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# Is Fairness in the Eye of the Beholder?: An Impartial Spectator Analysis of Justice

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# **Is Fairness in the Eye of the Beholder? An Impartial Spectator Analysis of Justice**

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## **Abstract**

A popular sentiment is that fairness is inexorably subjective and incapable of being determined by objective standards. This study, on the other hand, seeks to establish evidence on unbiased justice and to propose and demonstrate a general approach for measuring impartial views empirically. Most normative justice theories associate impartiality with limited information and with consensus, i.e., a high level of agreement about what is right. In both the normative and positive literature, information is usually seen as the raw material for self-serving bias and disagreement. In contrast, this paper proposes a type of impartiality that is associated with a high level of information. The crucial distinction is the emphasis here on the views of impartial spectators, rather than implicated stakeholders. I describe the quasi-spectator method, i.e., an empirical means to approximate the views of impartial spectators that is based on a direct relationship between information and consensus, whereby consensus refers to the level of agreement among actual evaluators of real world situations. Results of surveys provide evidence on quasi-spectator views and support this approach as a means to elicit moral preferences. By establishing a relationship between consensus and impartiality, this paper seeks to help lay an empirical foundation for welfare analysis, social choice theory and practical policy applications.

Keywords: Justice; fairness; impartial spectator

*JEL classification:* A13; D61; D63

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“There is no objective standard of ‘fairness.’ ‘Fairness’ is strictly in the eye of the beholder... To a producer or seller, a ‘fair’ price is a high price. To the buyer or consumer, a ‘fair’ price is a low price. How is the conflict to be adjudicated?”

– Milton Friedman, *Newsweek*, July 4, 1977.

The central concern of most normative economics is the distribution of benefits and burdens among members of society, i.e., *distributive justice*. The large volume of relatively recent empirical research on justice (or fairness) has demonstrated the importance of this value for economic decision-making in both the laboratory and the field, e.g., Ellingsen and Johannesson (2004, 2005) and Blinder and Choi (1990). Contraposed to these facts, however, is the sceptical position that, at best, views of fairness are inexorably biased, or that, at worst, fairness is a vacuous construct employed opportunistically. The popular belief expressed in the quote above that “fairness is in the eye of the beholder” is one that justice researchers frequently encounter in dealing both with the general public and with some academic colleagues. The abandon with which people wield fairness arguments, often on opposite sides of the same issue, contributes, no doubt, to the impression reflected in this refrain. Indeed, researchers have also documented that biased views of fairness significantly impact not only words but decisions about the allocation of real economic resources, e.g., Babcock and Loewenstein (1997). Nevertheless, this sentiment typically fails to distinguish the fairness of the implicated stakeholder from that of the impartial spectator. Moreover, fairness bias implies its complement: unbiased fairness. If an impartial standard exists, the crucial question, which is both theoretical and at least potentially empirical, is how one can identify what is just and the principles, if any, that guide unbiased justice. This paper proposes an empirical approach to this question inspired by Adam Smith’s impartial spectator model (1759). The evidence presented here indicates the relevance of distributive preferences for economic policy across a wide range of real world contexts. It is also consistent with the conclusion that there exists an empirical means for identifying unbiased views that can inform social choice theory, welfare analysis and public policy.

This study employs a simple method with the aim of expanding our understanding of two fundamental topics: unbiased justice preferences in real world contexts and the nature of impartiality itself. The method of investigation is the one used in most studies of empirical social choice, viz., attitude surveys consisting of vignettes (i.e., hypothetical scenarios) that elicit preferences over the distribution of benefits or burdens. Nevertheless, no previous study, to my knowledge, has addressed the particular problem raised here. Different research questions require different methods, and there are advantages and disadvantages with any choice. Given the goals of this study, a survey method was chosen, because, among other reasons, it allows one better to target impartial preferences and to do so over allocations in a wide range of contextually rich circumstances like those encountered with real policy analysis.

On the first topic of unbiased justice, the questionnaire design was both informed by theory and directed toward illuminating practical applications. Although much justice research has focused on equality, an important and growing empirical literature reveals widespread preferences for unequal allocations, e.g., Cappelen, Hole, Sørensen and Tungodden (forthcoming), Ellingsen and Johannesson (2005), Frohlich and Oppenheimer (1992), Gächter and Riedl (2005) and Schokkaert and DeVooght (2003). The current

study is in this vein, and the eight distinct vignettes in the survey prompt more complex distributive preferences that correspond to unequal allocations. They describe a wide variety of real world ethical concerns, including environmental protection, fair wages, welfare, job security, tort law, bioethics, globalization and media ethics. Four scenarios vary information related to general justice concepts, including efficiency, equity, need, and rectificatory justice. The other four scenarios examine trade-offs between different distributive goals. These cases represent an uncharacteristically broad set of real world applications for studies in this literature.

On the second topic of the paper, impartiality has often been conceptualized in the Rawlsian sense: the ideal state for forming judgments about justice is an “original position” in which stakeholders are placed behind a veil of ignorance of the specifics associated with their stakes. That normative approach suggests that information is associated with divergence of views, which is seemingly supported by studies that indicate increased information contributes to biased moral views and higher rates of dispute. The current study examines an alternate approach to impartiality inspired by Adam Smith that seeks to elicit the judgments of impartial spectators, rather than implicated stakeholders, who are informed, rather than ignorant, of relevant specifics. The working hypothesis is that the impartial spectator, in contrast to the original position, can be approximated empirically. But if spectator views can be empirically derived, this provides a means for justice scholars to identify general principles of justice, a foundation for social choice theory, and a practical guide for evaluating policy and implementing the exigencies of justice in real situations. Moreover, the results of the current study indicate that fairness information significantly shifts respondents’ views, outweighs the effects of personal characteristics and results in a convergence of views, i.e., it significantly reduces variance. These patterns bolster the claim that the impartial spectator can be approximated in the real world and provide a different perspective from much previous theoretical and empirical work.

An empirically informed theory of unbiased justice offers an attractive basis for both normative and positive analysis. In particular, an impartial spectator theory of justice is a promising approach to the kind of broad issues that are of concern to social choice theorists. For instance, it can inform questions of voting, income distribution, wealth distribution and taxation. An understanding of “unbiased justice” can assist political discourse by helping to identify biased claims that are erroneously justified by manipulation of justice principles to unjust ends. It also can serve as a guide for economic policy in a variety of contexts, including in resolving labour-management conflicts, in the regulation of industries, and in the allocation of costs and benefits of public programs.

Section 1 of this paper discusses theories of impartiality and summarizes and argues for the “quasi-spectator” method employed in this study. Section 2 discusses the justice concepts and trade-offs that inform the survey and presents the questions used in the study. Section 3 summarizes the results on means and variances and presents the results of regression analyses of the relative effects of relevant information versus personal characteristics. Section 4 concludes.

## **1. Impartiality**

This section examines different concepts of impartiality and elaborates on the

impartial spectator model that is a topic of this study. Then I describe the empirical method employed here, which is informed by the spectator model.

### 1.1. *Conceptual framework*

How does one conceptualize impartiality? Philosophers and social scientists have proposed various approaches, but two notions of impartiality have dominated most normative discourse in economics: the Rawlsian *original position* and the *impartial spectator* (or *impartial observer*) model. In *The Theory of Justice* (1971), John Rawls explicated a thought experiment called the original position. This is a hypothetical state in which self-interested individuals initially choose the principles that guide the basic structure of society behind a “veil of ignorance” of any particulars related to themselves, including information about their future position in that society. Rawls maintained that, under such conditions, there would be a high level of agreement regarding the principles of justice, which, he claimed, would protect the interests of the least well off member of society. A different approach is the impartial spectator model, which can be traced to David Hume (1751 [1983]) and, especially, to Adam Smith in his *The Theory of Moral Sentiments* (1759 [1809]). Heirs to Smith’s legacy have stressed different aspects of his writings and have interpreted them in different ways. Many readers have focused on sympathy, whereby the impartial spectator assumes the positions of affected parties, both cognitively and affectively. Common to both Rawls and Smith, however, is the notion that impartiality creates consensus. Indeed, Rawls explicitly asserts that, behind a veil of ignorance, people would reach unanimous agreement on the principles of justice. The relationship between impartiality and consensus is an extremely important, but largely ignored, aspect of both normative and positive justice research. Consensus provides a compelling foundation for prescriptive claims of the superiority of one set of outcomes, principles or ethical theories over another. In addition, some degree of consensus is usually critical to the formulation and implementation of policies in most social and political institutions. This, therefore, is one of the central subjects of this paper.

The chief impartial observer models known to economists are two that Harsanyi proposed (although Harsanyi rarely made any connection to Smith). Amiel, Cowell and Gaertner (2006) present an interesting empirical investigation of these two models. In the one model (1978), Harsanyi proposes that individuals have internalized moral preferences, which they might express as third parties (indeed, he suggests they might even express these as stakeholders trying to remain impartial). Nevertheless, Harsanyi allows that these moral preferences could differ across individuals. In the other model (1953, 1955), he proposes that the impartial observer engages in a thought experiment. The observer considers the objective and subjective circumstances of every person and imagines himself having an equal probability of being each of those persons, ignoring his own actual station. This latter model entails judgments from a hypothetical state and, in this respect, resembles Rawls’s original position. Both of Harsanyi’s two models are formulated in terms of lotteries with von Neumann-Morgenstern utility, and in both cases he argues for utilitarian ethics.

The models of Rawls and Harsanyi are extremely important contributions to this literature. In this paper, however, I wish to examine an interpretation of Smith’s impartial spectator model that differs in several respects from these other models. Harsanyi

considers choice under risk, and the observers have potentially conflicting moral preferences in the one model or engage in reasoning behind a veil of ignorance in the other, as with Rawls.<sup>1</sup> In contrast, I propose and investigate the impartial spectator as one who exists contemporaneously, is present in real people, is informed of the relevant circumstances, embraces a common value system and whose judgments do not necessarily (and, in Smith's examples, usually do not explicitly) involve choice under risk. Some parts of this characterization are consistent with Rawls or one of the Harsanyi models, but none incorporates this particular configuration. Specifically, this impartial spectator is not now and has no expectation of ever being implicated in the situation being evaluated, that is, he has no stake, real or imagined, that might bias judgments of right and wrong. Moreover, the spectator seeks to be fully informed of the relevant particulars and processes this information rationally with respect to internalized values. Smith believes that sympathetic identification can help one to understand better the objective and subjective circumstances of others, so the spectator also engages in a kind of exercise. This paper will focus on the incremental impact of adding information on spectator views, an aspect of impartiality that has not only been largely neglected but that is often considered anathema to impartiality. Nevertheless, it is crucial to exploring both the justice principles as well as the very core of the proposed impartiality.

Obviously, as with all models of impartiality, the impartial spectator is stated in an idealized form. Nevertheless, I believe what is promising about this approach is not only its appeal to moral intuition but also its practical implications for empirical ethics research. Veil of ignorance approaches have extremely stringent informational requirements: agents must reason from self-interest but ignore any and every fact that could introduce a self-interested bias into their judgments. The impartial spectator, on the other hand, is not denied any information, including about his own station in life. Indeed, the spectator is encouraged to acquire all information that might be relevant to reaching moral decisions, including possibly from his own experiences and circumstances. Impartiality in this model is achieved by considering only evaluations of individuals who have no stake in the situation they are judging.

The veil of ignorance is problematic on conceptual grounds: how much information is enough to evaluate allocations or institutions but not too much to bias judgments? Can such conditions exist even hypothetically? Rawls would deny even information about risk preference, but it is difficult to imagine the thought experiment that obtains under such conditions. Nevertheless, the objection here is that it is even more problematic to actualize the veil of ignorance in the real world. Frohlich and Oppenheimer (1992) have simulated Rawlsian conditions in the laboratory using subjects who in groups reason about and vote on redistribution prior to being informed about their individual income classes. Their studies generate fascinating and compelling results about group decision making and distributive preferences, which mostly contradict Rawls's claims about those preferences. Nevertheless, it is difficult to conceive that people really leave their personal interests and experiences at the laboratory door, as the veil of ignorance would require them to do, or that this thought experiment could be extended to real world situations where positions are known and stakes are often high. In

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<sup>1</sup> Traub, Seidl, Schmidt and Levati (2005) report an interesting experiment that examines different types of impartiality, including the versions of Rawls and Harsanyi. Contrary to the focus of the current study, though, they consider risky choice behind different veils of ignorance.

contrast, the impartial spectator is an informed party situated in the real world, even as an ideal. Thus, one can more readily conceive of empirical tests of this model.

## 1.2. *Quasi-spectator method*

One can recognize the ideal of the impartial spectator in many real social institutions. For example, judges, juries, independent arbitrators and regulators are all supposed to be third parties who seek all relevant information on the issues they are deciding without being tainted by any claim related to those same issues. Violations to this impartiality are often prohibited by law. In matters of jurisprudence, the rules of evidence are largely designed with the aim of liberally providing relevant information. Nevertheless, the ideal conditions of impartial spectatorship are probably never realized in the real world. For example, spectators with no material claim might still interject their interests into a situation by vicarious identification with the one stakeholder or the other. Even if self-interest plays no real or imagined role, spectator judgments can be biased by biased information or biased experiences that impact processing of even complete information. Given these facts, is there a means to identify to some degree of certainty spectator judgments under the less than ideal conditions that exist in the real world?

I propose to take seriously the sometimes implicit and other times explicit claim of most normative theory that impartiality results in unanimity. Since the conditions of perfect impartiality are presumably never obtained, however, one can at best observe the judgments of a “quasi-spectator.” This is an observer who has no salient stakes in the matter at hand and is partially, but not completely, informed. Given incomplete information, quasi-spectators might still disagree based on their differing assumptions about the unknowns. The notion that “true” spectator views can at best be approximated is in keeping with the kind of statistical uncertainty with which empirical researchers routinely deal and with a distribution of measured views that is not degenerate. But what evidence is there that spectator judgments can even be approximated? The critical assumption of the quasi-spectator method I propose in this paper is that the answer to this question is based on *consensus*. This is a convergent trend of opinion by quasi-spectators that accompanies the addition of relevant information. Spectators are assumed to be operating from a common set of values such that, as information related to their values is added, their views of what is just will, on average, converge. Thus, complete impartiality and, therefore, unanimity are probably never observed in the real world given the difficulties of both eradicating all stakes and providing all relevant information. But convergence, on average, toward a particular view by quasi-spectators as information is added is taken as favourable evidence of the impartial spectator. Consistent with normative theory (and empirical method), then, consensus is seen as a central and compelling characteristic of an analysis of impartiality.

The specific quasi-spectator method of this study is a between subjects survey design. There are two treatments. In the *low information* treatment, one set of respondents reads a scenario involving the distribution of some variable of social or economic value, e.g., how much to reduce the discharge of a pulp mill’s pollutants into a river given the environmental impact and the effect on employment at the mill. The participants are not cast in any stakeholder role in the scenario, indeed, the text of some scenarios in this study explicitly promotes a third party view, e.g., the pulp mill is portrayed as being

located in a different part of the country so as to minimize any imagined concern by respondents for their own employment or hardship from the pollution. The response format is continuous on a closed interval, e.g., the pollutants can be reduced by any amount between 0% and 100%. In the *high information* treatment, a different group of respondents reads a scenario that is identical to the low information one, save the addition of a passage that contains supplemental information that is considered relevant. Relevance was defined by an empirical criterion, namely, based on whether the information generated a statistically significant shift in the mean response of participants (this is discussed in greater detail in section 2.2). In the pollution scenario, the additional passage provided more information about the consequences of different levels of pollution reduction for workers and neighbours of the mill. The between subjects design was chosen in order to avoid any tendency on the part of participants consciously to over-respond or under-respond to the different versions. Consensus consistent with the spectator model is seen here as a reduction in the variance around the respective means in the high information versus the low information treatments. Demographic information was also collected and employed to evaluate the importance for judgments of relevant information relative to personal characteristics.

The quasi-spectator method described above is very simple, but, to my knowledge, no previous study has addressed precisely this question or possessed a design consisting of these particular elements. Although it is a prominent feature of normative theory, consensus has remained relatively neglected in the empirical analysis of justice. In most research, treatment effects have focused on differences in means or categorical choices, rather than differences in variance. Thus, most survey studies in this area have employed discrete choice formats, e.g., as with the seminal contribution by Yaari and Bar-Hillel (1984) to empirical social choice (although Gaertner, 1994, is one exception). There are advantages to the discrete choice format (including possibly simplifying the cognitive task), but given the interest here not only in means but variance, the continuous response format is a more natural choice. The specific manner in which information is varied in this study is also significant. As mentioned above, a between subjects design was chosen to preclude any interaction between versions of the same question. More importantly, most previous studies that vary informational content do so using *contrasting* versions, e.g., the important and seminal survey study of fairness by Kahneman, Knetsch and Thaler (1986) presented alternate passages in different versions of scenarios. The interesting and informative results of this study stimulated an impressive volume of subsequent research. In the current study, on the other hand, the focus is on the marginal effect of additional information, for which information must be varied incrementally.<sup>2</sup>

The premise of the quasi-spectator model, viz., that information is directly related to consensus, runs counter to what one would conclude from the few studies that shed light on this relationship. For example, Babcock and Loewenstein (1997) report a series of experimental and field studies of bargaining with plentiful information. They find that informing subjects of their positions increases rates of bargaining disputes and impasse, which they trace to biased processing of information. This claim finds support in the psychology literature indicating that biases increase with the number of criteria at one's

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<sup>2</sup> Yaari and Bar-Hillel (1984) present contrasting versions of a question where information is stated as facts or as beliefs, but the basic information is not manipulated, let alone incrementally.

disposal (e.g., Dunning, Meyerowitz and Holzberg, 1989). Nevertheless, these studies involve stakeholders, i.e., implicated parties whose judgments are impacted by self-interest. It is not surprising that, when interests diverge, views are biased and disperse.

In contrast, the current study is concerned with the moral claims of third parties. Even with quasi-spectators, however, it is not clear on a priori grounds whether or how information would affect convergence. On the one hand, additional information could complicate moral reasoning, resulting in increased noise. Also, if individuals do not agree on moral principles or on their relative importance or residual interests corrupt their judgment, information could introduce elements that feed these tendencies toward divergent views. On the other hand, the quasi-spectator approach outlined above postulates that people operate from a common set of principles. If agents entertain multiple principles, then this model posits that, at least as impartial spectators, they share a common sense of how to weigh the principles, i.e., there is a high level of agreement on trade-offs. Relevant information allows quasi-spectators to reduce the role of potentially differing implicit assumptions and to evaluate more accurately the implications of their principles, resulting in greater consensus. Whether information contributes to convergent or divergent moral judgments by spectators is an important open question that, to my knowledge, has not been examined systematically elsewhere.

Some experimental evidence suggests that information promotes consensus. In Konow (2005), I analyzed a series of studies, including bargaining experiments by Alvin Roth and his colleagues, in which information was varied. High information was generally found to decrease the variance of expected payoffs. Nevertheless, those experiments were not designed to address the question at hand and, therefore, limit the conclusions one can draw in this regard for at least two reasons. First, those experiments involved stakeholders bargaining over their own payoffs rather than spectators expressing unbiased preferences. Second, the procedures of the experiments provided little or no context for moral judgment, even in the high information conditions.

The highly controlled conditions of the laboratory can prove a powerful means of investigation, and it is often appropriate to restrict information about many variables, including subject contributions, abilities, choices, needs, and identity. The results of a number of experiments suggest, however, that subject decisions under such conditions are not always representative of the more complex distributive justice preferences typically encountered in real life. In particular, when the context is very lean, decisions appear to be made more frequently based on heuristics than is the case in high stake situations in real life. For example, in many experiments there is no justice relevant information and equal splits often emerge as a modal choice, including in the simple versions of the ultimatum game, the dictator game, and the trust game. Equal splits appear to arise here by default, not because of any general preference for equality.<sup>3</sup> Under such conditions, increasing information about individuals and variables of interest might very well increase variance, ostensibly contrary to the claim of the quasi-spectator model. But the object of the current study, and the domain of the quasi-spectator model

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<sup>3</sup> I argue in Konow (2003) that equality of allocations is not a general principle of justice, i.e., one that most agents value in general terms under the ideal conditions of perfect information. Rather, it surfaces for a variety of other reasons, including as a special case of other general principles, due to negotiation or cognitive costs, or as a kind of “default” when no information is available about the variables needed for more careful justice evaluation.

that motivates it, is moral judgments made under conditions approximating the usually richer information set found in the real world. That is, our method proceeds from a base (the low information condition) in which decisions at least potentially reflect some degree of moral reflection and do not just reduce by default to equal splits, and it then explores the effect on variance of additional information (in the high information condition). For this reason, it employs surveys applied to a number of real allocation problems in a wide range of situations with some context, even in the low information conditions.

## 2. Justice: Principles and Trade-offs

One of the two main goals of this study is to produce evidence on distributive preferences and on the trade-offs between conflicting distributive goals, or justice in a broad sense. Justice is also the context within which the other subject matter of this paper, impartiality, is studied. This section presents the content of the questionnaire and its relationship to justice and details the design and administration of the survey.

### 2.1. Questionnaire

The complete questionnaire consists of eight vignettes (or hypothetical scenarios) that cover a wide range of social institutions and policy areas. Four are inspired by four different concepts of justice (efficiency, need, accountability and rectificatory justice) and four are framed in the context of four different fields of applied ethics (environmental ethics, media ethics, bioethics and business ethics). A word about the first three concepts of justice (efficiency, need and accountability) is in order: these are three principles that I have proposed as a part of a general theory of distributive justice (e.g., Konow, 2003). In that theory, context, or the set of salient variables and individuals, determines the relative importance of principles and the trade-offs among them. Actually, any set of principles or values that is associated with a significant shift in responses when information is added would have sufficed, but I chose ones that have been found in other studies to have substantial explanatory power. Here the principles are applied to new contexts, which permits additional tests of their generality.

Table 1  
*Summary of Questions*

	Social institution	Policy area
<i>Justice concept</i>		
1. Efficiency principle	Firm	Resource allocation
2. Need principle	Government	Welfare
3. Accountability principle	Labour market	Wage setting
4. Rectificatory justice	Judiciary	Tort law
<i>Applied ethics</i>		
5. Environmental ethics	Regulatory agency	Environmental regulation
6. Media ethics	Media/entertainment industry	Mergers
7. Bioethics	Health care industry	Resource allocation
8. Business ethics	Firm	Globalization

Table 1 summarizes the eight questions according to which of the four justice

concepts or four applied ethics fields they belong, the social institution in which they are framed and the specific policy area that is addressed. Tables 2 and 3 exhibit the content of the vignettes. The passages in *both brackets and italic* were not present in the low information condition but were added to the text in the high information condition. I will now discuss briefly each of the questions.

Table 2  
Justice Concept Questions

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1. A large company has two divisions. The one division produces film for traditional cameras, which is the business the company was founded on. The other, newer division is focused on technologies for digital photography and printing. Due to changing consumer demand, the traditional film division is on the decline and its share of company revenues is falling. The company's budget for plant, machinery and equipment in the coming year totals \$10 billion, and its board must decide how much of this to devote to the film division and how much to the digital division. [*Company finance analysts expect revenues from the film division to fall from 60% currently to only 10% in five years. In order to protect the company's financial health and survival, they recommend focusing expenditures for plant, machinery and equipment on the digital division and devoting \$9 billion of next year's budget to the digital division and only \$1 billion to the film division.*] How much of this \$10 billion do you think the board should budget for the *film* division of the company (Enter a number in billions of dollars from 0 to 10)?  
\$ \_\_\_\_\_ billion

2. The state provides support to those in need for a limited period of time. For example, John, who needs one year to complete a high school diploma, is eligible to receive such support. [*The state has determined that the basic needs of a person living in this area for food, housing and clothing equal \$800 per month.*] How much do you think the state should provide in total support for John per month (Enter a number from \$0 to \$1000)?  
\$ \_\_\_\_\_ per month

3. Suppose Adam and Bill worked last weekend stuffing envelopes for a mass mailing. This job took a total of 11 man hours, but Adam worked more hours than Bill. [*Specifically, Adam worked 8 hours whereas Bill worked 3 hours.*] The total pay for this 11 hour job is \$100. How much of this \$100 do you think Adam and Bill should each receive (Enter amounts for each person below and make sure the two amounts total \$100)?

Adam	\$ _____
Bill	\$ _____
Total	\$100

4. You are the judge deciding the outcome of a civil suit brought by a motorcyclist against the driver of a car that hit him. The suit demands \$100,000 in damages for medical expenses, loss of earnings and pain and suffering (vehicle repairs were covered by insurance), but the actual award could be anything between \$0 and \$100,000. In court testimony, the facts have been presented as follows. The motorcyclist pulled out of a parking lot into a street a few feet from a stop sign and was thrown from his motorcycle when the car struck him. [*As a result of the accident, the motorcyclist has lost earnings of about \$3,000 due to missed work time and has incurred medical expenses of around \$12,000.*] How much do you think the court should require driver of the car to pay the motorcyclist (Enter a number from \$0 to \$100,000)?  
\$ \_\_\_\_\_

Question 1 is motivated by the efficiency principle, which advocates the maximization of aggregate surplus. A number of studies have found support for this goal, e.g., Charness and Rabin (2002) and Kritikos and Bolle (2001). Specifically, this question addresses the matter of allocating firm resources to maximize consumer satisfaction and shareholder value in the context of the kind of real technological changes we have observed in recent years. Question 2 addresses the need principle, which simply requires

that allocations be sufficient to meet each individual's basic requirements for life, including for food, shelter and clothing. In this example, needs are met through state support. Evidence of a concern for needs is apparent, for example, in the studies of Gaertner, Jungeilges and Neck (2001) and Kravitz and Gunto (1992).

Question 3 reflects the accountability principle. Whereas the efficiency and need principles deal with the absolute size of allocations, the accountability principle addresses the relative size of allocations across individuals. It calls for allocations to be in proportion to the factors that affect contributions and that individuals can control. For example, a worker who is twice as productive as another should be paid twice as much, if his greater productivity is due entirely to factors he can control (e.g., hours worked) but not if it is due to factors outside his control (e.g., a physical disability). This principle finds support in the results of surveys and experiments (see Konow, 2000, 2003). Since the only difference between the workers in question 3 is hours worked, one would expect a fair distribution of earnings to be in proportion to their fraction of total hours.

Question 4 is about rectificatory, or corrective, justice. Whereas the three principles outlined above deal with *distribution*, this concept has to do with *redistribution*. Rectificatory justice, which can be traced to Aristotle's *Nicomachean Ethics*, addresses an initial injustice that must be rectified by the redistribution of benefits or burdens between individuals in order to establish or re-establish equity according to the reigning justice principle or principles in the particular context. In the case in which one party is wronged by another, Aristotle's claim is simply that the one should compensate the other for losses. The scenario in this question is inspired by a tort case based on a real trial that was employed in a series of studies of fairness bias reported in Babcock and Loewenstein (1997).<sup>4</sup>

The first four questions focus on individual justice concepts. The next four questions, on the other hand, draw from applied ethics fields and pose contemporary problems in which conflicts between different distributive goals are more prominent. These are scenarios for which people can be expected to have distributive preferences, indeed potentially conflicting ones, but these questions are constructed without any presuppositions about what those preferences are. An important goal of the analysis is to examine the effects of additional information on mean judgments and to consider the implications for justice concepts and trade-offs between competing distributive goals. On the matter of variance, however, another feature of questions 1 through 4 is that they are open to the objection that any convergence might be due to a focal point effect associated with the additional information.

Nevertheless, evidence against the focal point hypothesis is produced if convergence occurs even when the additional information either provides multiple and disperse values, as in question 5, or provides no specific values, as in question 6. Question 5 involves a classic case of a negative externality in which the benefits of pollution reduction must be weighed against the costs in terms of lost jobs. Question 6 portrays a scenario inspired by the Time Warner merger of 1989, where the private interests of corporations are balanced against the public good of providing information on matters of public interest.

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<sup>4</sup> I wish to thank Linda Babcock for kindly sharing the materials they used in those studies.

Table 3  
*Applied Ethics Questions*

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5. The Environmental Protection Agency (or EPA) is responsible for regulating the discharge of degradable waste by a pulp mill into a river. The pulp mill involved is located in a different region of the country. The EPA must decide whether to require the pulp mill to reduce its waste discharges into the river and, if so, by how much. Doing so would reduce various adverse effects of the discharge, but complying with EPA requirements would also require the pulp mill to cut its labor force of 400 workers and, perhaps, to close down altogether. [*Cutting the waste by 30% would eliminate the noxious odors coming from the river but would result in the unemployment of 10 workers at the pulp mill. Cutting the waste by 60% would also make the river safe for drinking, swimming and fishing, but would cause a total of 20 workers to be laid off. Eliminating the waste altogether (that is, reducing it by 100%) would allow the return of an additional type of fish valued by some sports fishermen but would make the pulp mill unprofitable so that it would have to close down and lay off all 400 of its workers.*] By how much, if any, do you think the EPA should require the pulp mill to *reduce* its discharges (Enter a number from 0% for “no reduction” to 100% for “complete elimination” in the space below)?

\_\_\_\_\_ %

6. Newstime, Inc. is a financially sound corporation that publishes several long established and respected magazines. These magazines provide the sole source of its \$30 billion in annual revenue and represent about one-tenth of the magazine market nationwide. There are numerous smaller magazine publishers, but they generally specialize in niche markets and do not have sufficient resources or expertise to support general news reporting. Several companies in the movie industry are interested in merging with Newstime in order to take advantage of mutually beneficial business opportunities. The largest and most profitable merger would be with Entertainment Studios, which would generate estimated total annual revenues of \$100 billion from the combined magazine and movie operations. [*Opponents of this merger argue that similar mergers have resulted in higher magazine prices and have seriously compromised journalistic integrity. They give many examples, such as the case in which, after such a merger, a once venerable news magazine ignored news of wars and humanitarian disasters in favor of sensationalized coverage aimed at promoting second rate movies produced within its entertainment division.*] The possibilities for Newstime, then, are 1) to break up and become smaller and more specialized, 2) to maintain its operations at their current size (\$30 billion annual revenue), or 3) to become a larger corporation by merging with a film and TV corporation. In terms of annual revenue, how large a corporation do you think Newstime should be (Enter a number in billions of dollars from 0 to 100 in the space below)?

\$ \_\_\_\_\_ billion

7. A hospital budget committee must decide how much of the budget it controls to allocate to the hospital’s emergency services versus to its preventive services for the community. [*At present, many patients in the community go to the emergency room for their non-emergency needs because they are uninsured. By increasing the budget to preventative services to 60%, the needs of these patients would be covered, and the reduced burden on emergency services would allow it to provide almost the same level of services as previously.*] What percentage of the budget do you think should be allocated to *preventative services* (Enter a number from 0% to 100% in the space below)?

\_\_\_\_\_ %

8. A medium sized manufacturing company has already moved 20% of its operations from the US to a developing country because of cost considerations. [*The company’s Chief Financial Officer (CFO) has commissioned several studies and reports that the company must move 60% of its operations to the developing country or it will go bankrupt.*] What percentage of its operations do you think this company should locate in the *developing country*, whereby any remaining operations remain in the US (Enter a number from 0% to 100% in the space below)?

\_\_\_\_\_ %

In many communities, emergency care has been threatened in recent years and is viewed by some as being at critically low levels. Question 7 addresses the provision of

emergency care versus preventative services at a hospital that has insufficient resources to fund both fully. One of the important transformations associated with globalization is the movement of many manufacturing operations from developed countries to developing countries. Question 8 describes the situation of a US company that must decide how much of its operations to locate in a developing country.

## *2.2. Design and administration of survey*

This study employs a questionnaire design consisting of vignettes administered to subjects who are university students. This approach has been widely employed in the empirical social choice literature, e.g., Gaertner, Jungeilges and Neck (2001) and Schokkaert and Capeau (1991). I will review some of the reasons for these choices (and a few have already been alluded to), but a more detailed discussion of using a student subject pool and of the advantages and disadvantages of different methods of investigation into justice preferences can be found in Konow (2003).

Experiments allow stricter controls, but we are interested here in judgments embedded in real social institutions, and vignettes provide a contextual richness that is better suited to that end. On a related point, such scenarios have been shown to aid reasoning in comparison to abstract problem solving. A survey was also a more practical choice, given the large number of scenarios, the between subjects design for the low and high information treatments of each scenario, and the more than 100 observations that were collected for each information condition of each scenario. This concern was amplified by the fact that the results analysed in this paper were a fraction of a larger study that involved not only the two versions of each question reported here but a total of twelve versions per scenario. Moreover, it would be prohibitively costly to investigate this many variations in paid experiments or the field. Material stakes have sometimes been shown to produce significant differences in behaviour (e.g., Forsythe, Horowitz, Savin and Sefton, 1994), although Rubinstein (1999) compares numerous studies with and without pay and concludes that the results are qualitatively the same. Nevertheless, stakes risk introducing a different bias that is troubling for this particular study, namely, a self-interested bias. Hypothetical decisions, on the other hand, are an appropriate means for targeting the impartial preferences of interest here. Given the large number of total observations needed, a convenience sample of students was used. Specifically, students signed up to participate in the survey to satisfy a course requirement for psychology and economics classes. Student respondents are standard in empirical social choice, and a comparison of student and non-student populations across a number of studies of fairness and moral judgment suggests no remarkable pattern of subject pool effects.

Seeing the actual questions in the previous section, the reader might have a sense of the direction in which the additional information could carry responses. Indeed, that is exactly what is hoped for, if the premise behind the quasi-spectator model is correct: the interpretation of any convergence in the high versus low information conditions is precisely that the additional information allows respondents to evaluate the fairness of allocations more accurately based on their common values, which readers presumably also share, on average. Nevertheless, this could also raise the suspicion that convergence is specific to the wording of the questions (apart from the focal point issue addressed in the previous section). Although this concern can never be entirely dismissed given the

contextual richness of vignettes, a brief description of the method for selecting the context should hopefully diminish it.

The data for this study were drawn from a larger project that explored empirically the effects of both relevant and irrelevant information on spectators and two types of stakeholders (the other results are reported in Konow, 2006). As previously described, informational relevance is defined here empirically as content that produces a statistically significant shift in mean spectator responses. In this project, irrelevant information is defined as content, which when added to relevant information, does not produce a statistically significant change in mean responses of spectators. Content satisfying these criteria was chosen partly through a trial and error process. This process began with content that was expected to alter responses, in the case of relevant information, and that was not expected to do so, in the case of irrelevant information. Expectations, however, were proven wrong on numerous occasions: context expected *ex ante* to cause a shift sometimes did not, and content expected *ex ante* not to change mean responses often did. Ultimately, wording was chosen and information was categorized as relevant or irrelevant based, not on *ex ante* expectations or on its effect on variance, but on *ex post* statistical tests of differences in means. If, in fact, it appeals to common values, relevant information does imply a greater degree of specificity, but its relevance is demonstrated empirically by changes in mean views, as needed to test the quasi-spectator approach.

Various measures were undertaken consistent with good survey design. In order not to tax respondent attention, no subject answered more than six questions, and on each questionnaire form, long versions of scenarios were balanced with short versions of other scenarios. Simple and clear instructions prompted respondents to choose the allocation corresponding to what they thought “should” be done in each scenario (instructions and the demographic questionnaire can be found in the Appendix). To deal with possible order effects, a randomized Latin square design was employed. That is, scenarios were randomly assigned to a variety of different orders. To facilitate comparison of results across scenarios, the response interval for all questions was from zero to a power of ten (i.e., 10, 100, 1000, etc.). A total of 1383 respondents participated in this study, which was conducted from November 2003 to April 2006. The author read the instructions and answered any questions for all sessions. Participants were seated at a distance and turned in their forms so that no one, including the author, could trace a form to a given subject.

### **3. Results and Analysis**

Section 3.1 presents the results on means and variances for the high and low information conditions of each scenario as well as tests of differences in means and variances between the two treatments. Multivariate regression analyses that include personal characteristics are then reported in Section 3.2.

#### *3.1. Analysis of Means and Variances*

The mean, variance and number of observations are summarized by question and information condition in Table 4. Tests of differences in means and variances are also presented in this table. Considering first the effects of information on mean responses to questions, the additional information in the high information condition shifted views at

Table 4  
*Effects of Information on Means and Variances*

Question	Information condition		Hypothesis tests	
	High	Low	Difference in means ( <i>t</i> -statistic)	Difference in variances ( <i>F</i> -statistic)
	Mean <i>Variance</i> Observs.	Mean <i>Variance</i> Observs.		
<i>Justice concept</i>				
1. Efficiency principle	2.53 2.32 111	3.85 6.58 112	-1.32*** (-4.70)	-4.26*** (2.83)
2. Need principle	771 43,759 105	444 68,736 102	327*** (9.89)	-24,977** (1.57)
3. Accountability principle	73.4 36.8 112	60.2 44.9 112	13.2*** (15.43)	-8.1 (1.22)
4. Rectificatory justice	33,245 0.41E9 108	55,157 1.19E9 122	-21,912*** (-5.96)	-0.78E9*** (2.90)
<i>Applied ethics</i>				
5. Environmental ethics	60.1 245.1 104	42.1 620.7 103	18.0*** (6.23)	-375.6*** (2.53)
6. Media ethics	46.4 515.9 121	58.6 1018.1 122	-12.2*** (-3.44)	-502.2*** (1.97)
7. Bioethics	56.7 78.7 108	44.8 286.8 103	12.8*** (6.86)	-208.1*** (3.64)
8. Business ethics	54.9 405.4 129	35.1 603.2 123	19.8*** (6.97)	-197.8** (1.49)

Notes: \*/\*\*/\*\* denotes significance at the 10/5/1% level. The tests of difference in means are based on two-tail *t*-tests. For question 4, variance is expressed in billions of dollars (i.e., E9).

high levels of significance. Beginning with the justice questions, the shifts are as predicted. The additional information in question 1 on the consequences for consumers and stakeholders in the company results in a significant decrease in funding for the film division, in line with a concern for efficiency. In question 2, information on the high cost

of meeting basic needs is associated with an increase in support for the needy individual. Explicit information about the larger than expected discrepancy in hours between the two workers in question 3 results in increase in pay to the one who worked longer and a proportional distribution of pay consistent with the accountability principle: Adam worked 72.7% of the total hours (8 out of 11) , and respondents gave him 73.4% of the total pay, an insignificant difference ( $t=1.19$ , two-tailed  $p=.23$ ). In question 4, information about the costs associated with the accident causes a significant reduction in judgments in the direction of compensating that loss (perhaps with some compensation for pain and suffering). All of these results strongly indicate the impact of the three principles of distributive justice and of rectificatory justice.

The applied ethics questions were not consciously designed with specific distributive principles in mind. An analysis of their means is, therefore, less interesting than with the first four questions, so I will discuss their means only briefly. Additional information about the consequences for the environment and employment of pollution reduction reduces allowable discharges in Question 5. Information about the potential adverse effects for news reporting of a merger in question 6 is associated with decreased support for merging. For question 7, information about the ability to increase preventative services with minimal sacrifice to emergency services results in an increase in funding to the former. Information about the dangers of the status quo in question 8 motivates respondents to support moving a larger fraction of operations abroad.

A comparison of variances across information conditions is striking: high information is associated with reduced variance in every instance, and these reductions are significant at the 5% level for seven of eight questions.<sup>5</sup> The quasi-spectator approach predicts that increased relevant information will, *on average*, reduce variance, which these results corroborate. Variance falls significantly with information even in the case of question 5, where the text provides multiple values, and question 6, where the additional information states no values. In general, an examination of the specific responses of subjects in the high information condition provides little support that the shifts are merely a focal point effect. Focal points should, by definition, attract a high percentage of responses, but only in the cases of questions 5 and 7 do more than one-half of respondents choose a number implied by the information, and the percentage of subjects choosing such an allocation in the other six questions runs between only 15% and 31%.

### 3.2. Regression Analysis

The results reported above suggest that distributive preferences are impacted by the information provided in the scenarios. Nevertheless, it is possible that these effects are operating through some tertiary variable. Moreover, even if justice relevant information is driving these results, the question remains about the size and importance of these ethical considerations relative to other forces. In this section, therefore, we consider the effects of various personal characteristics on responses. These are interesting, both because of the possibility that justice evaluation differs across gender, race, major,

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<sup>5</sup> In the case of question 3, where these differences are not significant, the variance is quite low in the high information condition, but the reduction is relatively small, because the variance in the low information condition is also rather small. This appears to be a fluke: knowing only that Adam worked longer than John in the low information condition, many respondents guessed that the former worked 60% of the hours.

income class, etc., and because these characteristics might also serve as proxies for other influences on moral judgment besides justice. As an example of the latter, low income respondents might support more redistribution in the welfare scenario because of a self-interested identification with that group (and, conversely, high income might support less redistribution out of self-interest).

Table 5 reports the results of OLS regressions of the pooled responses from the high and low information conditions on a set of explanatory variables for each of the eight questions. The first six regressors are dummy variables. The Information dummy equals 1 for the High Information condition and 0 for the Low Information condition. The Gender dummy equals 1 for female and 0 for male. The Nonwhite dummy equals 0 for white and 1 for all other categories – Nonwhite was collapsed into a single variable due to the low number of observations in certain more specific categories and because of the mostly similar patterns for nonwhites. The college dummies (Business, Communications/Fine Arts, Science/Engineering) identify which of the four colleges at this university the respondent's major is in, where Liberal Arts is the omitted category. Class is the year in school, followed by Age, Expenditures on all categories during the school year, Parents' annual income (estimated to intervals of \$25,000), Hours worked by the respondent per week and annual Earnings over the past year. The personal characteristic variables mostly had low or insignificant correlations with one another. Two exceptions were the relatively high Class/Age and Hours worked/Earnings correlations, respectively. Therefore, I ran four separate regressions for each question using only two variables from each of these categories (i.e., Class/Hours, Class/Earnings, Age/Hours, Age/Earnings). These revealed no differences in the signs of significant variables and almost no differences in levels of significance, so the regressions reported here use the complete set of explanatory variables.<sup>6</sup>

In Table 5, the Information dummy is highly significant for all eight questions. Indeed, this variable has the highest level of significance of any explanatory variable in every regression. The signs of the information effect on responses controlling for other variables are consistent with the simple results on means in Table 4. In fact, even the magnitudes of the information effects in Table 5 are very close to the differences in means in Table 4. Of the 88 remaining coefficients on the personal characteristic variables, only 9% (i.e., 8) are significant at the 5% level. I will discuss the personal characteristic variables briefly and suggest interpretations of the significant results.

Gender is not significantly related to moral judgments in these scenarios, contrary to some studies of social preferences, although probably consistent with most. The significant coefficient on the Nonwhite dummy in question 2 indicates that this group supports \$81 more welfare support per month than whites. This might reflect a stronger belief on their part in the value of government support for education and for addressing basic needs. Only two results on major are significant, whereby no coefficient on Science and Engineering is significant. Business students support about \$2 less than the proportional pay (and less than Liberal Arts students) in question 3. Perhaps as future

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<sup>6</sup> In the few cases where significance changes, most involve significant variables being more so using the complete set, contrary to expectations, which should allay any concern that the impact of any personal characteristic is being understated in the reported regressions. The one exception is question 6, where Expenditures generates a *p*-value slightly greater than 0.05 in the regression with all regressors and a *p*-value slightly less than 0.05 in three of the four regressions using only two of the four variables in question.

Table 5  
Regression Analysis

Regressors	Question							
	1. Efficiency	2. Need	3. Account.	4. Rectific.	5. Environ.	6. Media	7. Bioeths.	8. Busns.
Information	-1.283*** (0.288)	333.3*** (33.3)	13.34*** (0.82)	-21637*** (3936)	19.08*** (2.97)	-12.74*** (3.57)	13.75*** (1.89)	18.59*** (2.91)
Gender	-0.011 (0.300)	-4.6 (35.7)	-0.55 (0.86)	4137 (4202)	4.45 (3.18)	0.38 (3.68)	1.29 (2.00)	-1.80 (3.09)
Nonwhite	0.458 (0.315)	81.5* (37.3)	-1.69 (0.90)	4549 (4148)	-2.11 (3.33)	3.43 (3.72)	-0.09 (2.05)	-0.36 (3.08)
Business	-0.280 (0.347)	-23.4 (42.1)	-2.09* (0.97)	-657 (4571)	0.95 (3.71)	-2.65 (4.30)	-2.30 (2.23)	-2.80 (3.53)
Communications/Fine Arts	0.599 (0.431)	-2.6 (55.8)	-1.70 (1.28)	-1451 (6302)	-1.80 (4.94)	-18.01** (6.03)	-0.25 (2.62)	-6.10 (4.47)
Science/Engineering	0.106 (0.536)	-5.3 (56.2)	0.04 (1.45)	-14087 (8262)	-2.85 (5.12)	2.33 (6.80)	-4.05 (3.95)	4.03 (5.82)
Class	0.405 (0.299)	-19.1 (30.0)	-0.29 (1.02)	4426 (3477)	1.48 (2.62)	1.68 (3.55)	1.38 (1.31)	2.77 (2.86)
Age	-0.567** (0.206)	18.8* (7.7)	-0.51 (0.83)	-599 (2828)	0.29 (0.68)	-1.80 (2.73)	0.63 (0.41)	-4.33* (2.15)
Expenditures (\$1000/year)	0.014 (0.010)	-1.5 (1.4)	0.00 (0.02)	255* (114)	-0.10 (0.13)	0.20 (0.10)	0.02 (0.05)	0.04 (0.08)
Parents income	0.031 (0.082)	9.1 (9.7)	-0.25 (0.23)	-413 (1096)	-0.35 (0.85)	1.94 (1.00)	-0.48 (0.53)	0.36 (0.81)
Hours worked (per week)	-0.010 (0.015)	-0.9 (1.8)	0.00 (0.05)	-234 (225)	-0.17 (0.17)	-0.10 (0.20)	0.07 (0.11)	-0.16 (0.18)
Earnings (\$1000/year)	0.092** (0.030)	1.8 (7.3)	-0.06 (0.14)	81 (418)	-0.06 (0.06)	0.10 (0.44)	-0.12 (0.23)	0.46 (0.38)
Observations	214	204	216	220	203	237	202	247
R-squared	0.16	0.37	0.60	0.17	0.20	0.13	0.25	0.19

Notes: \*/\*\*/\*\* denotes a  $p$ -value less than .05/.01/.001. Standard errors are in parentheses. The omitted categories for the dummy variables are white, male and Liberal Arts College.

managers, these students are more sensitive to the appearance of equity (i.e., equality) than to real equity (i.e., proportionality). Communications students strongly support keeping Newstime smaller, against the forces of merging. The most plausible explanation seems to be that, by virtue of their professionally oriented training, they are more sensitive than other majors to the adverse impact on the journalistic mission of the magazine of merging with an entertainment company.

Class has no significant impact, but Age has three that seem reasonable. Older respondents appear to be more efficiency-oriented in question 1 (for every additional year of age, budgeting \$567 million less to the less efficient division), to be more generous in supporting the completion of the student's education in question 2 (by about \$19 per year of age), and to want to protect US operations over foreign outsourcing of jobs to a greater extent in question 8 (by moving about 4% fewer operations abroad per year of age). Respondents in question 4 want to award the damaged party \$255 more for every \$1000 more they spend each year, or \$3842 for a one standard deviation difference in expenditures (\$15,066). Parents' income and Hours worked have no significant effects. Subjects who earn more seem less supportive of efficiency changes in question 1, the only significant result for which no obvious explanation occurs.

These results suggest that personal characteristics occasionally insinuate themselves into these moral decisions, even in the case of spectators. Nevertheless, as predictors of distributive preferences, personal characteristics are neither as reliable nor as significant as the information dummies. A separate question, however, is how important a variable is, i.e., how much of the variance in the dependent variable a regressor explains. That is, although information is more significant than any personal characteristic, personal characteristics might, nonetheless, explain a higher fraction of the variance in distributive preferences than information. The typical approach to this is to examine semi-partial correlations, i.e., the percentage of the variance in the dependent variable that a given regressor uniquely explains, and to compare these for different regressors. This is equivalent to the change in the value of the R-squared when a variable is added to the regression.<sup>7</sup> Based on this, tests show that information accounts for a larger fraction of the variance in distributive preferences than any single personal characteristic in all scenarios. Indeed, information explains more variance than all of the personal characteristics combined for all but one of the eight questions. This is illustrated in Table 6, which shows the R-squared values for separate regressions on the information dummy and on all personal characteristics. All personal characteristics combined explain only 3% to 8% of the variance, whereas information accounts for 9% to 52% of the variance, ignoring question 6. The former outweighs the latter in question 6, in part because of the strong reaction of Communications students, but information still explains more variance than any single personal characteristic variable even in this scenario.

The results in this section suggest that information affects views of fairness in a manner consistent with a common set of spectator values. This comes from an analysis of the effects of general principles and agreed upon trade-offs on means and variances. Among the possible influences, personal characteristics always matter less than

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<sup>7</sup> The sum of these semi-partial correlations will not, however, usually add up to the R-squared for the regression with all regressors because of correlations between the regressors and for the practical reason that the R-squared sometimes differs due to different numbers of observations in the regressions caused by missing data (as is the case with these data).

information, and usually do not matter at all. Relevant information produces the strongest and most robust effects on moral judgments.

Table 6  
*Importance of Information versus Personal Characteristics*

Question	Regressors (R-squared)	
	Information dummy	Personal characteristics
<i>Justice concept</i>		
1. Efficiency principle	0.09	0.08
2. Need principle	0.32	0.04
3. Accountability principle	0.52	0.07
4. Rectificatory justice	0.13	0.05
<i>Applied ethics</i>		
5. Environmental ethics	0.16	0.03
6. Media ethics	0.05	0.08
7. Bioethics	0.19	0.04
8. Business ethics	0.16	0.05

#### 4. Conclusions

This study laid out two goals: to expand our understanding of unbiased preferences for general distributive principles and for trade-offs between distributive goals in real life situations, and to state and investigate empirically the quasi-spectator model of impartiality. On the first point, the results from the high information conditions of the first four questions are consistent with general justice concepts. Efficiency is found to matter when changing consumer demand requires an adjustment in a firm's investments. Respondents increase state support to a student to meet his basic needs. Consistent with accountability, earnings are put into proportion with the hours workers choose. Compensation to the victim of a vehicular accident is adjusted toward damages. In the last four questions, a high level of agreement in the trade-offs between competing distributive goals is found in the cases of reducing pollution versus preserving jobs, promoting corporate profits versus protecting the integrity of news reporting, balancing resources for preventative care with those for emergency care, and ensuring the solvency of a company versus protecting domestic jobs.

On the matter of impartiality, the quasi-spectator model postulates a direct relationship between relevant information and consensus, i.e., reduced variance in moral judgments. This result is, in fact, opposed to other important theoretical claims and empirical findings. First, normative approaches to impartiality, like Rawls's, typically associate impartiality with the reduction, rather than the increase, of information. Second, empirical studies of fairness bias suggest that information feeds self-serving biases and

disagreements. Of course, the important distinction in the current proposal in comparison to these others is the focus on informed spectators, rather than informed stakeholders. But a third point is that it is not obvious that increased information should favourably affect spectator judgments, both on a priori grounds (e.g., information could complicate moral reasoning) and on the basis of empirical findings. In the aforementioned related study (Konow, 2006), I find that irrelevant information does not reliably affect spectator consensus: variance might increase or decrease, but it is usually not significantly affected. As we see in the current study, however, relevant information does reliably reduce variance and is both more significant and more important in explaining the variance in quasi-spectator views of justice than other variables.

Normative work in economics and philosophy involves judgment under some conditions of impartiality, which, in turn, is usually associated with consensus. By establishing a relationship between consensus and conditions of impartiality, it is hoped that this paper helps to lay an empirical foundation for welfare analysis and social choice theory. That is, the aim is to identify views using a method that has normative appeal, which can then inform prescriptive theories. By embedding the empirical analysis in real world issues, I hope that this approach will also lead to practical policy applications, including to contexts such as those described in the scenarios of this study.

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