Norms as Obligations*

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Economists model legal compliance as the process of maximizing utility while weighing the consequences from norm violation against other (monetary and non-monetary) considerations. Legal philosophers, on the other hand, believe that norms provide exclusionary reasons, i.e. that people apply the norm precisely to make a choice *without* weighing up on other issues. We test and compare both models in a controlled online experiment. We conduct a modified dictator game with partially unknown yet ascertainable payoffs, and vary between treatments the presence and content of authoritative norms. Our experimental results show that – in the presence of a norm – participants follow norms without searching for information that they deem important in the absence of a norm. This pattern is independent of the specific content of the norm. Our results are consistent with the legal model of norm compliance.

Keywords: Norms, Information, Authority, Willful Ignorance, Dictator Game, Legal Theory, Experiment
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1 Introduction

Today, legal scholarship is witnessing a deep divide. At its core lie contradicting perceptions of human behavior and, as a consequence, divergent conceptions of law and its function to exert social control. At one end of the spectrum is the economic account of law. Notably within Law & Economics and large parts of Empirical Legal Studies, humans are viewed as utility maximizers, whose deliberate decisions are guided by their (selfish, moral, social, etc.) preferences (Zamir and Teichman 2018; Sunstein 2000). Legal norms present merely an additional concern in the process of utility maximization. The economic account focuses not on the norm itself (its content is usually assumed to be a well-known prescription for an action), but only the (monetary and non-monetary) consequences of breaking it.

Diametrically opposed is what we will call the legal account. Legal philosophers and theorists believe that when legal norms are applicable, they themselves guide decision making. The norm itself is relevant, not merely the consequence of violating it. H.L.A. Hart famously points out that a defining aspect of norms is providing shared, accepted standards of behavior. Much like a chess player would not typically weigh the benefits and costs of moving a chess piece illegally, but simply use the rules to play the game, people comply with legal norms without making a decision to do so at every instant. After all, in the real world most people may not be fully informed actors with stable, well-defined preferences, but "puzzled and ignorant men" (PIM), who "wish to arrange their affairs if only they can be told how to do it" (Hart et al. 2012). For PIM, the presence of a rule reduces the complexity of decision making, and removes the need to gather additional, potentially decision-relevant information. They can "safely apply [the legal rules] without fresh official guidance or weighing up of social issues" (Hart et al. 2012). This kind of blind obedience is not considered to be merely a heuristic or a bias, but rather the *right* way to make a decision. Joseph Raz argues that being under an obligation means that a decision based on personal preferences is prohibited. Legal norms function as "exclusionary reasons", preempting other considerations (Raz 1999, 2009). Despite the significant amount of testable behavioral hypotheses within, legal theory has been generally antagonistic towards empirical research (Galligan 2010). Similarly, legal theory and policy have been reluctant to incorporate the advances in behavioral economics (Feldman 2018).

The present paper contributes first empirical evidence to this important debate. We test (a) whether people rely on norms for guidance in complex situations (even against their own interests), and (b) whether they treat norms like exclusionary reasons by not gathering information they otherwise deem decision-relevant. Generating clean causal evidence on these important questions requires a setting with (i) a measure of individuals' willingness to follow a norm, (ii) a measure of individuals' willingness to obtain decision-relevant information, and (iii) exogenous variation of whether a norm is present or not, and of the specific norm content. Answering these questions with naturally-occurring data in the field is virtually impossible as norms are typically not exogenous but a product of the political process. We therefore design an online experiment with the those three desirable features. Specifically, we conduct a modified dictator game with partially unknown yet ascertainable payoffs (Dana et al. 2007). Between treatments, we vary whether there is no norm, a norm requesting a beneficial choice, or a norm requesting a sacrificial choice.

We find high levels of norm compliance regardless of the norm content. Participants follow the norm not only when it requests a beneficial choice but also when it requests a sacrificial choice. In addition, the presence of a norm leads to a content-independent reduction in people's information

search. When there is a norm, people are less interested in learning how their actions may impact others, even if oneself and others could be hurt, and even when information search is costless. Taken together, our findings resonate with the notion of puzzled and ignorant men who rely on norms to make their decision and treat them as exclusionary reasons by stopping to gather decision-relevant information. In contrast, utility maximization would predict sacrifical norms to have a distinctly smaller effect on people's reduction of (costless) information search than beneficial norms.

Compared to the real world, the norms of our experimental setting are weak, and information search is cheap. And still, our experimental participants largely treat norms as exclusionary reasons that preempt a personal and informed decision. Norms are not only complied with, they also make it superfluous to search for information that is otherwise deemed relevant. These findings support the view that norms indeed constitute obligations, and not a mere threat of sanctions. Then legal theorists are right to argue that modeling norms via constraints (Rabin 1995; Kornhauser 1999), prices (Cooter 1984) or preferences (Kornhauser 1999) misses the point. This debate has important implications for policy makers as well: The legal account would imply that a fine instigates more compliance than a tax, as the former establishes an obligation whereas the latter does not. In addition, the effect of being under an obligation implies that changes in sanction severity and detection probability should not have a linear impact on compliance but distinctly non-linear, as described by Michaeli and Spiro (2015).

2 Literature

This paper speaks to different research programs and disciplines. From a theoretical viewpoint, we address both economic and (legal) philosophical accounts of compliance with the law. From an empirical viewpoint, we use a design and methodology from experimental economics to advance the understanding of norm compliance, authority, and willful ignorance.

Economic Theory. Classical economic theory specifies humans as utility maximizers with unlimited cognitive capacity. Traditional law and economics scholarship assumed self-interested actors, in which case legal norms influence the human behavior only via sanction severity and probability (Becker 1968). Behavioral economics has enriched this framework by (a) expanding the set of objectives people find desirable – e.g. social recognition (Bursztyn and Jensen 2017; Kurschilgen and Marcin 2019), living up to one's own moral standards (Bénabou and Tirole 2011; Kurschilgen 2021), and (b) accounting for people's cognitive constraints and biases (Kahneman et al. 1982; Simon 1990).

Behavioral economists have also pointed out a number of additional ways in which legal norms can influence utility maximizers. Law has been shown to provide focal points for successful coordination (McAdams 2015; McAdams and Nadler 2008, 2005; Bohnet and Cooter 2003; Chatziathanasiou et al. 2022), and information on risks and benefits (Ferrer 2010; Sah 1991). Legal norms can inform about the expectations of citizens towards the behavior of others (Sunstein 1996). The existence of a legal norm can signal the social types among citizens as it's introduction will be tailored to preventing or strengthening specific behavior (Sliwka 2007; van der Weele 2012; Benabou and Tirole 2011). Upholding and enforcing legal norms may signal the idiosyncratic moral preferences (Hadfield and Weingast 2012) of fellow citizens. Finally, legal norms may interact with stigma or remorse (Rasmusen 1996; Huang and Wu 1994). All have in common that legal norms provide additional considerations in an utility function where they are maximized next to other (selfish or social)

motives.

Legal Theory.   Legal theorists and philosophers think about law differently. Since H.L.A. Hart's seminal critique of reductionist accounts of law, viewing law from the perspective of the "bad man" (the equivalent of the rational actor) has fallen out of favor (Hart et al. 2012). In Hart's view, incentives cannot explain normativity, and a legal obligation is not merely a threat. At least, Hart cautions, it would be unrealistic to assume most people view law that way. Instead, he proposes that there may be a plethora of different reasons why citizens comply with law. Instead of focusing on "bad men", who may be in the minority, he highlights the "puzzled or ignorant men" (PIM) who "wishes to arrange his affairs if only he can be told how to do it" (Hart et al. 2012).

Hart suggests a different revision of the "bad men"-paradigm than behavioral economics has for the rational and selfish actor: PIM are not simply actors with social or moral preferences. They do not integrate the material consequences of sanctions into a complex and multifaceted utility function. Instead, they apply the rule to the present case, or as he put it "see their own and other persons behavior in terms of rules". They acquiesce to legal norms even though they know "little of its origin or makers". Hart likens legal rules to those of Chess: Players do not weigh all the options of moving a piece and consider the sanction of moving it wrongly, but simply use the rules to play the game. In contrast to the complexities of creating and weighting a utility function, the PIM can "safely apply [the legal rules] without fresh official guidance or weighing up of social issues". The point of legal guidance is that she does not have to make an informed and personal decision.

In fact, legal obligation can be seen as prohibiting this kind of decision making: Raz argues that legal norms are "exclusionary reasons" provided by an authority, preempting other considerations that usually play a role in self-reliant decisions (Raz 1999, 2009). They are second-order reasons: While first order reasons are simply arguments for or against an action, second-order reasons concern if or how first-order reasons can be combined. This is not captured by integrating legal norms as costs, constraints or preferences in utility functions (Kornhauser 1999).

Norm Compliance.   We contribute to the literature on the behavioral mechanisms of norm compliance: Both institutionalized sanctions (Bohnet and Cooter 2003) and unincentivized signals by third parties (McAdams and Nadler 2008, 2005) have been shown to have a coordinating function, especially when implemented through voting (Tyran and Feld 2006; Markussen et al. 2013). The presence of institutionalized sanctions has been found to crowd out decentralized norm enforcement (Kube and Traxler 2011) whereas a legal frame enhances the effectiveness of decentralized sanctions (Engel and Kurschilgen 2013). Laboratory experiments have identified a prosocial effect of obligations (Galbiati and Vertova 2008, 2014; Riedel and Schildberg-Hörisch 2013), authority (Silverman et al. 2014; Karakostas and Zizzo 2016) and leadership (Levy et al. 2011; Brandts et al. 2015). Additionally, sanctions and incentive schemes are able to communicate the behavior of fellow citizens (Danilov and Sliwka 2016; Galbiati et al. 2013). Vice versa, sanctions have little effect if their ability to communicate norms is impeded (Xiao 2013; Xiao and Tan 2014). The norm-communicating function may be the reason why punishing in public is more effective than punishing in private (Xiao and Houser 2011).

Our study adds to this literature by showing that norms are complied with even in complete absence of incentives. Our results yield support to the notion that Law is not a neutral and context-free mechanism but an institution that is by definition charged with normative content and authority. More importantly, our study adds empirical realism to the behavioral literature on legal compliance.

Extant work typically gives participants full information in simple decision scenarios, thus artificially eliminating the complexity and lack of information inherent to many decisions in the real world. While still simple and ascertainable, the decision environment studied in this paper allows to identify the pure guiding function of authoritative norms.

Authority. Our experiment also speaks to the literature on authority. From religious leaders to managers, authority is seen as a central concept to imbue commands with a sense of duty beyond pure incentives. Compared with the ubiquitousness of authorities in real life, there have been surprisingly few experimental studies on the topic in behavioral economics. [1]

Early experimental evidence unveiled the striking ease with which participants are willing to obey the orders of the experimenter, thus illustrating the potentially disastrous consequences of authority (Milgram 2009). More recently, Karakostas and Zizzo (2016) show that experimenters can successfully nudge participants to engage in pointless resource destruction. In a game where participants had to choose an optimal output from a production function, authoritative advice led to suboptimal decisions (Pingle 1997). Of course, authority need not always be detrimental. Cadsby et al. (2006) reveal that a request to comply by the experimenter can increase tax compliance. Similarly, in a public good game with a hidden production function, providing authoritative reasons increased contributions when paired with non-deterrent punishment (Silverman et al. 2014). Our study contributes to this literature the insight that authority does not just affect the outcome, but that it even changes the decision-making process.

Willful Ignorance. Finally, our design relates to the literature on moral wiggle room and willful ignorance. It directly builds on the original design by Dana et al. (2007), who found that participants selectively use moral wiggle room to avoid behaving prosocially. There is conflicting evidence on how robust this phenomenon is: whereas Larson and Capra (2009) report that the effect is independent of decision costs, consumption delay and omission bias, Grossman (2014) find self-inflicted ignorance to hinge on which specific information-choice elicitation method is used. Prosocial behavior of interaction partners weakens the temptation to exploit moral wiggle room (van der Weele et al. 2014; Lazear et al. 2012). Bartling et al. (2014) report an interesting interaction between willful ignorance and social sanctions: Whereas staying willfully ignorant prevents people from receiving peer punishment for antisocial behavior, people are being sanctioned for the act of staying ignorant.

There are different attempts to rationalize willful ignorance in economic models. Grossman and van der Weele (2017) suggest that people may choose to remain ignorant because doing so obfuscates the signal about their true extent of selfishness. Spiekermann and Weiss (2016) conjecture that the social norms people comply with do not depend on the *objective* state of the world but rather on the *subjective belief* about the state of the world. Therefore, people opportunistically acquire information that reduces their norm-obligations.

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[1] There is a separate literature on authority understood as the power of decision, e.g. Fehr et al. (2013); Lai and Lim (2012); Hoeft and Mill (2017b,a); Hoeft et al. (2019). In our context, authority will be understood as the power to influence others.

3 Experimental Design

The goal of our experiment is to test (a) whether people rely on norms for guidance in complex situations (even against their own interests), and (b) whether they treat norms like exclusionary reasons by not gathering information they otherwise deem decision-relevant. For that purpose, we study behavior in a modified dictator game with partially unknown yet ascertainable payoffs (Dana et al. 2007), and vary between treatments the presence and the content of an authoritative norm.

Ignorant Dictator Game (IDG). We conduct a modified dictator game with partially unknown but ascertainable payoffs, as depicted in Figure 1.[2] For brevity, we will refer to this game as the "ignorant dictator game" (IDG). There are two players: a dictator X and a recipient Y. The recipient is passive. The IDG consists of three decision nodes. In node 1 there is a chance move which determines the payoffs of the passive player Y. The payoffs of player X are unaffected by the chance move. With probability $p = .5$, Nature chooses *dilemma*, and with $1 - p$ *NoDilemma*. In node 2, X can choose between revealing the true payoffs for Y and thus making an informed decision in node 3, or staying ignorant and making an uninformed decision in node 3. In node 3, player X can choose between an option *A*, giving her a payoff of 6, and an option *B*, yielding a payoff of 5. If Nature chose *Dilemma* in node 1, the corresponding payoffs for Y are 1 for *A* and 5 for *B*, if Nature chose *NoDilemma*, Y's payoffs are 5 for *A* and 1 for *B*.

Thus, when the state of the world is *dilemma*, X has to choose between maximizing her own payoffs by playing *A*, or foregoing some payoffs but instead maximizing Y's payoffs by playing *B*. In contrast, when the state of the world is *NoDilemma*, playing *A* not only maximizes X' payoffs but also Y's payoffs.[3]
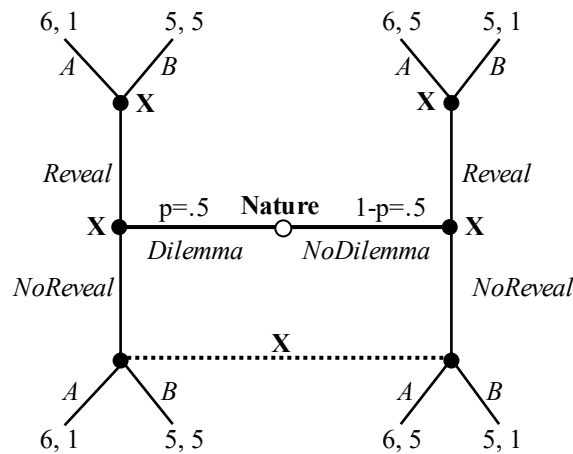

Figure 1: Ignorant Dictator Game (IDG)
Payoffs of dictators *X* (recipients *Y*) are depicted before (after) the comma.

Authoritative Norms. The experiment consists of a *Baseline* and two treatments. The *Baseline* is the IDG explained above. The two treatments do not alter the game structure but only add a written

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[2] This game was first introduced as "hidden information treatment" in Dana et al. (2007).

[3] Whereas in the *dilemma* world, both efficiency and equality are maximized by playing *B*, in the *NoDilemma* world, both efficiency and equality are maximized by playing *A*.

request on dictators' decision screen, see Figure 2. In the *Selfish-Request* treatment, dictators are requested to play *A*, and in the *Sacrificial-Request* treatment, they are requested to play *B*.[4]

The decision is illustrated in Figure 1. On a first decision screen, dictators are offered three options: "play A (without knowing Y's payoffs)", or "play B (without knowing Y's payoffs)", or "first reveal Y's payoffs". If and only if dictators choose to reveal, they see a second decision screen, on which Y's payoffs for choosing A and B are visible. After choosing to reveal, dictators learn whether they are playing in the *dilemma* world (in which playing *A* benefits the dictator but hurts the recipient) or in the *NoDilemma* world (in which playing *A* benefits both players).

Even though you can make any decision you want, you are asked to choose option B.

Option A

Player X	Player Y
6	?

Option B

Player X	Player Y
5	?

First, I want to know the payoffs of Player Y
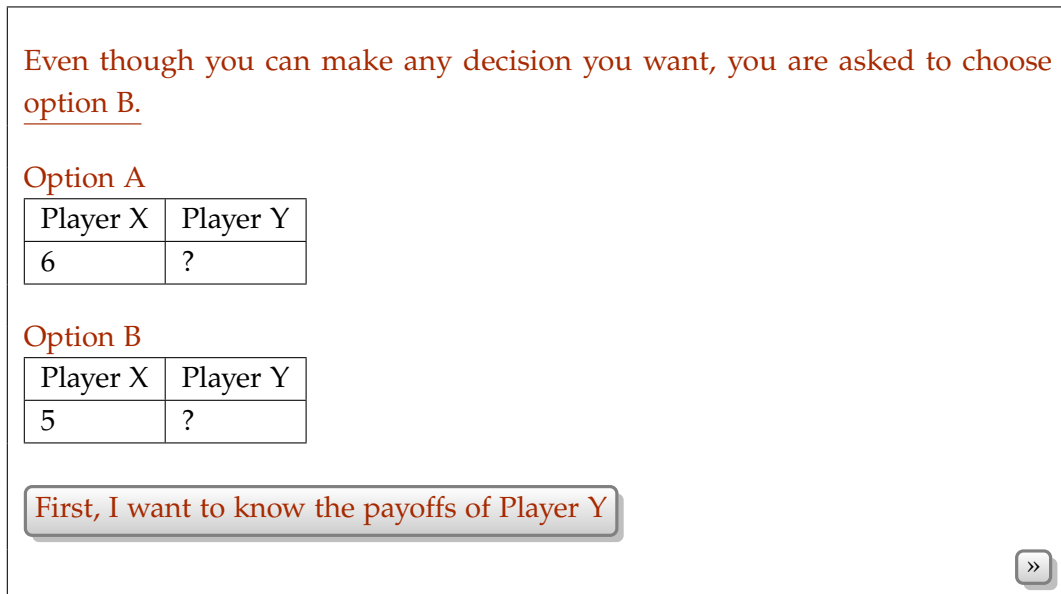
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Figure 2: Decision Screen (Treatment *Sacrificial-Request*)

Beliefs In addition to eliciting dictators' incentivized choices in the IDG, we also elicit recipients' beliefs about dictators' choices. Specifically, participants assigned the role of the recipient were asked to indicate the decision of their assigned dictator. In case they correctly predicted the behavior of their assigned dictator they received an additional bonus of 10 cents. These incentivized beliefs measure the extent to which participants generally *expect others* to treat norms rather in line with the economic account or with the legal account.

Procedures. 784 US-residents were recruited as dictators and randomly assigned to the different treatments using the online labor market Amazon Mechanical Turk (MTurk).[5] The experiment was implemented using the online survey tool Qualtrics. The entire experiment lasted on average for about seven minutes. Using an exchange rate of 1 token = $ 0.1, participants earned on average $ 1.16, resulting in an average hourly wage of $ 12.57, which is considerably higher than the amount

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[4] Our treatments follow the "suggestion without explanation" procedure introduced by Silverman et al. (2014).

[5] For more details on MTurk, please see Appendix B. Dictators were randomly matched to recipients. Only US-based workers, verified through IP addresses in MTurk, with an average approval rate of 97% and a approved amount of tasks of no less than 500 were allowed to take part in our experiment.

Treatments	X
Baseline (costless)	142
Baseline (small fee)	116
Selfish-Request (costless)	126
Selfish-Request (small fee)	134
Sacrifical-Request (costless)	120
Sacrifical-Request (small fee)	146
	784

Table 1: Number of decision-makers by treatment

US-based Mturk workers typically earn.[6] 52 % of participants were female, age ranged from 18 to 75. 67 % of participants reported to have at least a college degree.

To verify that participants were sufficiently responsive to the seemingly small monetary incentives, we conducted two versions of the experimental design just described. Participants in all three treatments faced either exactly the game depicted in Figure 1, in which revealing Y's payoffs was *costless*, or a version of the game in which revealing Y's payoffs entailed a *small fee* of 0.1 tokens = \$ 0.01.[7] We find that the small fee reduced revealing significantly from 37 % to 18 % ($z(1)= 36.3$, $p \leq 0.001$) but did not interact with the treatments. For details, see Figure 5 in the Appendix. Thus, in the results section, we will pool the two versions.

4 Hypotheses

The legal and the economic account generate diverging hypotheses regarding both information search and norm compliance:

Information Search. The legal account predicts that participants treat norms as obligations. PIM simply apply the decision rule, "without weighing up on social issues" (Hart et al. 2012). The same result would be predicted if norms function as exclusionary reasons: Here, it would even be wrong to search for information, as all norm-external reasons for an action, such as social preferences, should be excluded from the decision making process. Therefore we should see less information search if a norm is present. As obligations are irrespective of the norm content, this effect should be similar in the sacrificial and the selfish norm treatment.

The economic account, on the other hand, stipulates that participants continue to maximize their utility, even if the norm presents an additional factor in the utility function. Norms may reduce information search, as certain information may not be decisive anymore. But information search should still be sensitive to the norm content: Subjects may gain additional utility from complying with a norm but this effect might be offset if disobedience maximizes (selfish or social) preferences. If a norm prescribes a financially sacrificial rather than a beneficial action, information search is more likely to reveal information that is relevant for weighing monetary payoffs against norm compliance.

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[6] According to a recent study by the Pew Research Center 92% of US-based Mturk workers earn less than \$ 8.00 an hour, see Hitlin (2016). Our participants were told that they would be paid within one week. After finishing collection we matched subjects according to the instructions and paid them their bonus.

[7] In other words, in that second version of the game, X's payoffs in the upper half of the game depicted in figure 1 decrease from 6 to 5.9 and from 5 to 4.9 tokens. Y's payoffs stay the same.

Moreover, a norm prescribing a financially beneficial action can be used as a narrative to remain (willfully) ignorant. According to the economic account, we should therefore see more information search in the presence of a sacrificial norm than in the case of a selfish norm.

H1a (legal account): *Norms lead to a reduction of information search. The reduction is equally pronounced for sacrificial and for selfish norms.*

H1b (economic account): *Selfish norms lead to a reduction of information search. Sacrificial norms do not lead to a reduction of information search.*

Norm Compliance. The legal account predicts similar rates of compliance for both norms. PIM do not weigh up on social issues but are happy to be guided by a decision rule, irrespective of its content. If participants view norms as obligations, considering whether the norm is sacrificial or selfish is immaterial. In contrast, the economic account predicts opportunistic compliance with selfish norms because these are aligned with people's desire for monetary payoffs but no compliance with sacrificial norms, which hurt both players financially.

H2a (legal account): *People comply with both the selfish norm and the sacrificial norm.*

H2b (economic account): *People comply with a selfish norm but not with a sacrificial norm.*

5 Results

We first report experimental results on how norms affect information search. Subsequently, we will look into treatment differences in norm compliance.

Information Search. The left panel of Figure 3 shows dictators' decision to reveal the missing information across the three treatments. We find that when no norm is present (the *Baseline* treatment), 32% of the dictators choose to reveal the missing information. When a norm is present, revelation drops significantly to 25% (one tailed proportion test $z(1)= 4.2$, $p= 0.02$). Strikingly, the reduction of information search is independent of the specific content of the norm. Hence, in the presence of norms significantly fewer dictators revealed the missing information (one tailed proportion test $z(1)= 4.2$, $p= 0.02$).

To investigate whether subjects rather obey norms blindly (Hypothesis 1a) or opportunistically (Hypothesis 1b) we compare the revelation proportion between the selfish-norm (25% revelation) and the sacrificial-norm (25% revelation). The revelation proportion is obviously not significantly lower in the selfish-norm treatment compared to the sacrificial-norm treatment $z(1)= 0$, $p = 0.5$, with a power of 0.52. The observed symmetry of the effect is consistent with the legal account of decision making (Hypothesis 1a) but not with the economic account (Hypothesis 1b).

The right panel of Figure 3 shows that also recipients' expectations are very much in line with the legal account of norm compliance. They expect selfish norms and sacrificial norms to cause a similarly strong (i.e. symmetric) reduction of information search. They actually expect the effect to be even stronger (β=-0.80, $t(1551)$=-3.15, $p < 0.01$).

Result 1. *Sacrificial norms and selfish norms reduce information search to the same degree.*
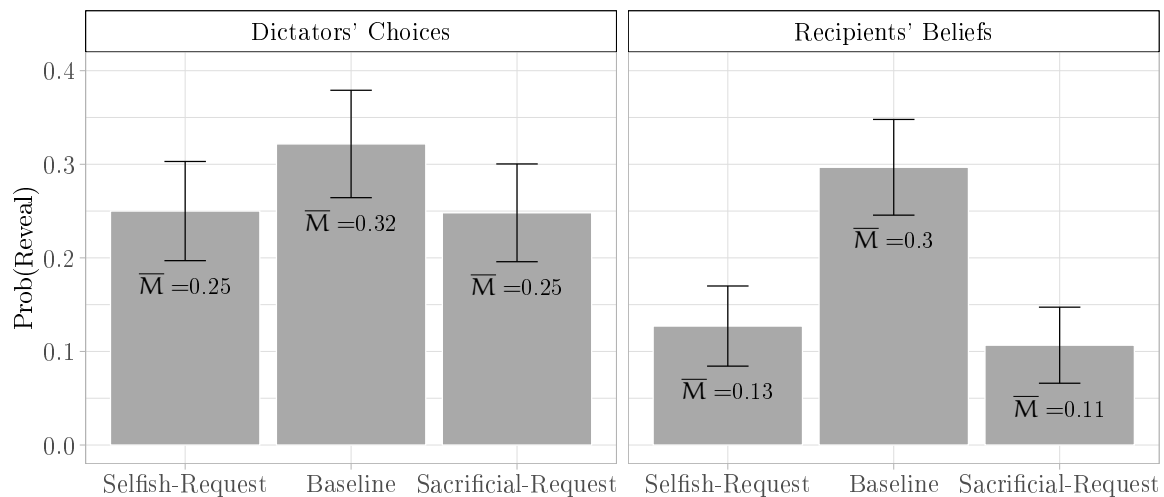
Figure 3: Decision to reveal the payoff by norm treatment. Means with 95% confidence intervals.

Norm Compliance. The left panel of Figure 4 displays how often the selfish option (action *A* in Figure 1 is chosen by the dictators across the three norm regimes.

We find that the presence of a norm requesting subjects to play the selfish option *A* (two tailed proportion test: *z*(1)= 17.3, $p \leq 0.001$), significantly increases the incidence of *A* choices. On the other hand, the presence of a norm requesting subjects to play the sacrificial option *B*, significantly increases the incidence of *B* choices (*z*(1)= 64.6, $p \leq 0.001$). Thus, subjects obey authority not only self-servingly (as conjectured by the economic account; Hypothesis 2b) but rather ignorantly, providing evidence for a legal account of decision making (Hypothesis 2a).

The right panel of Figure 4 shows again that recipients' expectations are very much in line with dictators' actual behavior. They correctly expect the selfish request to increase the incidence of *A* choices, and the sacrificial request to reduce the incidence of *A* choices.

Result 2. *Subjects comply both with selfish norms and with sacrificial norms.*
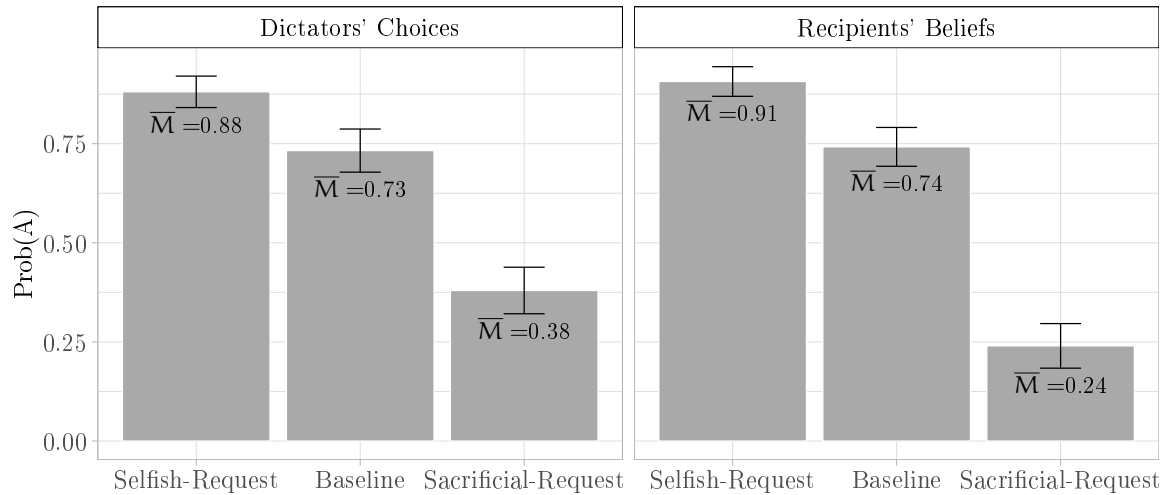
Figure 4: Decision to choose the selfish option *A*. Means with 95% confidence intervals.

This finding is confirmed by the regression analysis of Table 2. Using a linear probability model, we estimate that the selfish request increases the incidence of *A* by 11 percentage points whereas the sacrificial request decreases the incidence of *A* by 51 percentage points. In addition, we find that subjects from the *Baseline* who knowingly (i.e. after choosing to reveal the information) play the *Dilemma* situation are 75 percentage points less selfish than those who choose not to reveal. In contrast, there is no statistical difference between those who knowingly play the *NoDilemma* situation and those who choose not to reveal.

Strikingly, as shown in Table 2, the influence of the sacrificial request even remains after dictators choose to reveal and find themselves in the *NoDilemma* situation. In that situation, they still are 18 percentage points less selfish than dictators in the *Baseline* ($-0.51 + 0.33 = -.18$, two-tailed proportion test: $z(1)= 4$, $p= 0.04$). Even though dictators know that choosing the selfish option *A* also maximizes the payoff of the recipient, dictators follow the norm and choose the sacrificial option, thus reducing their own as well as the recipient's payoff.

Result 3. *Subjects comply with the sacrificial norm even when there is no benefit neither to them nor to the recipient (NoDilemma situation).*

Selfish-Request	0.11^{**} (0.04)
Sacrificial-Request	-0.51^{***} (0.04)
RevealDilemma	-0.75^{***} (0.06)
RevealNoDilemma	$0.11^{\cdot}$ (0.06)
Selfish-Request x RevealDilemma	-0.04 (0.09)
Selfish-Request x RevealNoDilemma	-0.11 (0.09)
Sacrificial-Request x RevealDilemma	0.44^{***} (0.09)
Sacrificial-Request x RevealNoDilemma	0.33^{***} (0.09)
Constant	0.86^{***} (0.03)
Observations	784
R^2	0.48
Adjusted R^2	0.48
Residual Std. Error	0.34 (df = 775)
F Statistic	90.73^{***} (df = 8; 775)

Table 2: Decision to choose the selfish option *A*.

Notes: Linear Regression. Dependent Variable is the incidence of the selfish Option (*A*). The reference group is *Baseline NoReveal*. $^{*}p<0.05;^{**}p<0.01;^{***}p<0.001$

6 Discussion

In the real world, decision problems are often characterized by ambiguity, complexity, and a lack of information. Utility maximization is difficult when the consequences of an action – for oneself but also for others – are uncertain. For example, deciding whether to speed on a rainy highway would require an assessment of the risks for oneself and others, how much faster one would arrive at the destination, what is the probability of being caught speeding, etc. In order to make an informed decision, utility-maximizers would have to gather a considerable amount of information about the expected costs and benefits of their decision options. On the other hand, if people view norms as obligations, the situation is strikingly simple. People can apply the rule at hand (i.e. the speed limit), and have no reason to look for additional information.

Legal scholarship is torn over the question which of these two 'models of man' (Simon 1957) is better suited to understand how norms affect human behavior. The goal of our study is to empirically inform this important debate. For that purpose, we have designed a laboratory experiment in which utility-maximizers are predicted to behave markedly different than puzzled and ignorant men (PIM). Our experimental results yield support to the idea that people view norms as obligations. In particular, we show that the presence of a norm (even a sacrificial one) reduces people's desire to gather additional information. In other words, norms change not only the decision outcome, but also the decision process.

We were able to identify this effect despite having a rather conservative setting. In our experimental design, uncovering the information was virtually costless and the authoritative norm reminded participants that they were free to choose as they liked. We expect a stronger effect in situations with higher complexity, higher information acquisition costs, and a more compelling source of authority. Also the non-strategic nature of our experiment is likely to underestimate the effect of authoritative norms. In a strategic setting, if people believe others will be compliant and ignorant, preferences for conformity are bound to further reinforce the effect.

In sum, our findings resonate with H.L.A. Hart's argument that legal norms not only address

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rational actors – "bad men" – via incentives but also provide complexity relief for PIM. These results highlight a gap in the current literature on legal compliance, that usually tests interventions on fully informed actors in scenarios that invite clear social and moral norms and preferences. Finally, our results hint at an important peril for a society with a critical number of PIM. Blindly abiding by the norms issued by an authority can lead people to ignore the negative consequences of their actions for others and even for themselves. Authority may promote ignorance.

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A Instructions

[The following depict the experimental instructions shown to participants.]

In this experiment, each of you will play a game with one other person. Before playing, we will randomly match people into pairs. The grouping will be anonymous, meaning that no one will ever know which person they played with.

Each of you will be randomly assigned a role in this game. Your role will be either player X or player Y. This role will also be kept anonymous. The difference between these roles will be described below. Thus, exactly one half of you will be a Player X and one half a Player Y. Also, each of you will be in a pair that includes exactly one of each of these types.

The game you play will be like the one pictured below. Player X will choose one of two options: "A" or "B". Player Y will not make any choice. Both players will receive payments based on the choice of Player X. The numbers in the table are the payments players receive. The payments in this table were chosen only to demonstrate how the game works. In the actual game, the payments will be different.

Every point displayed in the table will represent 10 cents.

For example, if player X chooses "B", then we should look in the second row for the earnings. Here, Player X receives 3 points (30 cents) and Player Y receives 4 points (40cents).

	Player X	Player Y
Option A	0	0
Option B	3	4

At this point, to make sure that everyone understands the game, please answer the following questions with regard to the following example decisions:

	Player X	Player Y
Option A	1	2
Option B	3	4

If Player X chooses option "B" then the Player X receives:	1	2	3	4
If Player X chooses option "B" then the Player Y receives:	1	2	3	4
If Player X chooses option "A" then the Player X receives:	1	2	3	4
If Player X chooses option "A" then the Player Y receives:	1	2	3	4
				»

The actual game you will play will be one of the two pictured below. Notice that both games are the same except that Player Y's payments are flipped between the two. Note that in both games, Player X gets his or her highest payment of $0.60 by choosing A. In the game on the left, this gives Player Y his or her lowest payment of $0.10. In the game on the right this gives Player Y his or her highest

payment of $0.50.

In both games, if Player X chooses B, he or she gets a lower payment of $0.50. In the game on the left, this gives Player Y the highest payment of $0.50. In the game on the right, this gives Player Y the lowest payment of $0.10.

You do not know which of the games you will be playing. However, note that for Player X, the payments will be identical. The only thing that differs is the payments for Player Y.

The actual game you will play was determined by a coin flip before the experiment. However, we will not reveal publicly which game you are actually playing. Before playing, Player X can choose to find out which game is being played, if they want to do so. This choice will be anonymous, thus Player Y will not know if X knows which game is being played.

Player X is not required to find out and may choose not to do so. When the game ends, we will pay each player privately on their MTurk-accounts.

	Player X	Player Y
Option A	6	1
Option B	5	5

	Player X	Player Y
Option A	6	5
Option B	5	1

At this point, to make sure that everyone understands the game, please answer the following questions with regard to the following example decisions:

	Player X	Player Y
Option A	6	1
Option B	5	5

	Player X	Player Y
Option A	6	5
Option B	5	1

In both games, which action gives player X his or her highest payment of $0.60?

- Option A
- Option B

If Player X chooses B, then Player Y receives:

- $0.50
- $0.10
- either $0.10 or $0.50

B Amazon's Mechanical Turk

Amazon's Mechanical Turk is an online labor market which is frequently used by social scientists for experiments.[8] Workers in MTurk can choose upon human intelligence tasks (HITs), and they will be paid by the requester after performing the task. These task are relatively simple and are relatively quick. Common task are answering surveys, transcribing data, classifying images, transcribing audio

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[8] For example: Jordan et al. (2016, 2017); Peysakhovich et al. (2014); Rand et al. (2014); Suri and Watts (2011); Mao et al. (2017); Chen and Horton (2010); Horton et al. (2011)

clips, translation rating etc. (Horton et al. 2011; Berinsky et al. 2012; Paolacci et al. 2010; Mason and Suri 2012)

MTurk samples tend to be more representative of the U.S. population than typical samples (Buhrmester et al. 2011; Berinsky et al. 2012; Paolacci et al. 2010), and samples are usually more diverse in age, ethnicity, education and geographical location than a typical student sample (Buhrmester et al. 2011; Berinsky et al. 2012; Paolacci et al. 2010). Most importantly, the data obtained in MTurk has been found to be at least as reliable as data obtained via traditional methods (Buhrmester et al. 2011; Horton et al. 2011; Berinsky et al. 2012; Paolacci et al. 2010).

C Additional results

Figure 5 and Table 3 show that the introduction of a small fee for revealing the recipients' payoffs substantially reduces the dictators' information acquisition. Importantly however, the effect of the small fee does not interact with the authority treatments. Hence, in the main part of the paper we pool the data of the costless and costly treatments.
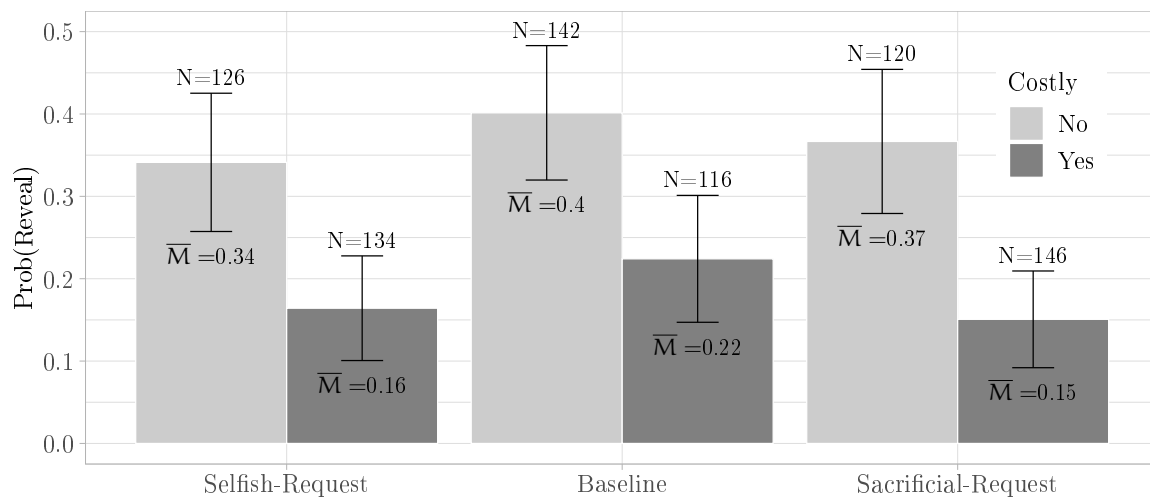

Figure 5: Decision to reveal the payoff by authority treatment and costs of revelation. Means with 95% confidence intervals.

	Decision to reveal		
	Pooled authority treamtents		
	Costless revelation	Costly revelation	Comparing costly vs costless revelation
Constant	−0.40* (0.17)	−1.24*** (0.22)	−0.40* (0.17)
Authority	−0.20 (0.22)	−0.44 (0.28)	−0.20 (0.22)
Costly			−0.84** (0.28)
Authority x Costly			−0.23 (0.35)
Observations	388	396	784
Log Likelihood	−255.47	−183.50	−438.97
Akaike Inf. Crit.	514.94	370.99	885.93

Note: ·p<0.1;*p<0.05;**p<0.01;***p<0.001;

Table 3: Logistic regression with logit link of the decision to reveal the payoff or not by costs and authority.