						
500K€	1.400**	0.701	0.046	4.075	2.897	0.160						
5,000K€	0.998	0.655	0.127	15.855***	4.102	0.001						
Gains							0.003***	0.001	0.001	0.000	0.000	0.368
Importance	-0.614***	0.170	0.001	-0.158	0.343	0.645	-0.339*	0.183	0.063	-0.638***	0.170	0.001
Importance * 50K				-0.28	0.463	0.546						
Importance * 500K				-0.391	0.423	0.355						
Importance * 5,000K				-2.237***	0.608	0.001						
Gains*Importance							-0.001***	0.000	0.001			
Gains* Make Benef.										0.000	0.000	0.291
Increase WB	-0.476***	0.160	0.003	-0.428***	0.161	0.008	-0.394**	0.162	0.015	-0.459***	0.163	0.005
Make Benefits	0.596***	0.152	0.001	0.571***	0.153	0.001	0.612***	0.151	0.001	0.716***	0.172	0.001
System2	0.129***	0.023	0.001	0.130***	0.023	0.001	0.129***	0.023	0.001	0.130***	0.024	0.001
Deforestation	-0.154	0.242	0.524	-0.218	0.237	0.357	-0.234	0.236	0.322	-0.162	0.243	0.504
Age	-0.086***	0.024	0.001	-0.081***	0.024	0.001	-0.064***	0.023	0.005	-0.067***	0.023	0.003
Education	-0.001	0.137	0.994	0.004	0.138	0.977	0.021	0.134	0.874	0.023	0.134	0.863
Income	-0.094	0.247	0.703	-0.110	0.248	0.657	-0.06	0.245	0.807	-0.056	0.245	0.820
Constant	15.461***	1.794	0.001	12.174***	2.733	0.001	13.469***	1.840	0.001	15.568***	1.778	0.001
R ²		0.315			0.325			0.303			0.296	
Observation		410			410			410			410	
N		205			205			205			205	

This table displays the results of panel random effect regressions. Deforestation is a binary variable, taking the value 1 for the deforestation scenario. Gains is a continuous variable, which codes for the actual level of gains for the firm displayed in the text. "Increase WB" and "Make profits" are coded for the perception of participants that firms should only care about well-being or profit. System 2 is a variable coding for the use of the deliberative System 2 by participants in making their decision. We performed several robustness checks over these specifications. Using robust standard errors does not substantially change the results, regardless of the regression specification. In the last specification, abstaining from using data from the group that did not face a specified amount for the corporate economic gains or using its logarithm essentially yields the same results. Using a different dependent variable, such as only the item related to morality, or only the two items related to behavioral intentions also yield essentially the same results.

Moreover, younger respondents and respondents relying more on System 2 thinking form a more favorable judgment of the company ($p < 1\%$ in both cases). The economic effect of using one's System 2 during the judgement is quite large. Compared to respondents with the lowest score in the System 2 scale, those with the highest scores are expected to display behavioral intentions that are twice higher (prediction based on the model in specification 3, holding other variables at the mean).

Result 3. *Respondents relying on their System 2 display more positive behavioral intentions towards the firm.*

In the second and third regression specifications, we introduce an interaction term between the importance given to the environment by respondents and the economic gains of the firm. The third regression specification uses the economic gain of the firm as a continuous variable. The importance given to the environment (respectively, river pollution or deforestation) emerged as an important moderating variable, particularly for large economic gains. When the amount gained by the firm increases, respondents who declared being unconcerned about the environment display more positive attitude toward the firm. On the opposite, respondents highly concerned about the environment display a more negative opinion towards the firm as the profitability of the wrongdoing increases. As evidenced in Figure 3, the economic effect is very large. Holding other variables at the mean, the model predicts that for the largest economic gains level (5,000K€), respondents indicating no importance to the environmental domain under consideration would have a 3 times more positive outlook on the firm than those indicating a high importance to the considered environmental domain.

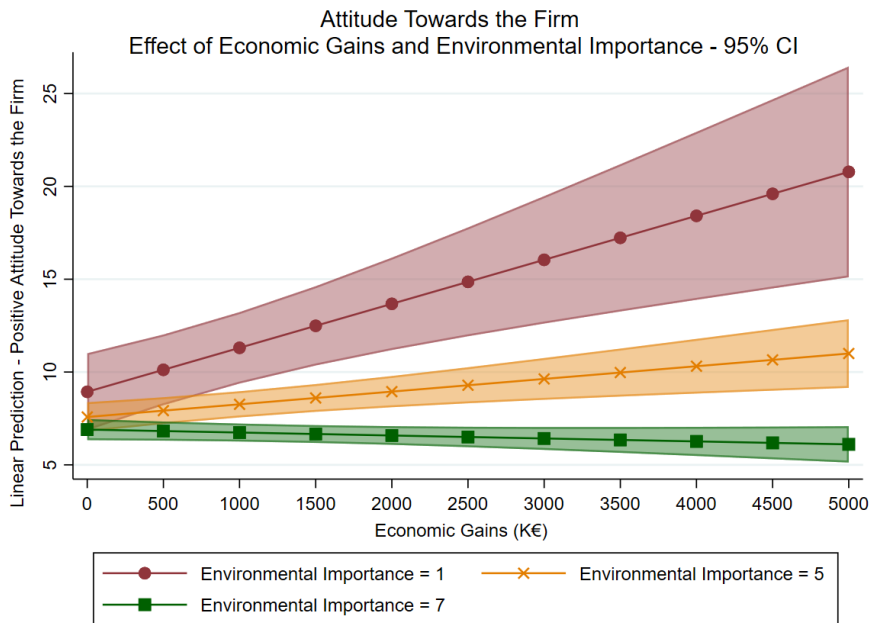


Figure 3. Attitude Toward the Firm - Predicted Effect of Firm Gains and Ecological Importance – Based on Regression 3 from Table 2

Result 4. *The more concerned individuals are with the considered environmental domain, the less they temper their moral judgment because of the concomitant economic gain.*

Moreover, respondents considering that the main mission of a firm should be to make profit tended to be more lenient in their judgement of the wrongdoing ($p < 5\%$). Contrary to what we hypothesized, this effect was independent of the economic gains earned by the firm (see regression 4). Respondents endorsing that the main mission of the firm was to increase well-being judged wrongdoing by the firm more severely ($p < 5\%$). These effects have a medium-sized economic effect. Holding other variables at the mean, strongly agreeing that the mission of the firm is to make profits leads to a 50% increase in positive attitude towards the firm compared to not agreeing at all. Disagreeing with the statement that the firm mission is about well-being leads to a 50% increase in positive attitude compared to agreeing about it.

Result 5. *The more individuals believe that the corporations' objective should be to make money instead of focusing on welfare, the more lenient their judgment of the firm.*

5. Discussion

The pattern of our data indicates that the relationship between the moral judgment of the environmental wrongdoing and the level of economic gain is not linear, with the likely existence of a tipping point. [Even if the harm is fixed, this tipping point is likely to vary according to various factors such as company size, sector or country.](#)

While making money can temper moral judgment of environmental wrongdoings, making too much money can backfire. Several prospective explanations can be offered. As managers have inside knowledge, they are more likely to know the expected profit. They are thus more blameworthy if they do harm for a too low profit, therefore with less justification. In short, they deserve a more severe judgment if they engage in environmental degradation for a too limited profit. Nevertheless, Gino et al. (2016) do not find convincing support for this explanation.

Another way of explaining our findings could lie in the fact that people make a global assessment of outcomes, so that 'harm + gain' is a better outcome than 'harm + lower gain'. Distributive preference might also come into play. A 'reasonable' private gain (company profit in our scenarios) might justify some environmental wrongdoing. Nevertheless, [a too large private gain seems excessive, adding no justification and harming legitimacy.](#) This would explain the non-linearity we observe. For instance, there is suggestive evidence that people are more lenient in terms of moral condemnation, when stealing coincides with a poverty/hungriness situation compared to a situation where these considerations are absent and even more if the wrongdoer is wealthy (e.g., Bagaric, 2015, Lambert, 2018).

Finally, respondents might have considered that a company earning higher profits from environmental wrongdoing might devote a higher share of resources in the future to environmental restoration. Essentially, this points out important and unresolved issues regarding (intertemporal) tradeoffs between dimensions of CSR, e.g., how improving one

pillar of the triple bottom line can excuse degrading another one and to which extent. Replications of the current study investigating these possible explanations, and potentially including a debriefing interview with respondents to better understand their reasons would constitute an interesting path for future research. Determining the tipping point at which profits are considered excessive for various situations (e.g., financial fraud or animal suffering), possibly using non-convenience samples with real behavioral outcomes, could constitute an interesting extension.

Our contribution [also](#) extends the line of inquiry of Gino et al. (2016) to dual outcomes, including both a negative and positive component. We underline that up to a point, the larger the profits associated with an environmental wrongdoing, the more lenient the judgement of observers. This relation is moderated by the importance granted to the environmental domain under consideration. Observers who deem that the environment is very important have a more negative attitude towards the firm as its profit increases, while those who deem the environment as unimportant have a more positive attitude toward the firm as its profit increases. Interestingly, our findings also suggest that the use of System 1 thinking versus System 2 thinking can influence moral judgment of an environmental wrongdoings when there are concomitant economic gains. For instance, corporations (green watchdogs) can attempt to get more lenient (severe) judgment by activating a System 2 thinking (System 1 thinking) when individuals confront this kind of dual outcomes.

Several other extensions of the current studies can be envisioned. For instance, our findings can help to inform onlookers on their own biases when judging unethical behaviors and possibly debias them. An example is greenwashing, which can backfire when it becomes clear to stakeholders that they are being manipulated (Berrone et al., 2017). Thus, one might expect onlookers to become more severe towards unethical corporations, once the outcome bias is exposed to them, an aspect that deserves further investigation. In a similar vein,

understanding how the accidental versus intentional nature of the environmental wrongdoing influences moral judgment in the case of a dual outcome can constitute a promising extension.

Another promising path for future research could be to investigate whether our findings hold when the individual is a stakeholder being directly impacted by the situation rather than simply an observer. This can be performed either in a refined survey experiment where the participants are driven to identify with a specific role or in an incentive-compatible experiment where the participant's payoff reflects the role played by the participant (see, e.g., Croson and Konow, 2009, Francés- Gómez et al., 2015). Finally, investigating whether there is a “double penalty” in moral judgment, when profit decreases are concomitant with environmental [wrongdoings](#), [constitutes](#) an exciting extension.

6. Conclusion

Environmental degradation is frequently “rationalized” by corporations as a necessary bad to reach economic or social goals. Using two experimental surveys, we examined how external observers form moral judgment when they face a dual outcome: a fixed environmental degradation concomitant with a variable economic gain. We found that the moral judgment of the company is less severe as its profit increases, up to a tipping point. This relationship is moderated by the environmental concerns of respondents and the primary objective they ascribe to companies (profit-making versus contributing to society well-being).

A higher level of economic gain can serve to alter the moral judgment of an environmental wrongdoing, but this effect is not created equal for all kinds of participants and all levels of economic gains. Our findings suggest that corporations can influence the perception of their environmental wrongdoings by emphasizing, notably in their communication, the economic gains [it allows](#). This is particularly interesting, as the revealed profit is highly likely to get reported in the media and can appear, at first glance, as an

additional argument playing against the unethical corporation. Moreover, behind an average positive effect, we also found that there are several subgroups. Influencing these subgroups through corporate communication could require tailored approaches.

In conclusion, our contribution is a vibrant call to pay more attention to how people form moral judgments on wrongdoings and especially how these judgments are unexpectedly influenced by side factors that may seem irrelevant at first glance.

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Appendix – Survey (Not to be published – For refereeing purposes only)

Scenario 1: A food processing plant with less than 50 employees deliberately dumped 20,000 liters of whey into the stream near the production site. Whey is a waste product generated by the production of cheese. Its discharge into waterways is prohibited by law, as it causes pollution, including loss of biodiversity, death of many fishes and foul odors. No harm to humans has been reported. This whey discharge allowed the company to make profits. [This whey discharge allowed the company to make relatively small gains of about 50,000 € (fifty thousand euros).] [This whey discharge has allowed the company to realize relatively high gains of about 500,000 € (five hundred thousand euros).] [This whey discharge has allowed the company to realize very high gains of about 5,000,000 € (five million euros).]

Scenario 2: A real estate development company with fewer than 50 employees has obtained legal permission to clear a fixed area of forest in an area of high real estate value. In order to realize an additional gain [a relatively small additional gain of about €50,000 (fifty thousand euros)] [a relatively large additional gain of about €500,000 (five hundred thousand euros)] [a very large additional gain of about €5,000,000 (five million euros)], this company voluntarily and illegally cleared an additional 10 ha. These 10 ha of forest contained remarkable trees, which were irreversibly destroyed.

Positive Attitude Toward the Firm Scale (scale from 1 to 7) [$\alpha = 0.821$]

1. Please rate the morality of this action
2. How acceptable is the action described above?
3. Would you be likely to speak positively about this company?
4. Would you be likely to buy products made by this company?
5. For you, [water pollution] [Deforestation] is an important issue

System 2 scale [$\alpha = 0.680$]

In relation to the above scenario, please indicate your level of agreement or disagreement (from 1 to 7) with the following statements:

1. It took me a while to evaluate it
2. I thought a lot about it
3. I put my feelings aside
4. I identified clear arguments
5. I made a quick decision
6. I responded instinctively
7. I let my feelings speak for themselves
8. I didn't think too much about it

Makebenefits: The only concern for a company should be to make a profit (1: Strongly Disagree; 7: Strongly Agree).

Increasewb: The welfare of people should be the primary concern of any business (1: Strongly Disagree; 7: Strongly Agree).

Table A1. Simple T-tests

First Experiment - Perceived Morality				
	P-value T-test			
	No Value	10K€	100K€	500K€
No Value	-	-	-	-
10K€	0.7110	-	-	-
100K€	0.3198	0.5105	-	-
500K€	0.0063	0.0129	0.0605	-

Second Experiment - Positive Attitude Toward the Firm				
	P-value T-test			
	No Value	50K€	500K€	5000K€
No Value	-	-	-	-
50K€	0.2345	-	-	-
500K€	0.0040	0.0876	-	-
5000K€	0.0975	0.8057	0.1016	-