Judgment of predatory trading: As long as it is legal, it is ethical to harm others

Daphne Sobolev and James Clunie

Abstract

This paper examines how financial practitioners and lay people judge the ethicality and legality of predatory trading, a stock market activity that involves the exploitation of information about other’s need to trade. Specifically, it investigates how their judgments depend on the extent to which the exploited information is publicly available and reliable, and on the perspective of the judge. Moreover, it explores practitioners’ intentions to engage in predatory trading, and lay people’s willingness to let predatory fund managers invest their money. Analyzing the results of three experiments with financial practitioners and lay people, this study shows that people judge predatory trading scenarios to be more legal than ethical, but often ethical nevertheless. People’s ethics judgments depend more on the extent to which the information is publicly available than on its reliability. Furthermore, ethics judgments made from the predator’s beneficiary’s perspective are more lenient than judgments made from the prey’s perspective. Finally, the extent to which practitioners intend to engage in predatory trading, as well as lay people’s willingness to let predatory fund managers invest their money, depend on their ethics and legality judgments. Management and regulatory applications are discussed.
Introduction

“Viewed from a distance, the natural world may present a vista of sublime, majestic placidity. Yet beneath the foliage and concealed from the distant eye, a continuous massacre is occurring. Virtually everywhere that there is animal life, predators are stalking, chasing, capturing, killing, and devouring their prey. The means of killing are various: dismemberment, asphyxiation, disembowelment, poison, and so on” (Chignell, Cuneo, & Halteman, 2015).

Consider the recent case of the Woodford funds. Neil Woodford was one of the most famous fund managers in the UK. As he lost fund assets due to client redemptions after poor performance, Neil Woodford was forced to sell the stocks within his funds. Information about his funds’ contents was available through annual reports and other disclosures on Reuters and Bloomberg. Thus, traders could short-sell the same stocks when Woodford’s sales were made. The short-sellers’ actions have profited them nicely: in this case, billions of pounds worth assets were sold. However, they also furthered Woodford’s losses (Walker, 2019). Do you consider the short-sellers’ actions ethical? Do you think that they legal? Would you have given a different answer had you been a short-seller?

Predatory trading has been defined to be any trading, which exploits information about other investors’ need to trade (Brunnermeier & Pedersen, 2005). In line with predatory trading literature (Clunie, 2011; Brunnermeier & Pedersen, 2005; Brunnermeier & Oehmke, 2014), we refer by ‘prey’ to the person (or institution) which needs to trade, and by ‘predator’ to the person who seeks to profit from the need of the prey to trade. The case of Neil Woodford exemplifies predatory trading, in which the short-sellers are the predators and the Woodford fund is the prey.

Predatory trading methods are diverse. For instance, exploiting information about the prey’s expected sales, predators may sell stocks ahead of the prey and buy them after the prey sells them. In this case, the predators would profit the price difference. However, the price that the prey would
sell the stocks for is likely to be poorer than the price that the prey would have obtained had it not been predated. Alternatively, predators can short-sell stocks and use similar techniques (Brunnermeier & Oehmke, 2014), as in the case of the Woodford’s fund. Predators can also use information about companies which approach the breech of regulatory limits, the use of predictable risk management systems, inclusion of stocks in a major equity index, or likely fire-sales of assets by mutual funds (Clunie, 2011). Predatory trading techniques can be used by fund managers (Clunie, 2011) and high frequency traders (O'Hara, 2014). Research has demonstrated that traders often predate (Takahashi & Xu, 2016).

Although predatory trading does not directly involve physical harm, the losses that it causes can take heavy toll on individuals. For instance, an investor who had lost a large part of his savings due to the Neil Woodford fund predation wrote: “Like all Neil Woodford investors, I feel utterly betrayed. And the more we learn, the angrier I get [...] The frustration and pain I feel must be shared by the 133,769 Hargreaves clients” (Brummer, 2019). Neil Woodford has lost his career (Walker, Smith, & Binham, 2019). Financial loss due to financial crime or recessions has been related to depression, anxiety, posttraumatic stress disorder and suicide (Barr, Kinderman, & Whitehead, 2015; Freshman, 2012). Predatory trading can harm also markets. For example, predatory trading reduces market efficiency (Takahashi & Xu, 2016).

Predatory trading is not necessarily illegal. US and UK financial market regulation does not refer directly to predatory trading. However, market abuse, misuse of information, and insider trading are deemed to be criminal offenses (Financial Conduct authority, FCG 8). Thus, if the information used for predatory trading has been obtained illegally, e.g., through insider trading, then that trading would be deemed illegal due to the information that it exploits, rather than due to its predatory nature. The regulator lists a few criteria for misuse of information. The exploitation of reliable information, which is not publicly available, is illegal (Financial Conduct authority, MAR 1.4).
Despite its prevalence and negative consequences, little research has examined the ethicality and legality of predatory trading. Predatory trading research has contributed fundamental insights about its antecedents. For instance, a study has theorized that it is caused by a breakdown in cooperation between market participants (Carlin, Lobo, & Viswanathan, 2007). Research has also investigated its outcomes, demonstrating that predatory trading increases market illiquidity (Brunnermeier & Pedersen, 2005; Morelli, 2019). Studies have examined the prevalence of predatory trading (Dyakov & Verbeek, 2013; Takahashi & Xu, 2016). Finally, it has examined ways in which prey of predatory trading could be protected by appropriate regulation (La’O, 2014). However, it has largely neglected the ethicality and legality of predatory trading.

The single study that has examined the ethicality and legality of predatory trading has set criteria for the evaluation of the ethicality of predatory trading (Clunie, 2011). Among these criteria were the ‘light-of-day test’ (how would the predator feel if others become aware of his predatory behavior), the ‘universality test’ (if all traders exhibit predatory behavior, would the results be positive), and the ‘consequentialists test’ (are the overall results of predatory trading positive; Clunie, 2011). Related research has examined the ethicality of information misuse, and in particular, insider trading. This research has analyzed the questions, whether insider trading is ethical (Engelen & Liedekerke, 2007; McGee, 2010), whether insider trading should be legalized or regulated (Klaw & Mayer, 2019; Smith & Block, 2016), and cultural perceptions about the ethicality of insider trading (Statman, 2009). One study has investigated the ethical and legal perceptions of high frequency traders, and found that there are discrepancies between them, and that they are highly subjective (Sobolev, 2019). However, no study has examined how financial practitioners and lay people judge the ethicality and legality of predatory trading.

Understanding how practitioners judge the ethicality and legality of predatory trading could be useful for financial firms that seek to formulate codes of conduct or set compliance programs. Practitioners’ ethical views have been acknowledged to have a central role in the implementation of
regulations in organizations, including investment banks. In fact, regulations are not enacted blindly, but in conjunction with practitioners’ ethical beliefs. Compliance programs, which are in line with practitioners’ values have been shown to be more effective than those which aim merely to prevent firms from legal hazards (Parker & Nielsen, 2011; Pérezts & Picard, 2015). Therefore, if there are discrepancies between practitioners’ ethics judgments, legality judgments, and firm rules, then practitioners may not comply with the rules. Investigating practitioners’ judgments could help formulating widely accepted rules. Understanding lay people’s ethics and legality judgments of predatory trading could help financial firms select trading methods, which are in line with their clients’ preferences. A large body of research has established that firms’ ethical conduct affects consumers’ reactions to the firms (see e.g. Yoon, Gürhan-Canli, & Schwarz, 2006). In addition, information about lay people’s opinions about the regulation of predatory trading could be beneficial for regulators.

Accordingly, this paper aims to delineate the principles guiding practitioners’ and lay people’s ethics and legality judgments of predatory trading. Specifically, it examines the relationship between their ethics and legality judgments. It explores the dependence of these judgments on two of the criteria that regulators set for financial conduct legality: the extent to which the information used is reliable and publicly available (Financial Conduct Authority, MAR 1.4). It investigates the way lay people’s perspectives – the prey’s and the predator’s beneficiary’s perspectives – affect their judgments. Furthermore, it examines the relationship between practitioners’ judgments and their intention to engage in predatory trading. Finally, it explores the way lay people’s judgments affect their willingness to let predatory fund managers invest their money, and the extent to which they would like predatory trading to be regulated.

In three studies, this paper reveals that (1) Financial practitioners and lay people judge predatory trading scenarios to be less ethical than they judge them to be legal. However, they often judge predatory trading to be ethical; (2) Their ethics and legality judgments of predatory trading
depend on the extent to which the information exploited for the trading is publicly available and reliable. However, both ethics and legality judgments depend on information availability more than on its reliability; (3) Lay people taking the perspective of the predator’s beneficiary judge predatory trading to be more ethical than those taking the prey’s perspective. Additional analysis shows also that practitioners’ intentions to engage in predatory trading depend more strongly on their ethics judgments than on their legal judgments. Similarly, lay people’s willingness to let fund managers invest their money is related to their ethics and legality judgments. A significant proportion of lay people would like predatory trading to be regulated.

This study makes two main theoretical contributions to the literature about the ethicality of the financial industry. First, a large body of research has developed conceptualizations of the notion of ethical conduct. However, in all conceptualizations, ethical behavior was universally related to benefitting others, independently of situational details. For instance, in economics models, individuals, in general, attempt to maximize their profits, and ethical individuals do so while benefitting also others (Shearer, 2002, p. 556). Philosophical theorists have emphasized individuals’ social responsibility towards others as a central criterion for ethicality (Shearer, 2002, p. 559). Many studies have extended the notion of ethicality to the intentional contribution to the environment and the society (Cooper & Owen, 2007; Uneman & Bennett, 2004). This study characterizes financial practitioners’ and lay people’s ethical judgments of predatory trading as context-dependents. In particular, it suggests that people’s judgments depend on their assessments of the public availability and reliability of the information used for the trading. Furthermore, people’s judgments depend on their temporary perspective. Thus, it highlights the dynamical nature of ethical judgment of financial conduct. Only little research has examined the dynamical nature of ethics judgments in business contexts (e.g. consumer ethics; Sobolev & Voege, 2019).

Second, to the best of our knowledge, no conceptualization of ethicality has portrayed harming others financially for financial profit as an acceptable, ethical behavior. This study reveals
that financial professionals and lay people often consider predatory trading, involving financial harm, to be ethical. Specifically, it shows that this happens when law does not protect against financial harm. Thus, it suggests that conceptualization of the notion of ethical conduct should address the predation underlying many transactions in the financial markets.

**Literature background and hypothesis development**

**The relationship between ethical and legal judgments**

Whereas a few studies show that certain animals exhibit moral predation-related behavior, such as fair sharing of prey after hunt (Boer, 2011), we are not aware of any study suggesting that predators, such as lions or domestic cats, exhibit guilt or compassion towards their prey. However, human beings experience these emotions. From early age, children judge harming others to be morally negative. Hurting others is related to feelings of remorse, regret, guilt and psychological conflicts (Recchia, Wainryb, Bourne, & Pasupathi, 2015; Recchia, Wainryb, & Pasupathi, 2013; Wainryb, Brehl, & Matwin, 2005). Conflicts in the justification of harmful behaviors refer often to differences between the needs of the people involved in the action, and harm narratives become more elaborated with age (Recchia et al., 2015). When children and teenagers hurt others, their mothers explain to them the effects of the harm, focusing on the victim’s needs and the harm’s negative consequences on the relationship, and suggest reparative strategies (Scirocco, Recchia, Wainryb, & Pasupathi, 2018). Thus, human beings are socialized to perceive harming others morally negative. Conflicts between needs are present also in predatory trading scenarios: both the predator and the prey want and often need to earn more money.

A large body of research has demonstrated that there are differences between people’s ethics judgments and the law (Libby & Agnello, 2000). In fact, the differences between ethics judgments and the law sharpen with age (Kohlberg, 1976; Kohlberg, Modgil, & Modgil, 1986). A
study has examined the way the legality of financial transactions is evaluated using technologies (Williams, 2013). However, only little research has examined people’s legality judgments. In the context of consumer judgments, a study has acknowledged that, as people often do not know the law (Pleasence & Balmer, 2012; Preston-Shoot & Mckimm, 2013), people’s legal perceptions should be considered as judgments under uncertainty (Sobolev & Voege, 2019).

Research has not examined people’s ethics and legality judgments of predatory trading. However, in the context of high frequency trading, a study has investigated practitioners’ perceptions of high frequency trading regulation and the ethicality of trading techniques (Sobolev, 2019). This study has found that high frequency trading practitioners often do not perceive the law to be ethical and perceive certain trading techniques, which are legal, to be unethical. Some of the legal techniques, which they judge to be unethical, involve predatory trading. For instance, the director of an HFT company has suggested that, in certain cases, banks’ clients become the prey of high frequency traders: “The banks’ clients would send orders to the banks. What happens now is that the banks have sold this order flow to some of the high frequency trading firms [. . . ] that basically can front-run the client. To me, that’s insider-trading. And the fact, that many of this is done in dark pools, with no proper oversight or regulation, I think it is criminal. That, to me, is cheating” (Sobolev, 2019, p. 11). Similarly, a quantitative strategist has portrayed cash-traders as prey in other cases: “Some people, like me, used to have access directly into those dark [exchange] books [. . . ] I can tell you that the market makers are making all sorts of dishonest things [. . . ] Obviously, the other guys will say that, look, with market makers providing liquidity on both sides of the book, you narrow the spread, and therefore a cash-trader [. . . ] is getting a better, good quality price. He is getting a better price, but at what expense, because at the moment he trades, he is getting screwed by the market maker straight away, because the market maker pre-positions himself everywhere on the book and the market maker will make some statistical analysis, identify that it is a stupid client, and mak[e] money on top of it” (Sobolev, 2019, p. 12).
As people are socialized from early childhood to consider harming others immoral (Scirocco et al., 2018), and financial practitioners consider certain trading techniques, involving the harming others, to be unethical although they are legal (Sobolev, 2019), we conjecture that people would differentiate between the ethicality and legality of other predatory scenarios, too. More precisely, we hypothesize that, when people think that predatory trading techniques are legal, then they judge them to be less ethical than they judge them to be legal:

**Hypothesis H1.** When people judge predatory trading scenarios to be legal, their ethical judgments of the scenarios are less than their legality judgments.

The effects of public availability and reliability of predatory trading information on legality and ethics judgments

Research has shown that animals exhibit behavioral patterns, which are consistent with ethical principles underlying financial regulations. First, monkeys disagree to participate in tasks, in which they receive smaller rewards than other monkeys do (Brosnan & De Waal, 2003). This behavior is consistent with the ethical principle of distributive fairness, which is exhibited also by four years old children (Smith & Warneken, 2016). Distributive fairness is considered to be one of the rationales for the legal prohibition of the use of non-public information in the financial markets (Klaw & Mayer, 2019). For instance, US Court justified its ruling in the case of an insider trading using a distributive fairness argument: “All investors should have equal access to the rewards of participation in securities transactions” (SEC v. Texas Gulf Sulphur; Klaw & Mayer, 2019). Similarly, the Financial Conduct Authority in the UK sets a few criteria for the criminal offense of misuse of data. In particular, the use of data, which is not publicly available is defined to be illegal (Financial Conduct authority, MAR 1.4).
Second, monkeys have been shown to discard data provided by unreliable sources (Schmid, Karg, Perner, & Tomasello, 2017). Children can assess an informants’ reliability already before they turn four years old, and they rely more on information given by informants who have been accurate in the past than on inaccurate informants (Nurmsoo, Robinson, & Butterfill, 2010). The reliability of information has been defined to be an important determinant of criminal misuse of information by the Financial Conduct authority. The FCA defines reliability to be one of the factors taken into account when determining the relevance of potentially misused information (Financial Conduct authority, MAR 1.4). A behavior is defined to be misuse of information if it involves reliable data, which is not publicly available.

Research has not examined the factors that affect people’s judgment of the ethicality and legality of predatory trading. However, research in fields other than financial judgment has shown that lay people incorporate distributive fairness principles in their judgments. For example, a study has shown that, in cases of wrongful deaths, mock jurors’ judgments were in line with the distributive fairness principle (Lenton, 2007). In addition, people incorporate data about information reliability in their judgments. For instance, a study has shown that, in court cases of robbery and murder, verdicts and guilt in lay people’s judgments were related to the witnesses’ credibility (Ruva & Bryant, 2004).

As, from early childhood, people exhibit the tendency to incorporate distributive fairness and reliability accounts in their judgments, we suggest that they would use the same rationales when they judge the ethicality and legality of predatory trading, too. This is especially the case for financial professionals, who are required to learn the regulations. Therefore, we hypothesize that both the public availability of the information and its reliability are used to assess the ethicality and legality of predatory trading techniques:

**Hypothesis H2.** Legality judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable.
Hypothesis H3. Ethics judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable.

The effects of the judge’s perspective on legality and ethics judgments

Although research has shown that apes can understand other species’ perspectives (for example, apes are able to predict where human beings would look for a hidden item, even if the apes know that it is not there; de Waal, 2016; Krupenye, Kano, Hirata, Call, & Tomasello, 2016), we are not aware of any study suggesting that animal predators take the perspective of their prey. However, a study has demonstrated that children as young as three years can engage in perspective-taking, and that the perspective that they take affects their moral judgments in ethical matters, such as environmental questions. In this study, it has been shown that when children are asked to take the perspective of a victim of an irresponsible behavior, then they judge it more severely than they do when they take the perspective of the person who performed the behavior (Hahn & Garrett, 2017). A correlational study, investigating judgments of the acceptability of lying in business contexts has reported that perspective taking is related to adults’ judgments, too (Cojuharenc, & Sguera, 2015). Perspective taking has been shown to affect the quality of auditor’s financial reporting (Church, Peytcheva, Yu, & Singtokul, 2015) and managers’ disclosure recommendations (Mayorga & Trotman, 2016).

Perspective taking has been defined to be “the process of imagining the world from another’s vantage point or imagining oneself in another’s shoes” (Galinsky, Ku, & Wang, 2005, p. 110). Neither the influence of a judge’s perspective on evaluations of the ethicality and legality of predatory trading, nor its influence on judgements of related trading techniques, has been studied. However, high frequency trading and insider information studies suggest that judges’ perspective affect ethics judgments of financial behaviors. First, a study has shown that, to judge the ethicality of high frequency trading, financial practitioners choose a reference stakeholder group and examine its
influence on this reference group (Sobolev, 2019). Examples of the reference stakeholder groups include the financial system, technology firms, their clients, and their families. If practitioners think that high frequency trading has a positive effect on their chosen stakeholder groups, then they judge high frequency trading to be positive, and the other way around. Practitioners’ arrive at different conclusions about the ethicality of high frequency trading when they consider different reference groups (Sobolev, 2019). Judging the effect of high frequency trading on a stakeholder group could be interpreted as taking its perspective. Therefore, this study suggests that the perspective that practitioners choose when judging the ethicality of their profession affect their judgments.

Second, to decide about the ethicality of insider trading, studies have taken different perspectives. For example, a study, taking employees’ perspective (as well as other perspectives), has reached the conclusion that is insider trading is fair (Smith & Block, 2016). However, another study has taken the ‘original position’ (Rawls, 2003) and asked: “would people consent to a rule for the securities markets that permitted [insider trading]?” Taking this perspective, the study has reached the conclusion that insider trading is unfair (Klaw & Mayer, 2019). Thus, the study of insider trading ethicality suggests that taking different perspective yields different judgments of financial practices.

Examining the ethicality of predatory trading, we were especially interested in judgments made from the perspectives of the predator and the prey. Because, in context other than predatory trading, research has shown that perspective taking influences ethics judgments (Cojuharenco & Sguera, 2015; Hahn & Garrett, 2017), and in the related context of high frequency trading and insider information (Klaw & Mayer, 2019; Sobolev, 2019; Smith & Block, 2016), research has suggested that different perspectives result in different judgments, we conjectured that perspective taking would affect judgments of predatory trading, too. Specifically, we hypothesized that, in cases that the prey is harmed, judgments of the ethicality of predatory trading from the prey’s perspective would be more severe than judgments from the predator’s perspective.
Research has not examined the dependence of legality judgments on the judge’s perspective. However, in the context of consumer morally-questionable behavior, a study has shown that legality judgments share many of the characteristics of ethics judgments, and, in particular, depends on the judge’s emotional state (Sobolev & Voege, 2019). Therefore, as with ethics judgments, we conjectured, that legality judgments depend on the judges’ perspective:

**Hypothesis H4.** Legality judgments of predatory trading scenarios, made from the predator’s perspective, are more lenient than judgments, made from the prey’s perspective.

**Hypothesis H5.** Ethics judgments of predatory trading scenarios, made from the predator’s perspective, are more lenient than judgments, made from the prey’s perspective.

**Study outline**

To test hypotheses H1-H5, we conducted three studies. In Study 1, we tested hypotheses H1-H3. Participants were financial practitioners, including fund managers. In Study 2, we tested hypotheses H1-H3 for lay people. Finally, in Study 3, we tested the robustness of hypotheses H1 with respect to the judge’s perspective and the validity of hypotheses H4 and H5 for lay people.

**Study 1**

**Participants**

Thirty-one financial practitioners (three women) participated in the study. Their average age was 41.39 (standard deviation: 9.38 years). Participants had a wide range of educational backgrounds. However, most participants had an academic degree (fifteen participants had a postgraduate degree, two participants were postgraduate students, and seven participants had an undergraduate degree). Five of the participants had a degree in Management, five in economics, and 14 – in
finance. Twenty-one of the participants worked as fund managers, two worked as investors, three worked as traders. The other participants had other financial professions. This sample reflects fund manager population, which is dominated by men.

**Method**

Study 1 aimed at testing hypotheses H1-H3. The study had two parts. Part 1 aimed at testing hypothesis H1 (when people judge predatory trading scenarios to be legal, their ethical judgments of the scenarios are less than their legality judgments). Participants were presented with three trading scenarios. Two of the scenarios described predatory trading. Participants were asked to judge the ethicality and the legality of the behavior described in each of the scenarios. In addition, Part 1 examined practitioners’ intentions to engage in predatory trading. Thus, participants were asked to assess the likelihood that they would act as described in the scenarios. Part 2 aimed at testing hypotheses H2 and H3 (legality and ethics judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable). Each participant was presented with four predatory trading scenarios. The extent to which the information was publicly available, and its reliability, were manipulated. As in Part 1, participants were asked to judge the ethicality and the legality of the each of the behaviors described in the scenarios. In addition, they assessed the reliability of the given information. Participants were asked also to answer a few demographic questions and to fill in a personality questionnaire. The study was conducted on line.

**Design.** Part 1 of the study had a correlational design. Participants were presented with two cases of predatory trading (case 1 and case 3) and one case of non-predatory trading (case 2). Each case comprised a description, a course of action and a scenario. For instance, one of the predatory trading cases consisted of the following:

Case description. You think that a security is under-priced in the market. You also note that short-sellers have a large short position in that security.
Course of action. You consider buying the mis-priced security, knowing that this could cause losses for the short-sellers.

Scenario. To arrive at your conclusion about the intrinsic value of the stock you used a discount cash flow analysis. Your forecasts in this analysis involve a certain level of uncertainty. Sources of information about the stock and the other investors were publicly available.

For each case, participants were asked to produce three responses: legality judgment, ethics judgment, and assessment of the likelihood that they would behave as described in the case in real life. Legality judgments were measured using the item ‘Please rate the extent to which you are confident that the proposed course of action is legal’ on a Likert scale ranging between ‘Very confident that it is illegal’ (1) and ‘Very confident that it is legal’ (7). Ethics judgments were measured using the item ‘Please rate the extent to which you consider the proposed course of action ethical’ on a Likert scale ranging between ‘Strongly believe that it is not ethical’ (1) and ‘Strongly believe that it is ethical’ (7). Behavioral likelihood was measured using the item ‘Please rate the extent to which you consider it likely that you would act in a similar real-life situation as described in the proposed course of action’ on the Likert scale ranging between ‘Extremely unlikely (0%)’ (1) and ‘Extremely likely (100%)’ (7). For any of these questions, participants could choose the option ‘Prefer not to answer/do not know’. Participants were also given the opportunity to explain their answers in the open-ended question: ‘Decision guidelines and comments’. To avoid order effects, the order of the cases was randomized. A screenshot of the first task is given in Figure 1.
Part 2 of Study 1 had a 2 (public availability: low / high) x 2 (reliability: low / high) within-participant experimental design. Each participant was presented with a sequence of four cases. Each case described a predatory trading scenario and consisted of a case description, course of action, an assumption about the way some of the information was obtained, and a scenario. For example, one of the presented cases consisted of the following details:

Case description. A long-short fund suffers a severe loss. You know that in such cases, clients tend to redeem their units in the fund.

Course of action. You consider short-selling the shares that the long-short fund holds, and/or buying shares in the company in which the fund has short positions.

Assumption. Assume that you learnt about the assets the fund holds through the fund’s annual reports.

The independent variables in Part 2 were the public availability and reliability of the information used. To manipulate them, the presented scenario provided additional details about the
information used in each case. These details differed in the extent to which they portrayed the information as publicly available and reliable. To determine the reliability of journal sources (e.g. ‘Financial Times’, ‘Twitter’, ‘Daily Mail’), we used online public trust poll web sites (http://www.businessinsider.com/her-are-the-most-and-least-trusted-news-outlets-in-america-2014-10?IR=T and http://www.pressgazette.co.uk/poll-suggests-sun-least-trusted-newspaper).

However, we manipulated public availability using original formulations. There were four possible sources for each combination of source public availability and reliability. For each participant and for each case, a source was chosen in random from these four sets, so that each participant was presented with all four experimental conditions. For instance, for the case exemplified above, the given scenario described the way the information about the fund’s losses was obtained. One of the sources given in the high public availability, high reliability condition was Bloomberg. Another source given in this condition was an article in the Financial Times. Sources given in the high public availability, low reliability condition included Twitter and Facebook (participants were asked to assume that the fund manager did not know the person who had posted the comment). One of the sources presented in the low public availability, high reliability condition was the well-known editor of a reliable financial magazine, who told the fund manager the information prior to its public release. One of the sources presented in the low public availability, low reliability condition was the editor of the Stock Tips section of a tabloid newspaper, who told the fund manager the information prior to its publication.

As in Part 1 of the study, participants were asked to give for each case three responses: their ethics judgments, their legality judgments, and their judgments of the reliability of the given information. Ethics and legality scales were as in Part 1. Reliability judgments served as a manipulation check. They were measured using the item ‘Please rate the extent to which you consider the source to be reliable’ on a Likert scale ranging between ‘The source is extremely unreliable’ (1) and ‘The source is extremely unreliable’ (7). Participants could also write comments if they wanted to do so.
Additional questionnaires. Participants were asked also to complete a personal detail questionnaire, including their age, gender, education level, main education field, and occupation. Finally, participants were asked to complete the ‘ten item personality inventory’ (Gosling, Rentfrow, & Swann, 2003). The questionnaire measured participants’ big five personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience). Each personality trait was measured using two items. Participants were asked to assess the extent that they see themselves as described in each item on a Likert scale ranging between ‘Disagree strongly’ (1) and ‘Agree strongly’ (7). For example, agreeableness was measured using the item ‘calm, emotionally stable’ and the reversed item ‘critical quarrelsome’.

Results.

Descriptive statistics of the results of Part 1 and Part 2 of the study are presented in Table 1.

Table 1. Descriptive statistics of the results of Study 1.

<table>
<thead>
<tr>
<th>Part</th>
<th>Scenario/condition</th>
<th>Legality judgment means. Standard deviations are given in the brackets.</th>
<th>Ethics Judgment means. Standard deviations are given in the brackets.</th>
<th>T-test comparing ethics judgments to 4 (the middle value)</th>
<th>Additional judgments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>Scenario 1 (predatory trading)</td>
<td>6.77 (0.56)</td>
<td>6.32 (1.32)</td>
<td>t (30) = 9.75***</td>
<td>Behavioral likelihood: 5.31 (2.11)</td>
</tr>
<tr>
<td></td>
<td>Scenario 2 (not predatory trading)</td>
<td>5.55 (2.19)</td>
<td>4.97 (2.32)</td>
<td>t (30) = 2.33*</td>
<td>Behavioral likelihood: 3.67 (2.34)</td>
</tr>
<tr>
<td></td>
<td>Scenario 3 (predatory trading)</td>
<td>7.00 (0.00; all practitioners agreed)</td>
<td>6.94 (0.25)</td>
<td>t (30) = 64.45***</td>
<td>Behavioral likelihood: 6.34 (1.37)</td>
</tr>
<tr>
<td>Part 2 (all scenarios incorporated predatory trading)</td>
<td>High public availability, high reliability</td>
<td>6.36 (1.06)</td>
<td>5.50 (1.78)</td>
<td>t (120) = 9.24***</td>
<td>Reliability: 5.07 (1.34)</td>
</tr>
<tr>
<td></td>
<td>High public availability, low reliability</td>
<td>5.10 (2.20)</td>
<td>4.28 (2.25)</td>
<td>t (120) = 1.38NS</td>
<td>Reliability: 2.46 (1.41)</td>
</tr>
<tr>
<td></td>
<td>Low public availability, high reliability</td>
<td>2.00 (1.89)</td>
<td>1.79 (1.52)</td>
<td>t (123) = 16.24***</td>
<td>Reliability: 3.80 (2.10)</td>
</tr>
<tr>
<td></td>
<td>Low public availability, low reliability</td>
<td>2.06 (1.96)</td>
<td>1.95 (1.75)</td>
<td>t (122) = 13.02***</td>
<td>Reliability: 2.26 (1.61)</td>
</tr>
</tbody>
</table>
**Hypothesis testing.** To test Hypothesis H1 (when people judge predatory trading scenarios to be legal, their ethical judgments of the scenarios are less than their legality judgments), we conducted paired sample t-test, comparing all participants’ ethics judgments in Part 1 and Part 2 to their legality judgments in Part 1 and Part 2 (respectively). (We used for the analysis only cases 1 and 3 for Part 1, as scenario 2 was not a predatory trading scenario). For both parts, t-test showed that participants’ legal judgments were greater than their ethics judgments (Part 1: legality judgments: mean 6.89, std 0.41, ethics judgments: mean 6.63, std 0.99, t (61) = 2.65, p = 0.01; Part 2: legality judgments: mean 3.86, std 2.64, ethics judgments: mean 3.36, std 2.41, t (487) = 7.86, p < 0.001). To further test hypothesis H1, we conducted a repeated measures ANOVA for the results of Part 2, using case number (case 1 - 4), information public availability (low / high), information reliability (low / high), and judgment type (legality judgment / ethics judgment) as independent variables.

Judgement type had a significant effect on the judgmental result (F (1, 26) = 11.23, p = 0.002, partial \( \eta^2 = 0.30 \), observed power = 0.90). (In this ANOVA, case did not have a significant effect on participants’ judgments. However, public availability had a significant effect on the judgments: F (1, 26) = 198.61, p < 0.001, partial \( \eta^2 = 0.88 \), observed power = 1.00. Reliability had also a significant effect on participants’ judgments: F (1, 26) = 18.64, p < 0.001, partial \( \eta^2 = 0.42 \), observed power = 0.99. Judgment type had a significant interaction with public availability: F (1, 26) = 9.98, p = 0.004, partial \( \eta^2 = 0.28 \), observed power = 0.86. However, judgment type did not have a significant interaction with case or with public availability). Therefore, we concluded that the results supported hypothesis H1.

To test hypothesis H2 (legality judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable), we conducted a repeated measures ANOVA for the legality judgments of Part 2, using case number (case 1-4), information public availability (low / high), and information reliability (low / high) as independent variables. Case number did not have a significant effect on the judgmental result (F (3, 78) = 0.88, p = 0.45, partial \( \eta^2 = 0.03 \), observed power = 0.24). However, public availability had a significant effect
Reliability had a significant effect on ethics judgments, too (F (1, 26) = 19.45, p < 0.001, partial \( \eta^2 = 0.43 \), observed power = 0.99). Therefore, the results supported hypothesis H2. However, the effect of public availability on participants’ ethics judgments was more than twice greater than that of reliability.

To test hypothesis H3 (ethics judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable), we conducted a repeated measures ANOVA for the ethics judgments in Part 2, using case number (case 1 - 4), information public availability (low / high), and reliability (low / high) as independent variables. As with legality judgments, case number did not have a significant effect on ethics judgments (F (3, 81) = 1.09, p = 0.36, partial \( \eta^2 = 0.04 \), observed power = 0.26). However, public availability had a significant effect on ethics judgments (F (1, 27) = 126.14, p < 0.001, partial \( \eta^2 = 0.82 \), observed power = 1.00). Reliability also had a significant effect on ethics judgments (F (1, 27) = 14.55, p = 0.001, partial \( \eta^2 = 0.35 \), observed power = 0.96). Therefore, the results supported hypothesis H3. As with legality judgments, the effect of public availability on participants’ ethics judgments was more than twice greater than that of reliability.

**Manipulation check.** To check the reliability manipulation, we conducted a repeated measures ANOVA for the results of Part 2, using participants’ reliability judgments as the dependent variable. Case number (case 1 - 4), information public availability (low / high), and information reliability (low / high), were used as independent variables. Reliability had a significant effect on the judgmental result (F (1, 24) = 7.06, p = 0.01, partial \( \eta^2 = 0.23 \), observed power = 0.72). Case number did not have a significant effect on reliability. Public availability had a significant effect on reliability, however, the effect was almost four times smaller than that of reliability (F (1, 24) = 93.32, p < 0.001, partial \( \eta^2 = 0.80 \), observed power = 1.00). There was a significant interaction between public availability and reliability (F (1, 24) = 9.48, p = 0.005, partial \( \eta^2 = 0.28 \), observed power = 0.84). We
concluded that public availability affected participants’ reliability judgments, however, the effect of reliability on participants’ reliability judgments was much greater. Therefore, the reliability manipulation was effective.

**Additional analysis: behavioral intentions and ethics judgments.** We calculated the correlation between participants’ behavioral likelihood judgments, ethics and legality judgments in Study 1. Participants’ ethics and legality judgments were highly correlated ($r = 0.70$, $p < 0.01$). The correlation between participants behavioral likelihood judgments and ethics judgments ($r = 0.34$, $p = 0.009$) was greater than their correlation with legality judgments ($r = 0.28$, $p = 0.03$).

In addition, we examined the values of participants’ ethics judgments. T-tests revealed that when predatory trading involved publicly available information, participants judged it to be ethical (that is, their judgments were significantly greater than 4, the mid-point level; see Table 1).

**Discussion**

The results of Study 1 supported hypotheses H1-H3 for financial practitioners. In line with literature about harm judgments (Recchia et al., 2015; Recchia et al., 2013; Wainryb et al., 2005), in all cases, practitioners’ legality ratings were greater than their ethics ratings. In accord with developmental literature about the use of information about reliability (Nurmsoo, Robinson, & Butterfill, 2010) and the principle of distributive judgment (Smith & Warneken, 2016), as well as financial literature about insider information and high frequency trading (Klaw & Mayer, 2019; Sobolev, 2019), our results establish that financial practitioners incorporate information about public availability and reliability in their ethics and legality judgments. However, the effect of public availability on their judgments was greater than that of reliability.

Additional analysis revealed that practitioners’ rating of the likelihood that they would engage in predatory trading is correlated with their ethics judgment of the behavior more than they are
correlated with their legality judgments. However, they considered predatory trading to be ethical when the information involved was publicly available and reliable.

Study 2

Study 1 provided evidence supporting hypotheses H1-H3 for practitioners. However, it has not investigated lay people’s judgments. In Study 2 we tested the validity of hypotheses H1-H3 for lay people. Study 2 was used also to assess the dependence of lay people's intention to let fund managers, who use predatory trading techniques, invest their money, and to examine the extent to which they consider regulation of predatory trading important.

Participants

Participants for Study 2 were recruited using Amazon Mechanical Turk. We recruited a total of 400 US-based participants for the study (100 participants for each condition). In the high public availability, high reliability condition, 92 of the participants submitted a complete and usable questionnaire. Of these 92 participants, 36 were women (age mean: 35.51 years, standard deviation: 10.11). In the high public availability, low reliability condition, 89 participants submitted a completed and usable questionnaire, including 35 women (age mean: 36.57 years, age standard deviation: 10.20). In the low public availability, high reliability condition, 88 participants submitted a completed and usable questionnaire, including 41 women (age mean: 34.75 years, age standard deviation: 10.48). In the low public availability, low reliability condition, 79 participants submitted a completed and usable questionnaire, including 33 women (age mean: 38.44 years, age standard deviation: 12.31). Thus, a total of 348 questionnaires were included in the analysis. (High variability in the percentage of usable Mechanical Turk experimental tasks was obtained in a large number of studies, e.g. Barak-Corren, Tsay, Cushman, & Bazerman, 2018).
In all conditions, most participants identified themselves with the Western culture (> 60 participants) and a minority identified themselves with the Asian culture (> 13 participants). In all conditions, participants’ education level was diverse. The highest level of education their majority had achieved was an undergraduate degree, whereas fewer participants had graduated from high school or had a post-graduate degree. Participants’ occupations were diverse, too, including, for example, a line cook, healthcare employees, tutor, photographer, mechanic, and manager.

Method

Similarly, to Part 2 of Study 1, Study 2 had a 2 (public availability: low / high) x 2 (reliability: low / high) within-participant experimental design. Participants were asked to read two scenarios and answer questions about them. The scenarios used were similar to two of the scenarios presented in Part 2 of Study 1. However, to fit the scenarios to non-professional participants, we reformulated them so that no prior knowledge of professional terms was required to understand them. For example, the loss scenario was reformulated for the high public availability, high reliability condition in Study 2 as follows:

“A fund suffers a severe loss. A fund manager, working at a different firm, knows that in such cases, clients tend to leave the fund, and the fund would need to return money to the clients. To do this, the fund would have to sell the stocks it holds, which is likely to lower the price of these stocks further.

A fund manager considers betting against the stocks that the fund holds. If he does so, then he would profit from the expected decrease in the stocks' prices. However, he knows that his actions are likely to cause additional losses to the fund.

Assume that the fund manager learnt about the assets that the fund holds through the fund’s annual reports.

Assume also that he learnt about the fund’s losses from an article in the Financial Times.”
Public availability and reliability were manipulated through the last sentence of each scenario similarly to the way it was done in Part 2 of Experiment 1.

For each of the scenarios, participants were asked to make ethics judgments, legality judgments, and judgments of the reliability of the given information. The scales were the same as the ones used in Part 2 of Study 1. As before, reliability judgments served for a manipulation check. However, in Study 2, participants were also asked to assess the extent to which they would like to let the fund manager invest their own money, on a seven-point Likert scale ranging between ‘You would like very much to let this fund manager invest your money’ (1) and “‘You would not like at all to let this fund manager invest your money’ (7). Furthermore, to gain qualitative insights into people’s judgments, after each of these questions, participants were asked to explain their answer to the previous question.

Finally, to understand people’s judgment of the need to regulate predatory trading, as the end of the experiment, we asked participants whether they would agree to sign a petition to ask the government to set regulations against predatory trading. Aiming at a high external validity, we presented the petition as if it was not a part of the study. This procedure was used in a previous study (Sobolev, Mazilu & Almeida, 2020). Thus, we asked participants to sign the petition after thanking them for their participation using the following formulation:

“Thank you very much for your participation.

The study is anonymous. All your responses would be analyzed anonymously. Your name would not be passed on to any third party without your consent.

I am very concerned about the ethicality of the financial markets. In particular, the trading techniques described in the scenarios in the judgmental task affect the quality and liquidity of the financial markets and may lead to financial crises or layoffs.
Could you, please, sign now a petition that asks the US governmental market regulation agency (the Securities and Exchange Commission) to set regulations, which forbid the exploitation of information about other investors’ need to trade?”

Possible answers were: ‘Yes, I would like to sign the petition’ (1) or ‘No, I would not like to sign the petition’ (2). Participants were also asked to explain their answer about the petition. Afterwards, participants were thanked again for the participation, and were told that the question about the petition was a part of the survey, that the survey was entirely anonymous, and that they would not be signed on any petition.

Personal detail questionnaire. Participants were asked also to complete a personal detail questionnaire, including their age, gender, highest level of education they have completed, their nationality, occupation, and culture. These variables served as control variables.

Results

Descriptive statistics of the data collected in Study 2 is given in Table 2.
Table 2. Descriptive statistics of the data collected in Study 2 (the standard deviation of the variables are given in brackets).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Scenario</th>
<th>Legality judgment means</th>
<th>Ethics Judgment means</th>
<th>The extent to which participants want to let the fund manager invest their money</th>
<th>Consent to sign a petition requesting the government to regulate predatory trading</th>
<th>Reliability judgments</th>
</tr>
</thead>
<tbody>
<tr>
<td>High public availability, high reliability</td>
<td>1</td>
<td>4.65 (1.94)</td>
<td>3.48 (2.11)</td>
<td>4.72 (2.08)</td>
<td>1.57 (0.50)</td>
<td>5.49 (1.19)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5.08 (1.75)</td>
<td>4.17 (2.03)</td>
<td>4.72 (2.17)</td>
<td></td>
<td>5.78 (1.32)</td>
</tr>
<tr>
<td>High public availability, low reliability</td>
<td>1</td>
<td>4.33 (2.06)</td>
<td>3.28 (2.02)</td>
<td>5.24 (1.95)</td>
<td>1.65 (0.48)</td>
<td>3.25 (1.79)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.81 (1.78)</td>
<td>4.30 (2.11)</td>
<td>4.91 (1.97)</td>
<td></td>
<td>3.29 (1.96)</td>
</tr>
<tr>
<td>Low public availability, high reliability</td>
<td>1</td>
<td>3.47 (1.91)</td>
<td>3.11 (2.10)</td>
<td>4.91 (2.13)</td>
<td>1.55 (0.50)</td>
<td>5.40 (1.17)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3.60 (2.03)</td>
<td>3.63 (2.24)</td>
<td>4.95 (2.07)</td>
<td></td>
<td>5.76 (1.23)</td>
</tr>
<tr>
<td>Low public availability, low reliability</td>
<td>1</td>
<td>3.38 (1.84)</td>
<td>2.61 (1.67)</td>
<td>5.52 (1.81)</td>
<td>1.53 (0.50)</td>
<td>4.14 (1.76)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3.32 (1.88)</td>
<td>2.95 (1.97)</td>
<td>5.59 (1.75)</td>
<td></td>
<td>3.35 (1.85)</td>
</tr>
</tbody>
</table>

**Hypothesis testing.** To test hypothesis H1 (when people judge predatory trading scenarios to be legal, their ethical judgments of the scenarios are less than their legality judgments), we conducted a repeated measures ANOVAs for participants’ ethics and legality judgments, using condition (ranging over the four experimental conditions), case number (case 1 / case 2) and judgment type (legality / ethics) as independent variables. The results showed that legality judgments were significantly greater than ethics judgments (F (1, 78) = 58.98, p < 0.001, partial $\eta^2 = 0.43$, observed power = 1.00). (Case number and condition had significant effects on participants’ judgments, too. Case number: F (1, 78) = 25.22, p < 0.001, partial $\eta^2 = 0.24$, observed power = 1.00; condition: F (3, 234) = 9.73, p < 0.001, partial $\eta^2 = 0.11$, observed power = 1.00). Therefore, we concluded that the results supported hypothesis H1.
To test hypothesis H2 (legality judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable), we conducted a repeated measures ANOVAs for participants’ legality judgments, using public availability (low / high), reliability (low / high), and case number (case 1 / 2) as independent variables. The results showed that legality judgments depended on public availability (F (1, 78) = 44.66, p < 0.001, partial η² = 0.36, observed power = 1.00). However, they did not significantly depend on reliability (F (1, 78) = 2.23, p = 0.14, partial η² = 0.03, observed power = 0.31). (Case number had a significant effect on participants’ judgments, too: F (1, 78) = 7.49, p = 0.008, partial η² = 0.09, observed power = 0.77. The interaction between public availability and reliability was insignificant, too. However, availability had a significant interaction with scenario). Therefore, we concluded that the results supported hypothesis H2 for public availability. However, they did not provide sufficient evidence to support hypothesis H2 for reliability.

To test hypothesis H3 (ethics judgments of predatory trading scenarios depend on the extent to which the information used for the trading is publicly available and reliable), we conducted a repeated measures ANOVAs on participants’ ethics judgments, using the same variable as in the previous ANOVA. The results showed that ethics judgments depended on public availability (F (1, 78) = 8.33, p = 0.005, partial η² = 0.10, observed power = 0.81). Unlike with legality judgments, they significantly depended also on reliability (F (1, 78) = 5.34, p = 0.02, partial η² = 0.06, observed power = 0.63). (Case number had a significant effect on participants’ judgments, too: F (1, 78) = 38.79, p < 0.001, partial η² = 0.33, observed power = 1.00. All interactions had an insignificant effect on ethics judgments). Therefore, we concluded that the results supported hypothesis H3 for both public availability and reliability.

Additional analysis

**Manipulation check.** To examine the validity of the manipulation of the information’s reliability, we conducted a repeated measures ANOVAs on participants’ reliability judgments, using
the same variable as in the previous ANOVA. The results showed that reliability judgments depended on reliability (F (1, 78) = 193.69, p < 0.001, partial \( \eta^2 = 0.71 \), observed power = 1.00). The effect of public availability on reliability judgments was statistically insignificant (F (1, 78) = 1.80, p = 0.18, partial \( \eta^2 = 0.02 \), observed power = 0.26). Scenario did not have a significant effect on reliability judgments, either, and so was the interaction between public availability and reliability. (Public availability and reliability had significant interactions with case). Therefore, we concluded that the reliability manipulation was effective.

**Lay people’s intention to let fund managers, who use predatory trading techniques, invest their money.** To examine the dependence of people’s willingness to let the described fund managers invest their money, we conducted a repeated measure ANOVA, using participants investment willingness as the dependent variable, and public availability (low / high), reliability (low / high) and case (case 1 / 2) as the independent variables. Participants wanted to let the fund manager invest their money more when public availability in the described scenario was high (F (1, 78) = 4.81, p = 0.03, partial \( \eta^2 = 0.06 \), observed power = 0.58) and when the information used was reliable (F (1, 78) = 7.95, p = 0.006, partial \( \eta^2 = 0.09 \), observed power = 0.79). (Case did not have a significant effect on participants’ investment choices but had a significant interaction effect with public availability).

Analysis showed that participants’ investment willingness was correlated with their ethics and legality judgments. The more they considered the fund managers’ behavior ethical and legal, the more they wanted him to invest their money. Table 3 presents the correlations between participants’ legality judgments, ethics judgments, and the extent to which they wanted to let the fund manager invest their money.
Table 3. Correlations between participants’ legality judgments, ethics judgments, and the extent to which they wanted to let the fund manager invest their money in Study 2

<table>
<thead>
<tr>
<th>Condition</th>
<th>Scenario</th>
<th>Correlation between legality judgments and investment willingness</th>
<th>Correlation between ethics judgments and investment willingness</th>
</tr>
</thead>
<tbody>
<tr>
<td>High public availability, high reliability</td>
<td>1</td>
<td>-0.41**</td>
<td>-0.51**</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-0.46**</td>
<td>-0.50**</td>
</tr>
<tr>
<td>High public availability, low reliability</td>
<td>1</td>
<td>-0.43**</td>
<td>-0.41**</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-0.51**</td>
<td>-0.65**</td>
</tr>
<tr>
<td>Low public availability, high reliability</td>
<td>1</td>
<td>-0.53**</td>
<td>-0.51**</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-0.56**</td>
<td>-0.61**</td>
</tr>
<tr>
<td>Low public availability, low reliability</td>
<td>1</td>
<td>-0.40**</td>
<td>-0.57**</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-0.45**</td>
<td>-0.52**</td>
</tr>
</tbody>
</table>

**Importance of regulation of predatory trading.** A repeated measure ANOVA, using participants’ consent to sign a petition as the dependent variable, and public availability (low / high) and reliability (low / high) as the independent variables, showed that participants’ consents did not significantly depend on the characteristics of the judged scenario.

Of the 347 participants, 147 (42.24%) agreed to sign the petition. That suggests that a large percentage of the population considers regulation efforts worthwhile.

**Expertise effects.** To examine the effect of expertise on judgment, we compared legality and ethics judgments of participants in Part 2 of Study 1 (financial practitioners) to those of participants in the four conditions in Study 2 (lay people). That is, we conducted repeated measure ANOVAs on
legality judgments and ethics judgments for each condition, using expertise (financial practitioners / lay people) and case (case 1 / case 2) as independent variables.

A repeated measures ANOVA on legality judgments in the high public availability, high reliability condition showed that financial practitioners judged predatory trading scenarios to be more legal than lay people did (F (1, 29) = 21.70, p = 0.01, partial η2 = 0.43, observed power = 0.99). In the low public availability conditions, lay people judged predatory trading to be less legal than lay people did (low public availability, high reliability condition: F (1, 30) = 13.05, p = 0.01, partial η2 = 0.30, observed power = 0.94; low public availability, low reliability condition: F (1, 30) = 13.02, p = 0.01, partial η2 = 0.30, observed power = 0.94). (In the high public availability, low reliability condition, so significant difference was found).

A repeated measures ANOVA on ethics judgments in the high public availability, high reliability condition showed that financial practitioners judged predatory trading scenarios to be more ethical than lay people did (F (1, 29) = 7.24, p = 0.01, partial η2 = 0.20, observed power = 0.74). However, in the low public availability, high reliability condition, such an effect was not obtained. In the high public availability, low reliability, the difference was close to be statistically significant (F (1, 28) = 3.99, p = 0.056, partial η2 = 0.13, observed power = 0.49). In the low public availability, low reliability condition, lay people judged predatory trading scenarios as more ethical than practitioners (F (1, 29) = 6.83, p = 0.01, partial η2 = 0.19, observed power = 0.71).

Discussion

Study 2 supported hypothesis H1. Thus, it showed that, as with financial practitioners, lay people judge the ethicity of predatory trading to be less than its legality. It also provided partial support for hypothesis 2, showing that legality judgments depend on public availability of the used information. However, it has not provided sufficient support for the dependence of legality judgments on the information reliability. On the other hand, the study supported hypothesis H3, suggesting that, when lay people judge the ethicity of predatory trading scenarios, they rely on the
information availability to the public and its reliability. When the information was not publicly available, participants judged predatory trading to be unethical. However, in one case, they judged the information to be unethical also when the information used was publicly available and reliable.

Additional analysis revealed that the extent to which lay people wanted to let the fund managers described in the scenarios invest their money was correlated with their ethics and legality judgments. Furthermore 42% of the participants agreed to sign a petition, asking the government to support regulation of predatory trading. Thus, Study 2 shows that the ethicality and legality of predatory trading is important for lay people.

**Study 3**

Studies 1 and 2 examined fund managers’ and lay people’s judgments of predatory trading. They supported hypotheses H1-H3. However, in the case of predatory trading, judgments may depend on the judge’s perspective. In Study 3, we examined the robustness of hypothesis H1 with respect to two perspectives: that of the predator’s beneficiary (client) and that of the predator’s prey. Study 3 was also used to test hypotheses H4 and H5, conjecturing that when legality and ethics judgments of predatory trading are made from the predator beneficiary’s perspective, then they are more lenient than when the judgments are made from the prey’s perspective.

**Participants**

As with Study 2, Participants for Study 3 were recruited using Amazon Mechanical Turk. We recruited a total of 200 US - based participants for the study (100 participants for each condition). In predatory condition, 88 of the participants submitted a complete and usable questionnaire. Of these 88 participants, 30 were women (age mean: 37.99 years, standard deviation: 11.08). In the predator condition, 98 participants submitted a completed and usable questionnaire, including 29 women (age mean: 34.86 years, age standard deviation: 10.35). Thus, the answers of a total of 186 participants were included in the analysis.
As with Study 2, in all conditions, most participants identified themselves with the Western culture (> 80 participants) and a minority identified themselves with the Asian culture. In all conditions, participants’ education level was diverse. The highest level of education the majority had achieved in each condition was an undergraduate degree (> 45 participants), whereas fewer participants had graduated from high school or had a post-graduate degree. Participants’ occupations were diverse, too, including, for example, a courier, a driver, a dental assistant, a software developer, a bookkeeper, a retail manager, and an Amazon Mechanical Turk employee.

**Method**

Study 3 had a between-participant experimental design. The independent variable was participants’ perspective. It had two values: the perspective of predator’s beneficiary and the perspective of the prey. The same three scenarios used in Part 1 of Experiment 1 were presented to the participants (two predatory trading scenarios and one scenario which did not describe predatory trading). However, as in Study 2, we reformulated them, explaining technical terms and the meaning of each detail. We manipulated participants’ perspective by asking them to assume that they were either the predator’s beneficiary or the prey. For instance, in a scenario in which the fund manager and the prey is a full-replication fund, the scenario given in the prey condition was:

“Index funds (such as S&P 500 or FTSE 100) sometimes add stocks of new companies to their index. When this happens, full replication funds must buy stocks of the same companies according to their rules.

Assume that you work at a full-replication fund. A fund manager, working at a different firm, knows the rules of your full-replication fund. Then, he learns that an index fund is about to add company A into the index. The fund manager expects that this move would increase the price of the stocks. If he buys the stocks at a low price and afterwards the price increases, he would be able to sell his stocks for the higher price and profit the price difference. However,
his actions would increase the price that your replication fund would have to pay for these stocks.

The fund manager considers buying stocks of company A before the index fund adds company A to the index. Assume that the information about the index fund and your full-replication fund is publicly available on the internet. Assume further that the fund manager’s decision involves a certain level of uncertainty.”

The corresponding scenario given in the predatory condition was:

“Index funds (such as S&P 500 or FTSE 100) sometimes add stocks of new companies to their index. When this happens, full replication funds must buy stocks of the same companies according to their rules.

Assume that your fund manager invests your money. He knows the rules of full-replication funds. Then, he learns that an index fund is about to add company A into the index. Your fund manager expects that this move would increase the price of the stocks. If he buys for you the stocks at a low price and afterwards the price increases, he would be able to sell your stocks for the higher price and you would profit the price difference. However, his actions would increase the price that the replication fund would have to pay for these stocks.

Your fund manager considers buying for you stocks of company A before the index fund adds company A to the index. Assume that the information about the index fund and the full-replication fund is publicly available on the internet. Assume further that your fund manager’s decision involves a certain level of uncertainty.”

Participants were asked to give the same responses as in Study 2 (ethics judgments, legality judgments, the extent to which they would like to let the fund manager invest their money, and whether they agreed to sign a petition asking the government to regulate predatory trading), apart for the reliability judgment. To obtain insights about lay people’s perceptions of fund managers, in
Study 3, we replaced the reliability judgment question by judgment of the likelihood that fund managers would behave in real life as described in the scenarios. Judgments were on a seven-point Likert scale ranging between ‘Extremely unlikely (0%)’ (1) and ‘Extremely likely (100%)’ (7). The rest of the scales were as in Study 2.

**Personal detail questionnaire.** Participants were also asked to fill-in the same personal detail questionnaire given in Study 2.

**Results**

Descriptive statistics of the data collected in Study 3 are given in Table 4.

**Table 4.** Descriptive statistics of the data collected in Study 3 (the standard deviations of the variables are given in brackets).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Scenario</th>
<th>Legality judgment means</th>
<th>Ethics Judgment means</th>
<th>Fund manager’s behavioral likelihood judgment means</th>
<th>The extent to which participants want to let the fund manager invest their money</th>
<th>Consent to sign a petition requesting the government to regulate predatory trading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prey</td>
<td>Scenario 1 (predatory trading)</td>
<td>4.14 (1.81)</td>
<td>3.84 (2.06)</td>
<td>5.18 (1.56)</td>
<td>4.31 (1.87)</td>
<td>1.66 (0.48)</td>
</tr>
<tr>
<td></td>
<td>Scenario 2 (not predatory trading)</td>
<td>5.43 (1.83)</td>
<td>5.25 (1.85)</td>
<td>5.60 (1.62)</td>
<td>3.56 (2.02)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scenario 3 (predatory trading)</td>
<td>5.85 (1.36)</td>
<td>4.97 (1.88)</td>
<td>5.36 (1.53)</td>
<td>3.90 (2.21)</td>
<td></td>
</tr>
<tr>
<td>Predator’s beneficiary</td>
<td>Scenario 1 (predatory trading)</td>
<td>4.72 (1.69)</td>
<td>4.59 (1.85)</td>
<td>5.39 (1.31)</td>
<td>3.78 (1.86)</td>
<td>1.70 (0.46)</td>
</tr>
<tr>
<td></td>
<td>Scenario 2 (not predatory trading)</td>
<td>5.85 (1.56)</td>
<td>5.65 (1.74)</td>
<td>5.85 (1.48)</td>
<td>3.04 (2.01)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scenario 3 (predatory trading)</td>
<td>5.77 (1.57)</td>
<td>5.24 (1.94)</td>
<td>5.54 (1.36)</td>
<td>3.52 (2.07)</td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis testing. To test the robustness of hypothesis H1 (when people judge predatory trading scenarios to be legal, their ethical judgments of the scenarios are less than their legality judgments), we conducted repeated measures ANOVAs for participants’ ethics and legality judgments in the prey condition and in the predator beneficiary’s condition, using case number (case 1 / 3) and judgment type (legality / ethics) as independent variables (we used only the judgments for cases 1 and 3 as case 2 did not involve predatory behavior). In the prey condition, legality judgments were significantly greater than ethics judgments ($F (1, 87) = 21.65, p < 0.001, \eta^2 = 0.20, \text{observed power} = 1.00$). (Case number had a significant effect on participants’ judgments ($F (1, 87) = 42.20, p < 0.001, \eta^2 = 0.33, \text{observed power} = 1.00$). The interaction between case and judgment type was significant, too: $F (1, 87) = 9.91, p = 0.002, \eta^2 = 0.10, \text{observed power} = 0.88$).

In the predatory beneficiary’s condition, legality judgments were significantly greater than ethics judgments, too ($F (1, 97) = 8.66, p = 0.004, \eta^2 = 0.08, \text{observed power} = 0.83$). (Case number had a significant effect on participants’ judgments ($F (1, 97) = 16.42, p < 0.001, \eta^2 = 0.15, \text{observed power} = 0.98$). The interaction between case and judgment type was insignificant). The significant effects of judgment type on participants’ judgments in the prey and the predator beneficiary’s condition suggest that hypothesis H1 is robust with respect to participants’ perspective.

To test hypothesis H4 (legality judgments of predatory trading scenarios, made from the predator’s perspective, are more lenient than judgments, made from the prey’s perspective), we conducted a repeated measures ANOVA on participants’ legality judgments, using the judgments obtained in the prey condition and in the predator beneficiary’s condition. We used case number (case 1 / 3) and perspective (prey / predator beneficiary) as independent variables (notice that case 2 did not involve predatory behavior). The results revealed that perspective did not have a significant effect on participants’ legality judgments ($F (1, 87) = 2.35, p = 0.13, \eta^2 = 0.03, \text{observed power} = 0.33$). Therefore, we concluded that Study 3 did not provide sufficient evidence to
accept hypothesis H4. (Case number had a significant effect on legality judgments (F (1, 87) = 72.71, 
p < 0.001, partial η2 = 0.46, observed power = 1.00). Case number and perspective had a significant 
interaction effect on legality judgments (F (1, 87) = 6.38, p = 0.01, partial η2 = 0.07, observed power 
= 0.70).

To test hypothesis H5 (ethics judgments of predatory trading scenarios, made from the 
predator’s perspective, are more lenient than judgments, made from the prey’s perspective), we 
conducted a repeated measures ANOVA on participants’ ethics judgments, using the judgments 
obtained in the prey condition and in the predator beneficiary’s condition. We used case number 
(case 1 / 3) and perspective (prey / predator beneficiary) as independent variables (we used only 
judgments of predatory trading cases). The results revealed that condition had a significant effect on 
participants ethics judgments (F (1, 87) = 5.97, p = 0.02, partial η2 = 0.06, observed power = 0.68). 
Thus, the results of Study 3 supported hypothesis H5. (Case number had a significant effect on ethics 
judgments (F (1, 87) = 23.51, p < 0.001, partial η2 = 0.21, observed power = 1.00). The interaction 
between case and perspective did not have a significant effect on ethics judgments).

Additional analysis

The effect of the judges’ perspective on their willingness to let the fund manager invest 
their money in real life. We say that participants expressed the will to let the fund manager 
described in one of the scenarios invest their money if they chose one of the answers: ‘You would 
like very much to let this fund manager invest your money’ (1), ‘You would moderately like to let this 
fund manager invest your money’ (2), or ‘You would mildly like to let this fund manager invest your 
money’ (3). In the prey condition, 28 participants (28/88 = 31.82%) expressed the willingness to let 
the fund manager described in Scenario 1 invest their money and 41 participants (41/88 = 46.59%) 
expressed the willingness to let the fund manager described in Scenario 3 invest their money. In the 
predator condition, 46 participants (46/98 = 46.94%) expressed the willingness to let the fund
manager described in Scenario 1 invest their money and 54 participants (54/98 = 55%) expressed the willingness to let the fund manager described in Scenario 3 invest their money

To examine the dependence of participants’ willingness to let the fund manager invest their money in real life on perspective, we conducted a repeated measures ANOVA, using the judgments obtained in the prey and in the predator beneficiary’s conditions (as before, we used only the judgments for cases 1 and 3). We used case number (case 1 / 3) and perspective (prey / predator beneficiary) as independent variables. The results showed that perspective had a significant effect on participants’ willingness to let the fund manager invest their money in real life: (F (1, 87) = 5.38, p = 0.02, partial η2 = 0.06, observed power = 0.63): in the predator condition, participants wanted to let the fund manager invest their money more than in the prey condition. In all cases apart for one, participants expressed willingness to invest their money with the fund manager described (their mean willingness ratings were less than 4).

The relationship between participants ethics and legality judgments and their willingness to let the fund manager invest their money in real life. In the prey condition, the correlations between participants’ ethics and legality judgments and participants’ willingness to let the fund manager invest their money were statistically significant (scenario 1: legality and investment willingness: r = -0.37**, ethics and investment willingness: r = -0.52**; scenario 2: legality and investment willingness: r = -0.27**, ethics and investment willingness: r = -0.42**). In the predator’s beneficiary’s condition, similar results were obtained (scenario 1: legality and investment willingness: r = -0.44**, ethics and investment willingness: r = -0.42**; scenario 2: legality and investment willingness: r = -0.38**, ethics and investment willingness: r = -0.56**).

Participants’ perceptions of fund manager behavioral likelihood. As Table 4 shows, in all conditions, participants attributed to predatory behavior a high likelihood (means ere between 5.18 and 5.49). Repeated measure ANOVA with the same variables as before revealed that participants’
fund managers’ behavioral likelihood estimates did not significantly depend on participants’ perspective or the case, or their interaction.

**Consent to sign a petition.** In the prey condition, 30 participants (30/88 = 34.09%) agreed to sign a petition, which asks the government to act towards regulation of predatory trading. In the predator beneficiary’s condition, 29 participants (29/99 = 29.29%) agreed to sign the petition. To check whether this difference was statistically significant, we conducted a t-test on participants’ petition answers. The results showed that there was no significant difference in participants’ consent to sign the petition between the groups.

**Expertise effects.** To examine the effect of expertise on judgment, we compared legality and ethics judgments of participants in Study 1 (financial practitioners) to those of participants in the prey condition and in the predator condition in Study 3 (lay people). Repeated measure ANOVA on legality judgments, using the judgments obtained in Study 1 and the prey condition in Study 3, in which expertise (financial practitioners / lay people taking the prey perspective) and case (case 1 / 3) were independent variables, showed that financial practitioners judged predatory trading scenarios to be more legal than lay in the prey condition (F (1, 30) = 54.35, p < 0.001, partial η² = 0.64, observed power = 1.00). A similar repeated measure ANOVA with judgments made by participants in the predator beneficiary’s condition instead of the prey condition showed that financial practitioners judged predatory trading scenarios to be more legal than lay in the predator beneficiary’s condition, too (F (1, 30) = 51.64, p < 0.001, partial η² = 0.63, observed power = 1.00).

Similar repeated measure ANOVAs on participants’ ethics judgments showed that financial practitioners judged predatory trading scenarios to be more ethical than lay in the prey condition (F (1, 30) = 56.42, p < 0.001, partial η² = 0.65, observed power = 1.00) and in the predator beneficiary’s condition (F (1, 30) = 28.43, p < 0.001, partial η² = 0.49, observed power = 1.00). In one case, preys judged the scenario to be unethical (average rating was smaller than 4) whereas financial practitioners judged it to be ethical.
Discussion

In line with the results of Study 1 and Study 2, Study 3 shows that hypothesis H1 is robust with respect to perspective taking: lay people judge the ethicality of predatory trading scenarios to be less than their legality when they take the perspective of the predator’s beneficiary or the prey’s. It also showed that lay people’s ethics judgments depended on participants’ perspective. Taking the prey’s perspective, lay people judge predatory trading to be less ethical than they judge it when they take the predator’s beneficiary’s perspective. However, Study 3 did not provide sufficient evidence to accept hypothesis H4: participants’ legality judgments did not significantly depend on their perspective.

Study 3 revealed also that taking the perspective of the predator’s beneficiary increased also participants’ willingness to let the fund managers described in the scenarios invest their money. Furthermore, it showed that a large proportion of participants agreed to sign a petition, asking the government to regulate predatory trading.

General discussion

People are socialized to judge harming others to be immoral (Recchia et al., 2015; Scirocco et al., 2018). Does the same principle hold in predatory trading scenarios in the financial markets? Examining the way financial professionals and lay people make judgments of predatory trading, this paper’s answer is: ‘not always’. When both lay people and financial practitioners judge a predatory trading act to be illegal, they judge it to be unethical, too. However, in all examined cases, when financial practitioners considered predatory trading scenarios to be legal, they also considered them to be ethical. When lay people judged predatory trading scenarios to be legal, they considered some of them to be unethical and some to be ethical. Furthermore, lay people’s ethics judgments depended on their perspective: when taking the perspective of the predator’s beneficiary, people were more lenient towards predatory trading than they were when taking the prey’s perspective.
Thus, our results suggest that anti-harm socialization is not the only factor affecting financial practitioners’ and lay people’s judgments.

In fact, our results suggest that a different type of socialization is at play and may be more dominant in financial contexts than anti-harm socialization. Specifically, they suggest that both financial practitioners and lay people often accept profit maximization, or the law which enables it, as an ethical principle. A large body of research has attributed the acceptance of profit maximization as a guiding principle to the calculative mentality which has developed with the capital markets (Bryer, 2000a; Bryer, 2000b; Toms, 2010). Financial practitioners’ tendency to judge predatory trading to be ethical suggests that they identify the idea of profit maximization as an ethical principle more than lay people. That may be because of additional socialization processes in firms. A study has shown that socialization in firms is related to employees’ perceptions of career security (Kennedy & Widener, 2019).

Applications

Management applications. Our results show that financial practitioners consider predatory trading less ethical than legal. Thus, they suggest that companies that seek to formulate codes of conduct, may consider addressing the issue of predatory trading, and formulate policy regarding it.

Our study reveals also that lay people’s intention to let fund manager invest their money is positively correlated with their perceptions of the ethicality of predatory trading. Lay people judged certain predatory scenarios as less ethical than financial practitioners did. Thus, our results suggest that, to attract clients, financial firms should employ fund managers, who fit their trading style to the ethical perceptions of their clients.

Applications for regulations. The results of our study reveal that a proportion of lay people agreed to sign a petition that asks the US governmental market regulation agency (the Securities and Exchange Commission) to set regulations, which forbid the exploitation of information about other
investors’ need to trade. Thus, our results suggest that it could be beneficial for regulators to consider examining the question of predatory trading. In the context of tax compliance, research has suggested that, changes in market regulation could enhance market ethics (Braithwaite, 2013).

**Educational applications.** Our results show that when both lay people and financial practitioners make legality judgments of predatory trading, they rely on the public availability of the information used for the trading more than on its reliability. Given that some regulators use both criteria for criminal convictions (e.g. the Financial Conduct Authority in the UK), the limited attention to information reliability may suggest that educational efforts are required.

**Limitations and future research**

This study has been the first to explore ethics and legality judgments of predatory trading. Nevertheless, it has a few limitations, which suggest paths for further research. First, participants in our study included fund managers, traders and investment analysts living in the UK. Whereas this sample has significantly supported our key hypotheses, we consider it important to extend the study of predatory trading beyond our sample. In addition, our study focused on judgments and therefore did not examine actual behavior. Judgments in real-life situations could differ from judgments of hypothetical scenarios. This suggests investigating fund manager judgments at work.

Second, the scenarios provided to the participants did not include details about the fund manager who performed the predatory trading. However, research has shown that providing participants with names can change their credibility and financial performance judgments. Specifically, when participants were presented with analysts names, they considered the analysts more credible (Chen & Tan, 2013). Therefore, we hypothesize that, given the names of fund managers, who are involved in predatory trading, participants would judge them also more favorably than when they are not presented with names. Future research could test this hypothesis, as well as the effect of the provision of personal details about fund managers who are engaged in predatory trading, and their prey, on ethics and legality judgments.
Third, our results revealed that public availability of the information involved in the predatory trading scenario has a stronger effect on judgments of its ethicality and legality than reliability. Why might that be? The media regularly disseminates information about insider trading. In fact, it presents so much news, that insider trading affects market prices (Fidrmuc, Goergen, & Renneboog, 2006; Rogers, Skinner, & Zechman, 2016). Given that insider information cases receive such a high exposure, they become more available for people’s memory (Shanteau, 1989) and thus, are used for ethics and legality judgments. Research, examining the effect of media coverage on judgment of predatory trading could be beneficial.

Fourth, research has examined the reasons that fund managers engage in illegal financial practices, such as meeting senior executives of the companies in which they invest. It has provided evidence showing that these behaviors are the result of fund manager understanding of the purpose of these meetings, their irrational confidence in the information they receive in the meetings, and the nature of the information received in these meetings (Barker, Hendry, Roberts, & Sanderson, 2012). However, it has not examined fund managers’ ethics and legality judgments. In this study we show that fund managers’ ethics and legality judgments affect their intentions to engage in predatory trading. Therefore, we hypothesize that ethics and legality judgments could affect their engagement in other illegal financial practices, too. Future research could test this hypothesis.

Finally, in real life, predatory trading may involve the co-operation of a few fund managers. A study has shown that group judgment may have different outcomes than individual judgments in honest reporting contexts (Church, Hannan, & Kuang, 2012) and that group effects occur due to social pressure (Lord & DeZoort, 2001). We conjecture that groups could affect the judgment of predatory trading, too. We consider it important to investigate this hypothesis.
References


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