

**LOSS AVERSION AND COMMUNITY STANDARDS OF FAIRNESS:
THE ROLE OF COSTS IN EXCHANGE NEGOTIATIONS.**

by

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LOSS AVERSION AND COMMUNITY STANDARDS OF
FAIRNESS: THE ROLE OF COSTS IN EXCHANGE
NEGOTIATIONS

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Abstract

Contrary to normative economic theory, empirical evidence suggests that (individuals') *reference positions* matter in choice behavior. Specifically, decision makers have been shown to behave in a loss aversive manner. Furthermore, opportunity costs, or foregone gains, are not treated symmetrically to out-of-pocket, or direct, costs. Consequently, opportunity costs do not appear to trigger *loss aversion* as no actual negative cash flows occur and the reference position, or *status quo*, is maintained. The latter finding also was established in the context of individual choice, or decision making.

This paper tests for any consistent differences between the treatment of opportunity costs and direct costs in the context of *dyadic negotiations*. Two experiments contrasting opportunity costs with conceptually identical out-of-pocket, or direct, costs were conducted. The first experiment attempted to elicit the widespread, or *community*, support for neglecting opportunity costs from a 'prescriptive', third-party perspective. In particular, subjects (Ss) acting in the role of arbitrators were requested to indicate their preferred choice concerning the settlement of five asymmetric negotiation tasks. The second experiment tested for the support for, or enactment of, this (latent) community standard from the position of 'actual' parties to a negotiation.

The experimental results suggest that both third-parties and negotiators subscribe to the notion that opportunity costs should be heavily discounted or not enter into fair outcome formulations and settlements. Conceptually analogous direct costs, however, were found

to be included in negotiators' payoff schedules. Furthermore, this community standard appears rather robust to experimental manipulations, such as the prospect of *third-party intervention*, and biases associated with human information processing, such as the *egocentric bias*.

To my parents.

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1.0 Introduction

Opportunity costs play a crucial role in economic prescriptions and actions (e.g. Stigler, 1966; Heymann & Bloom, 1990; Reekie, Allen & Crook, 1991). Empirical evidence, however, suggests that decision makers commonly fail to (fully) acknowledge opportunity costs (OC) particularly when compared to contextually equivalent out-of-pocket costs, OOPC (for example, Kahneman, Knetsch & Thaler, 1986a, 1986b, 1990). Although opportunity costs are not formally employed in managerial accounting "... primarily because of the impracticability or impossibility of accumulating meaningful data of what might have been" (Horngren & Sundem, 1987, p. 126), the notion of opportunity costs is incorporated into a variety of applied settings, such as managerial decision analysis (e.g. Samson, 1988), cost/benefit analysis and the North American justice system. Cohen and Knetsch (forthcoming) demonstrated that judges are reluctant to order compensation for claims based on opportunity costs, or foregone gains, in contrast to much more positive reactions for out-of-pocket losses.

Several explanations concerning the neglect of opportunity costs, such as the proposition that decision makers simply do not understand the concept (e.g. Buchanan, 1969; Hoskin, 1983) or that 'life is too short to actively incorporate opportunity costs' (Lopes, 1981), have been suggested. Furthermore, behavioural decision theorists have demonstrated that the low degree of salience commonly associated with opportunity costs negatively impedes on decision makers' ability to recognize such foregone gains.

An alternative explanation concerning decision makers' underweighting or neglect of opportunity costs is based on the concept of negotiators' reference positions and the asymmetrical movements from these neutral points (Kahneman & Tversky, 1979). Empirical evidence strongly suggests that the framing of outcomes in gains or losses relative to a decision maker's (neutral) reference position determines subsequent decision behaviour and that losses from this neutral position have a much greater impact on decision makers' welfare than gains. Specifically, the framing of (potential) outcomes in terms of gains appears to invoke risk-averse behaviour, while the framing of outcomes in terms of losses leads to risk-seeking behaviour (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981, 1986, 1992). Opportunity costs, unlike direct costs, do not represent an actual negative cash flow and do not seem to invoke loss aversive behaviour (Kahneman, Knetsch & Thaler, 1986a, 1986b, 1990; Neale & Northcraft, 1986; Cohen & Knetsch, forthcoming). This cognitive idiosyncrasy appears to be reflected in the social dimensions governing the judgement and enactment of fairness in individual choice. That is, it seems widely acceptable to 'neglect' such opportunity costs.

Kahneman, Knetsch and Thaler (1986a, 1986b) demonstrated in the context of (individual) choice making that opportunity costs do not invoke loss aversive behaviour, when compared to otherwise equivalent out-of-pocket costs, and that decision makers tended to neglect foregone gains in their judgement of fairness. Furthermore, the neglect of opportunity costs was shown to be 'communally acceptable', i.e. received widespread support among people in the community.

This paper tests for the 'communal', i.e. widespread, acceptability to exclude opportunity costs from negotiated outcome formulations, such as profit allocations, while conceptually analogous direct costs are included in negotiators' payoff schedules. The testing is conducted in the context of dyadic negotiations. Two experiments designed to elicit such a (latent) standard were employed and both monetarily uninvolved third-parties to a set of negotiation tasks and 'actual' negotiators were targeted.

2.0 Costs, Loss Aversion And The Perception Of Fairness

The role of 'imperfect' human information processing resulting in 'irrational' negotiator behaviour has been repeatedly stressed by descriptive negotiation theorists (for example, Raiffa, 1982; Bazerman, 1983, 1986; Neale & Bazerman, 1991). Only recently, however, have the cognitive aspects associated with negotiators' perception and enactment of fairness in interpersonal exchange received serious academic attention. After the 'demise' of equity theory, which predominantly attempted to formalize the procedural aspects of distributive equity in the form of input-to-output ratios (Adams, 1963; Walster, Walster & Berscheid, 1978; Messick & Cook, 1983), the 'social dimension' to interpersonal exchange and conflict resolution has taken a backseat in the research agenda of mainstream exchange theory. The renewed, contemporary interest in procedural fairness as a determinant of exchange, however, places less emphasis on the formalization and institutionalization of prescriptive approaches to equity. Rather, this research focuses on the cognitive issues associated with the social dimensions of exchange (e.g. Kahneman, Knetsch & Thaler, 1986a, 1986b; Loewenstein, Thompson & Bazerman, 1989; Bazerman, Loewenstein & White, 1991; Kahneman, 1992; Kahneman & Tversky, 1992; Thompson & Loewenstein, 1992).

Negotiators' notion of (procedural) fairness, for example, appears to reflect such a 'social determinant' of interpersonal behaviour. A definition that captures fairness in a descriptive manner and provides a basis for the quantitative assessment of outcomes was provided

by Frank (1988). Frank defines fairness in the context of interpersonal exchange, such as negotiations, as follows:

"[A] fair transaction is one in which the surplus is divided (approximately) equal. The transaction becomes increasingly unfair as the division increasingly deviates from equality" (p.165).

In order for negotiators to actually determine the joint surplus up for (equal) division, the involved parties' costs need to be acknowledged. Reekie et al. (1991) define **economic profit** in the context of perfect competition as:

"... profit equals total revenue less total costs, and that costs are correctly calculated to include all opportunity costs ..." (p.60, italics added).

The relevance of opportunity costs to decision making has been extensively stressed by normative, neo-classical economic (decision) theory (e.g. Stigler, 1966; Buchanan, 1969; Reekie, Allen & Crook, 1991). Normative economic theory does not differentiate between out-of-pocket and opportunity costs and defines opportunity costs as gains forgone resulting from rejecting the 'next best alternative' course of action. Reekie et al. formally define opportunity costs as:

"... what the provider of capital would have earned anyway, without incurring any of the risks and uncertainties of business investment ..." (pp. 17 - 18).

Although the definition of opportunity costs and/or the application of such costs is itself a topic of normative discourse (e.g. Buchanan, 1969; McRae, 1970), behavioural explanations for the neglect or underweighting of opportunity costs have become a subject

of growing interest. While empirical research suggests that decision makers do consistently fail to acknowledge or tend to underweight opportunity costs in their decision processes (e.g. Becker, Ronen & Sorter, 1974; Neumann & Friedman, 1978, 1980; Thaler, 1981; Hoskin, 1983; KKT, 1986a, 1986b, 1990; Cohen & Knetsch, forthcoming) explanations for this behaviour range from the assertion that opportunity costs are simply not understood (e.g. Buchanan, 1969; Hoskin, 1983) to the argument that the time horizon (or life) of decision makers is finite and the accountancy of opportunity costs may not be feasible (Lopes, 1981), have been provided. Moreover, behavioural researchers have suggested that the implicitness of opportunity costs may account for decision makers' difficulty to quantify and acknowledge opportunity costs (Swieringa, Dyckman & Hoskin, 1979; Einhorn and Hogarth, 1981; Hoskin, 1983; Northcraft & Neale, 1986).

A common theme suggested to underlie decision makers' failure to adequately acknowledge opportunity costs emanates from the deficiencies, or 'boundedness', of human information processing.

2.1 Human Information Processing: Decision Heuristics And Biases

An extensive body of literature concerning human information processing, commonly referred to as behavioural decision theory (e.g. Kahneman, Slovic & Tversky, 1982; Bazerman, 1986), focuses on the divergence of human decision making from normatively prescribed rationality (e.g. Harsanyi, 1977). Limitations associated with (human) cognition rather than self-serving motives are proposed to account for such 'irrational' behaviour

(e.g. Kahneman et al. 1982; Neale & Bazerman, 1991). A variety of (behavioural) decision heuristics, i.e. rules of thumb, employed by decision makers to circumvent their 'bounded rationality' (Simon, 1957; March & Simon, 1958) have been identified (e.g. Kahneman et al. 1982; Wright, 1984; Arkes & Hammond, 1986; Bazerman, 1986; Hogarth & Reeder, 1987; Dawes, 1988; Neale & Bazerman, 1991). Such heuristics, however, are subject to systematic and undesirable biases which under certain conditions, such as task novelty and high degrees of uncertainty, may result in less-than-satisfactory outcome attainment, i.e. 'sub-satisfactory' rather than satisfactory, suboptimal outcomes (e.g. Kahneman et al. 1982; Bazerman, 1986).

A host of decision heuristics and associated biases have been identified by behavioural decision theorists. For the purpose of this paper only a subset of these heuristics and biases is discussed and for a comprehensive discussion of behavioural decision making see Kahneman et al. (1982), for managerial implications see Bazerman (1986) and for a discussion from a negotiation theoretic perspective see Neale & Bazerman (1991).

Availability: Heuristic And Biases

Tversky and Kahneman (1973) identified a mental shortcut commonly employed by decision makers based on the *availability* of information associated with a particular event from memory. This rule of thumb, or heuristic, captures human information processes by which the frequency or likelihood of events are judged by the availability of its instances. For example, decision makers being asked to assess the probability of an airplane crash

shortly after extensive media coverage of such a crash are prone to (greatly) exaggerate the likelihood of the event. The availability heuristic has been identified as the source of several systematic biases, such as the *ease of recall*, *retrievability*, and *presumed associations* biases (see, for example, Kahneman et al. (1982) and Bazerman (1986) for a detailed treatment of these biases). Another bias related to the availability heuristic is the *egocentric bias* (Ross & Sicoli, 1979) and concerns the salience of a decision maker's own contribution, such as effort, to a particular activity as compared to other parties' input. For example, Ross and Sicoli (1979) showed that individuals' estimation of their proportional contribution toward a joint project, such as household chores or participation in a discussion, exceed 100%.

Much of the behavioural research concerning opportunity costs has been conducted in the context of (non-interpersonal) resource allocation decisions and decision makers' propensity to escalate their commitment to a course of action (Staw, 1976, 1981; Fox & Staw, Northcraft & Neale, 1986). Northcraft and Neale (1986) suggest that differences in the degree of salience associated with the opportunity costs of (persistent) effort versus direct, or out-of-pocket, costs may partially account for escalating commitment to a course of action in the face of failure¹. Moreover, increasing the visibility, or salience, of opportunity costs to Ss alleviated this bias. Northcraft & Neale further suggested that the enhanced salience of foregone gains invoked decision makers' aversion to certain losses.

¹ For alternative and/or supplementary explanations see, for example, Staw (1976, 1981), Fox & Staw (1979), Northcraft & Wolfe (1984) or Northcraft & Neale, 1986.

Framing And Loss Aversion

The *framing effect* (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981, 1986, 1992) concerns a decision maker's representation of outcomes either in terms of losses or gains, e.g. the bottle is half empty or half full. This effect has been shown to carry non-trivial implications concerning decision makers' propensity toward risk and uncertainty. Decision makers framing an outcome in terms of losses relative to a (neutral) *reference point*, such as an existing (net) asset position, tend to behave in a risk seeking manner. Decision makers framing outcomes in terms of gains to their reference position, on the other hand, tend to behave on a risk averse manner. Such behaviour, however, is juxtaposed to (subjective) expected utility theory (SEUT) commonly employed in normative, neo-classical economic decision theory (e.g. von Neumann & Morgenstern, 1944; MacCrimmon & Wehrung, 1986; von Winterfeld & Edwards, 1986; Gravelle & Rees, 1990).

Decision makers' tendency toward *loss aversion*, i.e. the common behaviour reflected in the greater weighing of losses relative to commensurate gains, has been extensively established in the realm of normative-versus-behavioural decision theory (e.g. Kahneman & Tversky, 1979; Thaler, 1981; KKT 1986a, 1986b, 1990; Knetsch, 1989; Knetsch & Sinden, 1984, 1987; Tversky & Kahneman, 1981, 1986, 1991, 1992) and provides the basis for a host of effects impacting on (individual) decision process as well as negotiations and conflict resolution (Kahneman, 1992; Kahneman & Tversky, 1992). One such effect is the *endowment effect* (Thaler, 1980; Knetsch & Sinden, 1984, 1987;

Knetsch, 1989), or *status quo bias* (Thaler, 1980), which appears to account for the empirically observed discrepancy between agents' prices reflecting their willingness to sell (WTS) a certain object and their willingness to pay (WTP) for the identical object. In general, empirical research suggests that the selling price, i.e. WTS, consistently exceeds the purchasing price, i.e. WTP, of identical objects (Thaler, 1980; Knetsch & Sinden, 1984, 1987; Knetsch, 1989; KKT, 1990, 1991). Kahneman, Knetsch and Thaler (1990) suggest that loss aversion may be viewed as decision makers' "... fundamental characteristic of preferences" (p.186.)

The above section reviewed several decision heuristics and biases which have been suggested to account for decision makers' failure to enact normatively prescribed 'rationality', such as the acknowledgement of opportunity costs. Bounded rationality as illustrated above, however, does not only impact on negotiators' ability to consistently attain (sub)optimal outcomes but also appears to impede on the judgement of fairness. The latter issue, as well as its implications to conflict resolution, is discussed below.

2.2 The Judgement Of Fairness: Cognitive Processes And Social Dimensions

Although neoclassical economic theory and normative-based decision theory build on the assumption of agents pursuing individual utility maximization, empirical evidence suggests that decision makers often behave otherwise. Gueth, Schmitteberger & Schwarze (1982), for example, tested the until then widely accepted ultimatum game, which up to

this point constituted an analytical 'staple' of modern game theory (e.g. Rasmusen, 1989; Osborne & Rubinstein, 1990).

The empirical results obtained by Gueth et. al, however, challenge the prescriptive and predictive value of the ultimatum game. Gueth et al. showed that the average demand on the allocated money by the endowed players (A's) was less than 70% and that the non-endowed players (B's) rejected profitable but unfair offers 20% of the time - a far cry from the normatively predicted result. Replications by Ochs and Roth (1989), Forsythe, Horowitz, Savin and Sefton (1988) and KKT (1986b) corroborate these results. Furthermore, Axelrod (1980a, 1980b, 1981, 1984) instigated a computer tournament pitting various cooperative and noncooperative strategies against each other to play out a series of prisoner's dilemma games. The 'tit-for-tat' strategy (Oskamp, 1971; Wilson, 1971) consistently outperformed both non-cooperative and purely cooperative strategies under the assumption of normative rationality and individual outcome maximization².

KKT (1986a, 1986b), utilizing a series of extensive phone surveys, demonstrated that the perception of acceptable, or fair, behaviour may act as a constraint on firms' profit seeking especially when consumers have recourse to some form of enforcement of 'fair behaviour.' For example, 82% of the study's participants considered it unfair to raise the price of snow shovels the morning after a snow storm from \$15 to \$20. Gorman and Kehr

² For further evidence suggesting cooperative and/or fair behaviour in the general context of reciprocity see, for example, Trivers (1971, 1985), Dawkins (1978), Axelrod & Hamilton (1981), Frank (1988) and Cronin (1992).

(1992) generally replicated KKT's findings using a sample of executive managers. The recent resistance to increases in lumber prices as the result of hurricane Andrew by both consumers and local, Florida-based lumber wholesalers and retailers ("Gouging Takes A Backseat") lend strong practical support to KKT's findings. Okun (1981), in the context of consumer behaviour earlier commented that "... in practice, observed pricing behavior is a vast distance from do-it-yourself auctioneering." (p.170)

Cognition, Fairness And Negotiations

The judgement and enactment of cooperative and/or fair exchange behaviour appear to be extensively governed by 'social determinants.' Loewenstein, Thompson and Bazerman (1989), for example, tested the impact of (social) affect on the judgement and enactment of fairness in dyadic negotiations. Their findings not only suggest that subjects preferred equal payoffs over inequity but also that advantageous inequality, i.e. larger payoffs to the self, is preferred over inadventagous equity. Furthermore, subjects became more selfish, i.e. subjects increasingly preferred advantageous inequity, when the relationships between negotiators shifted from positive to negative affect over the course of multi-stage negotiations. Loewenstein et al. (1989) suggest that fairness is not only enacted in empirical environments but also that systematic adjustment appear to (implicitly) exist. Research findings by Bazerman, Loewenstein and White (1991) generalize and corroborate these findings. Neale and Bazerman (1991), taking a cognitive perspective, note that

".. fairness is not an objective state. Rather, a social environment is cognitively transformed, and a state of (un)fairness is perceived." (p. 158)

Messick & Sentis (1979), for example, demonstrated negotiators' *egocentric interpretations* of the self-assessed value of their (asymmetric) inputs for a jointly concluded task. Ss were allocated in one of two groups differing in the magnitude of inputs contributed toward the conclusion of the joint task. Specifically, members of the first group had contributed ten (10) hours of work, whereas their 'partners' had contributed seven (7) hours of work toward the project. Ss having worked 10 hours thought they should have earned \$35.24 when their partners were paid \$25 for seven hours of work. Conversely, Ss that had worked seven hours and were paid \$25 thought their partners should receive \$30.29 for their 10 hours of work. Messick and Sentis interpreted the difference between the \$25 and the two respective (mean) values, i.e. \$10.24 and \$5.29, as egocentric judgements of fairness.

Thompson and Loewenstein (1992) had Ss engage in dyadic bargaining tasks concerning wage settlements. One experiment, for example, had Ss assume either role of management or union confronted with the task to negotiate a dispute. Ss had symmetric information and simultaneously exchanged offers in the form of written notes. The management/union pairs were given 'two days'³ to settle the dispute after which the union would call a strike. Based on the initial case information, Ss were asked what they considered a 'fair' settlement. Despite the identical information available to both negotiators, Thompson and Loewenstein found a significant difference of Ss' quantification of 'fairness.' Furthermore, Ss' egocentric quantification of fairness was significantly correlated to the likelihood of

³ Each instance of exchanging offers was counted as one 'day.'

settlement. Thompson and Loewenstein (1992) concluded that "... egocentric interpretations of fairness hinder conflict resolution because people are reluctant to agree to what they perceive to be an equitable settlement." (p. 176)

KKT (1986a, 1986b) further demonstrated that the *framing* of outcomes identical in magnitude in terms of gains or losses impacts on decision makers' perception of the acceptability of a particular transaction. For example, transactions equivalent in value were judged more fairly if out-of-pocket costs rather than opportunity costs were passed on to a transactor or if potential gains (to transactors) were reversed rather than losses incurred. Specifically, 71% of the respondents viewed an increase in the list price (by \$200) of a popular car as the result of excess demand unfair. Some 60% of the respondents, however, viewed the cancellation of a \$200 discount from the list price for the same car due to excess demand as acceptable. Moreover, 62% of the respondents deemed it unfair for a firm to cut wages by 7% as a response to a recessionary but inflation-free economy, whereas 78% judged a 5% wage increase under identical circumstances, but 12% rate of inflation, acceptable.

Cognition And Social Determinants Of Negotiation Behaviour

The above-reviewed literature illustrates the detrimental impact of decision heuristics and biases on negotiator behaviour and subsequent outcome attainment. The focus of the above-reviewed research is primarily directed toward outcome attainment within the 'confines' of fair, or acceptable, behaviour. The role played by heuristics and biases in

the transformation, or even the determination, of social dimensions determining the perception of fairness, however, has rarely been addressed. KKT (1986a, 1986b) established a direct link between loss aversion and the judgement of fairness. Specifically, KKT suggested that (implicit) *community standards*, i.e. widespread socio-cultural norms, govern the judgement of acceptable, or fair, behaviour. The *principle of dual entitlement* (KKT, 1986a, 1986b, 1990), may represent such a community standard and suggests that firms are entitled to a reference profit, whereas consumers, i.e. tenants, employees and customers, are entitled to a reference price, i.e. price, rent or wage. The right to the reference state, rather than distributive justice, represents the underlying principle to entitlements. In case of conflict between the firm and consumers, the firm(s) is entitled to avert a loss by passing it on to the consumers. In this context Kahneman and Tversky (1992) note:

"[T]he asymmetric treatment of losses and gains has generally conservative implications, for judgements of economic fairness as well as for individual choice." (p. 20, italics added)

2.3 Community Standards & Loss Aversion In Interpersonal Exchange

The literature reviewed presented both behavioural and normative aspects associated with human information processing and their impact on the formulation and judgement of cooperative and/or fair behaviour. The fundamental aspects identified are summarized below:

- (a) decision makers tend to behave cooperatively and/or fair within the confines of reciprocal behaviour,
- (b) cooperative outcomes appear to follow the notion of procedural fairness,
- (c) the perception of (procedural) fairness is subject to individualistic situational and contextual interpretations,
- (d) a comprehensive, but not entirely identified, implicit set of community standards appears to govern decision makers' cooperative behaviour,
- (e) the cognitive decision/transformation processes associated with the formulation and assessment of fair outcomes are subject to biases and
- (f) opportunity costs are generally neglected by decision makers and that the availability heuristic may account for this violation of normative economic theory.

From a normative perspective, opportunity costs should be incorporated into the determination of fair profit schedules. Cohen & Knetsch (forthcoming), however, demonstrated that compensation, or rewards, in lieu of foregone gains (i.e. profits) are only reluctantly recognized by common law courts - particularly when compared to compensation awarded for 'actual' out-of-pocket losses incurred as the result, for example, of negligence. The 'salience explanation', as, for example, proposed by Northcraft and Neale (1986), does not apply to situations where opportunity costs are

rather explicit, such as court cases concerning compensation for foregone profits or negotiating activities concerning the forfeiting of (certain) profits over the course of an exchange activity. The claim that opportunity costs are simply not understood appears also inapplicable as (a) damages based on foregone gains are claimed and (b) the decision to either heavily discount or not award such damages appear to be consciously imposed.

An alternative explanation, as proposed by this paper, is based on the notion of loss aversion and community standards. Opportunity costs do not present an actual (negative) cash flow to the incurring party and may therefore not invoke the loss aversive behaviour commonly associated with out-of-pocket costs. From the perspective of a negotiator, then, the status quo is retained. Samuelson and Zeckhauser (1988) suggest that when the retention of the status quo is a viable option, a bias in favour of the status quo prevails. The very fact that opportunity costs do not change the incurring party's (financial) status quo, i.e. represent a 'blind spot' within the general perception of losses and gains, may be incorporated in, or even underlie, community standards governing the judgement of fairness in interpersonal exchange activities, such as negotiations.

The communal acceptance for the neglect of opportunity costs in dyadic exchange negotiations is tested. Two experiments varying the decision makers' value position were conducted and are discussed below.

3.0 Experiments

Two experiments were conducted to test for the applicability of a community standard governing the acceptable neglect of opportunity costs in the formulation of exchange negotiations. The general negotiation framework underlying both experiments was based on dyadic negotiations in the context of single-stage, simultaneous moves. A (hypothetical) \$10 provided by the experimenter was to be divided for each of five independent negotiation tasks between two negotiators. The five negotiation tasks were comprised of asymmetric cost structures varying according to the cost source, i.e. OC and/or OOPC, were presented to subjects (Ss).

The first experiment presented the five negotiation tasks to Ss instructed to assume the position of arbitrators. The arbitrators were led to believe that a set of (fictitious) negotiators had actually 'played out' each of the five tasks and they were being asked to indicate the single most suitable outcome for each of the five tasks. They were not asked to engage in actual conflict resolution, or arbitration, but to simply choose the single option that represented the best resolution of the conflictious interests of the two negotiating parties. In essence, the first experiment attempted to elicit the proposed community standards from a value neutral, 'communally prescriptive' perspective.

The second experiment utilized the same negotiation tasks as employed for the first experiment, but in this case each Ss assumed the position of an actual negotiator. The overall design of the experiment stressed the minimization of individual attributes and

situational characteristics commonly impacting on interpersonal and/or interactive behaviour (e.g. Rubin & Brown, 1975; Messick & Cook, 1983; Messick & Sentis, 1983; Messick, Bloom, Boldizar & Samuelson, 1985; Loewenstein, Thompson & Bazerman, 1989; Bazerman, Loewenstein & White, 1991). Specifically, the negotiation tasks were simulated in a non-interactive manner, i.e. Ss had to submit single written final 'offers.'

Several experimental manipulations were employed for the second experiment. One of these manipulations promised final binding arbitration to one set of negotiators but not to the other group. Research in negotiation theory suggests that the 'threat' of arbitration generally results in inflated offers, or prices (e.g. Bazerman, Neale, Valley, Zajac & Kim, 1992).

As Ss were **not** instructed to behave fairly in either of the two experiments, the provision of a conflict resolution mechanism may reduce the first mover (dis)advantage associated with committing to a cooperative and/or fair offer (e.g. Rasmusen, 1989) and subsequently reduce the magnitude of the offers submitted by 'arbitrated' negotiators. Furthermore, the cost asymmetry for four of the five negotiation tasks employed may allow for the testing of egocentric interpretations on the part of the negotiators - an effect not uncommon to interpersonal and/or joint endeavours (Ross & Sicoli, 1979; Messick & Sentis, 1983; Thompson and Loewenstein, 1992).

3.1 Experiment 1 - Arbitrators

3.1.1 Method

Subjects: Fortyone (41) fourth year business students enroled in strategic management seminars at Simon Fraser University, Burnaby, B.C., were approached during class time and requested to participate in the experiment. Participation in the experiment was voluntary and subjects were offered no compensation.

Context: Each subject was required to assume the position of an arbitrator confined to final binding arbitration and presented with five negotiation tasks. Each of the negotiation tasks contained (complete) information describing the asymmetric cost positions of a set of randomly paired negotiators who were unknown to the arbitrators. The arbitrators were led to believe that the negotiators had actually played out the various negotiation tasks in an experiment previously conducted. The student arbitrators were not required to engage in conflict resolution. Instead, they were asked which set of offers they considered suitable, i.e. what offer they would choose, for each of the five negotiation tasks. As the arbitrators were asked to select the most acceptable resolution with no monetary involvement, their choices should reflect community standards of acceptability.

Design & Procedures: For the purpose of data collection a multiple choice questionnaire was employed. Questionnaires consisted of four sections: the first section asked Ss to supply demographic information, such as gender and age. The second section presented the written instructions for the task, which were verbally reviewed. Emphasis was placed

on instructing Ss to view each of the five independent negotiation task independently⁴. The third section of the questionnaire contained the five negotiation tasks. Ss were required to choose their preferred 'offer' from a set of (multiple) choices for each of the five independent negotiation tasks. Several of these choices were 'cued', i.e. a brief explanation concerning the arithmetic operations underlying a particular outcome formulation was offered to Ss. These cues also served to make opportunity costs quite explicit to Ss as these costs were referred to as 'foregone gains.'

Negotiation Tasks: The negotiation tasks, as presented below, were developed for dyadic negotiations and varied in both cost position and cost structures. Each of the five independent negotiation tasks involved the two parties dividing \$10 between them. Four of the five negotiation tasks were asymmetric in the cost structures employed and the subsequent cost positions assumed by the negotiators.

Case 1 (C1) - Baseline Condition

In this case, the (two) parties were to split \$10 between themselves with no cost incurred by either negotiator. The arbitrator was presented with the option of selecting between (a) a \$5/\$5 division of the \$10 and (b) a noncooperative 'division' of \$10 to one party and \$0 to the other and was asked to select the most acceptable choice. The importance of this case lies in its purported ability to function as a discriminant, or baseline, for Ss' fairness-preference for the subsequent cases.

⁴ The various questionnaires employed for both experiments can be found in Appendix I.

Case 2 (C2):

The second scenario involved out-of-pocket costs asymmetrically incurred by one of the negotiating parties. For this instance, one party, P-I⁵, was said to have been required to pay a \$2 out-of-pocket cost to take part in the experiment, whereas the other party, P-II, did not incur such a cost. Again, the negotiation task asked for the division of \$10. The arbitrators were offered three choices: (a) a \$5/\$5 cost-neutral choice, (b) a \$6/\$4⁶ cost-integrative choice and (c) a noncooperative \$10/\$0 choice. Only the \$6/\$4 offer was supplemented with a cue concerning the arithmetic associated with the choice, i.e. "To account for P-I's⁷ \$2 cost."

Case 3 (C3):

For the purposes of this scenario, the \$2 direct cost incurred by the P-I party for case 2 was changed to a \$2 opportunity cost, or foregone gain. Again, P-II negotiators did not incur any costs and the negotiation task asked for the division of \$10. The (multiple) choices provided to the arbitrators are identical to the ones' provided for C2. Namely, a

⁵ As the negotiation tasks were asymmetric in the cost positions assumed by negotiators, the P-I and P-II notation is used to identify the respective cost position for a negotiator for each case. Specifically, P-I negotiators incur a \$2 opportunity cost for C3, and a \$2 direct cost for C2, C4, and C5. Conversely, P-II negotiators incur no costs for C1 through C3, benefit from a windfall profit for C4 and incur a \$4 OC for C5. **Payoff schedules associated with a particular negotiation task are always reported in a P-I/P-II sequence.**

⁶ [P-I, P-II] = [(((\$10 - \$2)/2 + \$2, (\$10 - \$2)/2)] = [\$6, \$4].

⁷ In the questionnaire for the first experiment the P-I and P-II positions were actually referred to with alphabetic letters different for each case. For the second experiment, P-I and P-II positions were substituted with the terms 'your' or 'the other student's.'

\$5/\$5, a \$6/\$4 and a \$10/\$0 choice. Only the \$6/\$4 choice was 'cued', i.e. "To account for P-I's foregone gain."

Case 4 (C4):

For this task, P-I negotiators incurred a \$2 out-of-pocket cost, whereas P-II negotiators benefited from a \$6 windfall profit. The point of this scenario was to examine the extent to which a windfall profit accrued by one of the parties, i.e. P-II, is considered to be extraneous and should not be taken into account on grounds that it is irrelevant to the task at hand. The \$2 out-of-pocket cost of the P-I negotiators, on the other hand, is for real and this case tests for the extent that it should be accounted for. A total of five choices were offered to Ss: a \$5/\$5 offer, a cost-integrative but profit-neutral \$6/\$4 offer, a cost-neutral but profit-sensitive \$8/\$2⁸ offer, a cost-integrative and profit-sensitive \$9/\$1⁹ offer and a noncooperative \$10/\$0 offer. With the exception of the \$5/\$5 and the \$10/\$0 offer, all choices were supplemented with explanatory cues similar to the wording employed for Case 2 and Case 3.

Case 5 (C5):

For the last negotiation task, P-II negotiators incurred a \$4 opportunity cost, whereas P-I negotiators incurred a \$2 direct cost. Arbitrators were offered five (multiple) choices: a

⁸ [P-I, P-II] = [(\$10 + \$6)/2 , (\$10 - \$6)/2] = (\$8, \$2).

⁹ [P-I, P-II] = [(\$10 - \$2 + \$6)/2 + \$2, (\$10 - \$2 + \$6)/2 - \$6] = (\$9/\$1).

cost-neutral \$5/\$5 offer, an OOPC-neutral but OC-sensitive \$3/\$7¹⁰ offer, an OOPC- and OC-integrative \$4/\$6¹¹ offer, an OOPC-integrative but OC-neutral \$6/\$4 offer and a \$10/\$0 offer. Cues were provided for all choices but the \$5/\$5 and the \$10/\$0 offers.

The content of the five task structures and the choices provided to Ss are summarized in TABLE 1 below.

TABLE 1: Cost Structures and Payoff Schedules for the Negotiation Tasks

	OC	OOPC	Others	Choices
Case 1				\$5/\$5, \$10/\$0
Case 2		\$2/\$0		\$5/\$5, \$6/\$4, \$10/\$0
Case 3	\$2/\$0			\$5/\$5, \$6/\$4, \$10/\$0
Case 4		\$2/\$0	\$0/\$6 ¹	\$5/\$5, \$6/\$4, \$8/\$2, \$9/\$1, \$10/\$0
Case 5	\$0/\$4	\$2/\$0		\$5/\$5, \$3/\$7, \$4/\$6, \$6/\$4, \$10/\$0

¹: The \$6 represent the windfall profit of P-II negotiators.

Effects Testing & Manipulation Check

In addition to choosing a preferred division of the \$10 in each of the five negotiation tasks, Ss were asked to provide demographic information on gender, age, and language.

Aside from the conventional testing of the gender variable, the language variable was

¹⁰ [P-I, P-II] = $[(\$10 - \$4)/2, (\$10 - \$4)/2 + \$4] = (\$3, \$7)$.

¹¹ [P-I, P-II] = $[(\$10 - \$2 - \$4)/2 + \$2, (\$10 - \$2 - \$4)/2 + \$4] = (\$4, \$6)$.

considered of interest. Simon Fraser University (SFU) is a culturally diverse community, with a relatively high proportion of Ss claiming English as their second language. Although this measure does not allow drawing any conclusions with respect to cross-cultural differences per se as the English as a first language (EFL) or English as a second language (ESL) does not necessarily allow deductions concerning the actual cultural background. For example, Ss could claim English as a second language but be culturally 'assimilated' such as second generation immigrants. Thus, the language variable served primarily as an exploratory, preliminary device for cross-cultural analysis and was included to provide some tentative tests concerning the cultural generalizability of the proposed community standard.

The final three questions of the questionnaire asked Ss what they thought the purpose of the survey was (GUess), whether this guess influenced their responses (INfluence) and if so, how.

GU(ess): This categorical variable was coded from one to three, where '1' represents a response 'related to the issue at hand', such as responses citing negotiation, conflict resolution, or fairness; '2' stands for guesses unrelated to the task, e.g. "test of comprehension for students claiming English as a second language" and '3' stands for the category "no idea", or "?."

IN(fluence): This binary variable captures how Ss felt their guess with respect to the purpose of the experiment influenced their choices. For the purpose of subsequent analysis, i.e. one-way ANOVA, only the interaction between guess and influence, i.e. GU*IN, is of interest as this effect allows the deduction whether a particular category of guesses actually impacted upon the submitted responses. Thus, only GU*IN results are reported.

Statistical Methods

Due to the multiple choice character of the questionnaires used, primarily nonparametric, rank-based statistics, such as the Kruskal-Wallis one-way ANOVA procedure were used. It should be noted that Kruskal-Wallis results based on binary dependent variables are identical to the Mann-Whitney t-test and that both statistics test the hypothesis of no group differences (e.g. Siegel & Castellan, 1988). The choices corresponding to the various offers associated with the cases were converted to ranks reflecting the ascending monetary value of offers from a P-I perspective. The various offers in monetary terms and the corresponding ranks are presented below.

Offer (P-I/P-II):	\$3/\$7	\$4/\$6	\$5/\$5	\$6/\$4	\$8/\$2	\$9/\$1	\$10/\$0
Assigned Rank:	1	2	3	4	5	6	7

3.1.2 Results

The average (student) arbitrator was 24 years old; 42% of the respondents were female and 68% claimed English as their first language. Overall, nine (22%) of the (student) arbitrators invariantly opted for \$5/\$5 offers for all five cases. The subsequent analyses were therefore conducted with both these responses excluded and included. The exclusion of these cases is based on their undue inflation of OC-neutral \$5/\$5 choices and deflation of OOPC-integrative \$6/\$4 choices. As Ss' motives underlying their responses profoundly differ from the proposed behaviour, these responses are separately discussed in section 3.4. As a matter of convention, the data sets exclusive of those invariant responses are referred to as adjusted data sets, or ADJ and these were used in the primary analysis presented. Conversely, the complete data sets (including the invariant responses) are referred to as unadjusted data sets, or UADJ.

Primary Analysis

The frequency distributions for the negotiation tasks for both the adjusted (ADJ) and unadjusted (UADJ) data sets are summarized in TABLE 2 below. Only the results of the ADJ data are discussed.

Case 1 (C1):

The first case, acting as a baseline for Ss fairness-preference, called for the division of \$10 with no costs incurred by either negotiator. All arbitrators opted for the even, \$5/\$5 split rather than the opportunistic \$10/\$0 choice. It appears that from a monetarily non-

involved position 'the right thing to do' is to split the gross profit available to both parties fair and square - as defined above. These responses will serve as a baseline for fairness-preferences in the evaluation of the subsequent cases, i.e. Case 2 through Case 5.

Case 2 (C2):

The second case presented arbitrators with the scenario where one party had incurred a \$2 OOPC, whereas the other party had not incurred any costs. Again, the mutually available (gross) profit was \$10. Almost all of the arbitrators (97%) settled for the \$6/\$4 offer recognizing the \$2 as a cost to be included in the determination of negotiators' fair net returns. The remaining Ss (3%) assumed a OOPC-neutral, \$5/\$5 position.

Case 3 (C3):

In this case one party, P-I, incurred an opportunity cost, whereas the other party, P-II, did not incur any costs. More than three-quarters of the arbitrators opted for the OC-neutral \$5/\$5 division suggesting that P-I's foregone gain should not enter into the determination of profit schedules. Again, no \$10/\$0 offers were chosen. Overall, 78% of the adjusted responses suggest that direct costs should be incorporated into the fair determination of negotiators' net profit schedules, whereas conceptually equivalent opportunity costs should not enter such decisions.

Case 4 (C4):

This scenario had one negotiating party, P-I, incur a \$2 direct cost and the other party, P-II, benefit from a \$6 windfall profit (seemingly unrelated to the negotiation at hand). The majority of the arbitrators, i.e. 78%, opted for the \$6/\$4 division acknowledging P-I's direct cost but ignored P-II's windfall profit. Of the remaining 22%, 9% chose to ignore both the OOPC and the windfall profit, whereas 13% of the respondents opted to account for both the \$2 OOPC and the \$6 windfall profit. Thus, a total of 91% of the arbitrators opted to recognize P-I's out-of-pocket cost.

Case 5 (C5):

For this last scenario, P-I negotiators incurred a \$2 out-of-pocket cost and P-II negotiators incurred a \$4 opportunity cost. Thus, this scenario comprehensively tested both aspects, i.e. OOPC and OC, of the proposed community standard. Almost three-quarters, i.e. 72%, of the arbitrators acknowledged P-I's direct cost but considered P-II's foregone gain irrelevant to the determination of a fair \$6/\$4 division. Nine percent (9%) of the arbitrators ignored both costs and settled for the \$5/\$5 choice, whereas 19% opted to account for both the direct and the opportunity cost opting for the \$4/\$6 division.

TABLE 2: Response Frequencies¹ For Experiment 1 - Arbitrators

	\$3/\$7	\$4/\$6	\$5/\$5	\$6/\$4	\$8/\$2	\$9/\$1	\$10/\$0
Case 1	n/a ²	n/a	100% 100%	n/a	n/a	n/a	0% 0%
Case 2	n/a	n/a	24% 3%	76% 97%	n/a	n/a	0% 0%
Case 3	n/a	n/a	83% 78%	17% 22%	n/a	n/a	0% 0%
Case 4	n/a	n/a	29% 9%	61% 78%	0% 0%	10% 13%	0%
Case 5	0% 0%	15% 19%	29% 9%	56% 72%	n/a	n/a	0%

¹: $n_{UADJ} = 41$, $n_{ADJ} = 32$. Note: unadjusted (UADJ) frequencies precede adjusted (ADJ) frequencies.

²: n/a - this choice was not available to Ss for this case.

Overall, two-thirds (66%) of the arbitrators consistently opted to incorporate direct costs but not conceptually equivalent opportunity costs into the determination of negotiators net profit schedules. Furthermore, 84% of those arbitrators in accordance with the proposed behaviour for both Case 2 and Case 3 opted for the OOPC-integrative but OC-neutral \$6/\$4 choice for C5.

Effects Testing

Three effects were tested on a case-by-case basis: Gender, Language, and GU*IN, i.e. the interaction effect of the guess and the influence variables. Nonparametric Kruskal-Wallis one-way ANOVA (two-tail testing) was employed to check for the existence of any such effects (see TABLE 3 below).

The manipulation check (GU*IN) did not reveal any significant effect on arbitrators' responses. With the exception of Gender for Case 4 and language for Case 5, neither the gender nor the language variable revealed any significant effect on arbitrators' choices. Both Case 4 (for gender) and Case 5 (for language) are further analyzed below.

TABLE 3: Other Effects Testing - Experiment 1

	Case 2	Case 3	Case 4	Case 5
Gender $n_{UADJ} = 41, n_{ADJ} = 32; 1df.$	0.1765 0.4692	0.3611 0.1579	0.6462 0.0039	0.1461 0.4208
Language $n_{UADJ} = 37, n_{ADJ} = 28; 1df.$	0.3322 0.4561	0.5187 0.6547	0.2419 0.2548	0.1955 0.0746
Guess*Influence (GU*IN) $n_{UADJ} = 37, n_{ADJ} = 29; 3df.$	0.6375 0.6481	0.2968 0.2703	0.2682 0.1703	0.1728 0.1764

Note: As responses were unequivocal for C1, i.e. all Ss opted for the \$5/\$5 split, no ANOVA results are available for this case.

Gender effect for C4: Of the five choices available to the arbitrators for Case 4, only three were utilized; 14% ($n_{female}, n_{male} = 21, 11$) of the male respondent opted to ignore both the OOPC and the windfall profit of the involved parties, whereas none of the female respondents did so. Conversely, 36% of the female arbitrators chose to account for the windfall profit and the OOPC, whereas none of the male respondents opted for this choice. The dominant choice to ignore the windfall profit but account for the OOPC (\$6/\$4) was chosen by 64% of the female and 86% of the male arbitrators.

Language for C5: 83% ($n_{\text{EFL}}, n_{\text{ESL}} = 18, 10$) of the arbitrators that claimed English as their first language (EFL) opted for the dominant \$6/\$4 split (to ignore the OC but to account for the OOPC), whereas 50% of their English as a second language (ESL) did so. The \$5/\$5 offer (to ignore both the OOPC and the OC) was chosen by 11% of the EFL and 6% of the ESL arbitrators, whereas the \$4/\$6 choice (ignore the OOPC but account for the OC) was subscribed to by 30% of the EFL and 20% of the ESL respondents.

Given that the above effects were significant only for one of the five cases and not significant for either the unadjusted sample or the second experiment, these effects may not be considered systematic.

Summary

From a 'prescriptive' perspective, as assumed by the (student) arbitrators, opportunity costs do not appear to comprise an acceptable claim in negotiations. Out-of-pocket costs, on the other hand, can be rightfully claimed in fair exchange negotiations. Although opportunity costs were made salient to Ss, loss aversive behaviour, or the acceptance of such behaviour, was not evoked. The proposed community standard governing fair exchange behaviour received strong support from this experiment and the results obtained will serve as a control for the subsequent negotiator experiment. Furthermore, the lack of a systematic gender and language effect support the 'communal roots' of the suggested

standard. It should be noted that Ss were not instructed to behave fairly. Rather, the notion of fairness appears to be implicitly incorporated into the communal, or widespread, conceptualization of the arbitration function.

3.2 Experiment 2 - Negotiators

3.2.1 Method

The negotiation tasks, design and procedures, other effects testing and statistical methods utilized for this experiment were the same as employed in the first experiment and are described above. Rather than assume the position of arbitrators, however, Ss were asked to specify the division of the (hypothesized) \$10 in each of the five cases.

Subjects: A total of one hundred and fourteen (114) second year business students enrolled in an introductory financial accounting course at Simon Fraser University, Burnaby, B.C. were approached during class at the end of the 1992 summer semester. Participation was voluntary and no compensation was offered to Ss.

Context: The experimental framework underlying the hypothesis testing is based on a set of independent negotiation tasks to be concluded as a two-person (dyadic) game. The basic task structure concerned the division of a hypothetical \$10 between two randomly paired negotiators, who had identical, symmetric information. The five independent negotiation tasks introduced above were employed. Based on the asymmetric cost positions, negotiators were required to submit written offers concerning the division of the hypothetical \$10 with a randomly matched, unknown counterpart. Ss were randomly allocated into several experimental manipulations, which are discussed below.

Experimental Manipulations

Recourse to Conflict Resolution: The first manipulation employed concerned the provision of a conflict resolution mechanism to the student negotiators. One group was told that non-matching offers would be resolved via final binding arbitration, whereas the other group did not have access to conflict resolution per se. Thus, non-matching offers for the first group consisting of 'arbitrated negotiators' (ANEG) resulted in payoffs determined by one or the other (of the two) offer submitted, whereas non matching for the second group comprised of the 'unarbitrated negotiators' (UNEG) resulted in zero payoffs to both parties. No transaction costs were imposed on negotiators for the use of the conflict resolution mechanism and the implications of final binding arbitration were made explicit to (arbitrated) Ss, i.e. the arbitrator would choose one or the other offer submitted but not generate a compromise or reject both offers. The impact of final binding arbitration on payoff schedules, when compared to the unarbitrated structure, is rather substantial. For Case 1, for example, neither party incurred any costs and non-matching offers would always yield a \$5 payoff¹² to the arbitrated parties. Unarbitrated, non-matching offers, however, would relentlessly result in zero payoffs for both parties. This difference in payoff schedules becomes even more disparate for cases involving (out-of-pocket) costs, as a zero payoff actually translates into a (\$2) loss for the party incurring the cost. Thus, the arbitrated negotiators encountered a much less uncertain task structure than the unarbitrated negotiators did.

¹² This argument is based on the assumption that the arbitrator would pick a \$5/\$5 offer over a \$10/\$0 offer - certainly not an unrealistic assumption.

Position: Four of the five negotiation tasks employed were asymmetric in the cost structures implemented and the cost positions assumed by the negotiators. Case 5, for example, had one party incur a \$2 out-of-pocket cost, whereas the other party incurred a \$4 opportunity cost. A possible source of conflict may arise from negotiators' egocentric interpretation of their (asymmetrically) incurred cost(s). In order to control for the such behaviour, Ss were randomly allocated in one of two groups, i.e. P-I and P-II. P-I negotiators incur the \$2 out-of-pocket cost for Case 2, Case 4 and Case 5 as well as the \$2 opportunity cost for Case 3. P-II negotiators, on the other hand, benefit from the \$6 windfall profit for Case 4 and give up the \$4 OC for Case 5.

Order: The first order sequence, O-I, in which negotiation tasks were presented to Ss started with Case 1, whereas the alternative order, O-II, presented the baseline condition as the fourth stimulus on the second page of the questionnaire. O-I presented the task structures in the same order as introduced above, i.e. 1-2-3-4-5, whereas O-II employed the following, randomized sequence: 3-2-5-1-4. The order manipulation was employed for the ANEG group only.

The overall allocation of Ss, in terms of sample sizes, to the various experimental variations and manipulations are summarized in TABLE 4a below.

TABLE 4a: Sample Sizes by Experimental Manipulations

	ORDER (O-I, O-II)	POSITION (P-I, P-II)	Total (n)
Arbitrated Negotiators - ANEG	40, 35	20, 17	75
Unarbitrated Negotiators - UNEG	N/A	18, 19	39

The sample sizes associated with the 2x2 factorial design employed for the ANEG group as the result of both the order and the position manipulation are summarized in TABLE 4b below.

TABLE 4b: Sample sizes for ANEG 2x2 factorial design.

	O-I	O-II	Total
P-I	20	18	38
P-II	20	17	37
Total	40	35	75

3.2.2 Results

Arbitrated negotiators (ANEG) were on average 21 years old; 53% were female and 47% claimed English as their first language (EFL). The average unarbitrated negotiator (UNEG) was 23 years old; 59% were female and 62% claimed EFL. As for the first experiment, a number of negotiators, i.e. 16 arbitrated and 13 unarbitrated Ss, opted for invariant \$5/\$5 offers across all five negotiation tasks. Furthermore, four (3%) negotiators submitted invariant \$10/\$0 offers for all five cases. Both types of invariant responses were excluded from the analysis for the reasons explained above and are separately discussed in section 3.4.

ANOVAs for the conflict resolution and the position manipulation did not suggest strong and consistent effects across the five cases. Nevertheless, groups were not combined for either of these manipulations for the primary analysis. The order manipulation did not indicate a significant effect on the (arbitrated) negotiator choices for any of the five cases and the O-I and O-II groups were combined. The discussion of the experimental manipulations, other effects and the manipulation check follows the primary analysis.

Primary Analysis

Case 1:

This first case called for the division of the (hypothetical) \$10 without imposing any costs on either of the (two) negotiating parties. All of the unarbitrated (UNEG) and 91% of the

arbitrated negotiators (ANEG) opted for the fair \$5/\$5 offer. Despite the data adjustment for invariant \$10/\$0 responses, a total of 9% of the arbitrated negotiators (ANEG) still opted to submit opportunistic \$10/\$0 offers.

TABLE 5a: Adjusted (ADJ) Response Frequencies For Case 1

	\$5/\$5	\$10/\$0
Arbitrated negotiators -ANEG	91%; 94%, 86%	9%; 6%, 14%
Unarbitrated negotiators - UNEG	100%; 100%, 100%	0%; 0%, 0%

Note: Combined frequencies precede P-I and P-II frequencies. The hypothesized choice is highlighted.

This differential response pattern may be explained by the above-mentioned difference in outcome space associated with the presence (or absence) of a conflict resolution mechanism. The submission of a \$10/\$0 offer results in a payoff schedule with a minimum payoff, or floor, of an expected \$5 if matched with another \$10/\$0 offer and a maximum payoff, or ceiling, of (a certain) \$5 if matched with a \$5/\$5 offer. Thus, arbitrated negotiators had little to lose by submitting a \$10/\$0 offer as no costs were likely to be incurred by doing so. The ANEG-UNEG comparison (the results are discussed in the next section) was not significant ($p > 0.1$, 1 df) for either the combined data sets or the P-I or P-II subsets.

Case 2:

The second case had P-I negotiators incur a \$2 direct cost, whereas P-II negotiators did not incur any costs. A large majority of both ANEG (70%) and UNEG (83%) respondents

opted for the OOPC-sensitive \$6/\$4 choice, whereas 23% of the ANEG and 13% of the UNEG respondents opted for a cost-neutral \$5/\$5 settlement proposal.

TABLE 5b: ADJ Response Frequencies For Case 2

	\$5/\$5	\$6/\$4	\$10/\$0
ANEG	23%; 20%, 27%	70%; 71%, 68%	7%; 9%, 5%
UNEG	13%; 15%, 9%	83%; 77%, 91%	4%; 8%, 0%

Note: Combined frequencies precede P-I and P-II frequencies. Hypothesized choices are highlighted.

A relatively larger proportion of those respondents that ignored the out-of-pocket cost originated in the P-I group, i.e. from negotiators in the group that incurred the cost. Neither the P-I/P-II nor the ANEG-UNEG comparison was significant for Case 2.

Case 3:

For this scenario, P-I negotiators incurred a \$2 opportunity cost, whereas their P-II counterparts did not incur such a cost. Support for the proposed omission of the \$2 opportunity cost from the payoff schedules was somewhat mixed over the ANEG-UNEG manipulation. Specifically, 83% of the unarbitrated negotiators chose to ignore the opportunity cost from the division of the \$10 and opted for the \$5/\$5 choice. Only a marginal majority of the arbitrated negotiators, i.e. 54%, chose the OC-neutral \$5/\$5 offer.

TABLE 5c: ADJ Response Frequencies For Case 3

	\$5/\$5	\$6/\$4	\$10/\$0
ANEG	54%; 54% , 55%	40%; 43%, 36%	5%; 3%, 9%
UNEG	83%; 77% , 91%	13%; 15%, 9%	4%; 8%, 0%

Note: Combined frequencies precede P-I and P-II frequencies. The hypothesized choice is highlighted.

Compared to the unarbitrated negotiators (UNEG), the arbitrated (student) negotiators (ANEG) displayed a relatively high propensity to claim the opportunity cost. A possible explanation for this behaviour may lie in the provision of arbitration per se, which was significant ($p < 0.05$, 1 df) for both the pooled subsamples, i.e. regardless of the position manipulation, and the P-II group. Overall, 53% of the UNEG and 33% of the ANEG responses for the first three cases supported the proposed standard that direct costs should and opportunity costs should not enter into the formulation of fair profit allocations.

Case 4:

The fourth case presented Ss with either a \$2 direct cost (P-I) or a \$6 windfall profit (P-II). For the arbitrated negotiators, Case 4 proved statistically significant ($p < 0.05$, 1 df). That is, this is the only case in which the cost position provided significant grounds for negotiators egocentric interpretations as the result of the asymmetric cost positions imposed on the negotiators.

TABLE 5d: ADJ Response Frequencies For Case 4

	\$5/\$5	\$6/\$4	\$8/\$2	\$9/\$1	\$10/\$0
ANEG	5%; 3%, 9%	49%; 31%, 77%	18%; 29%, 0%	18%; 20%; 14%	11%; 17%, 0%
UNEG	8%; 0%, 18%	63%; 31%, 77%	4%; 0%, 9%	0%; 0%, 0%	25%; 46%, 0%

¹: n/a - this choice was not available to Ss for this case.

Note: Combined frequencies precede P-I and P-II frequencies. The hypothesized choice is highlighted.

Almost two-thirds, i.e. 63%, of the UNEG group opted for the proposed \$6/\$4 division, effectively ignoring P-II's windfall profit but accounting for P-I's \$2 direct cost. Only 49% of the ANEG group committed to this choice. The pooled frequencies are somewhat distorted, however, as P-II negotiators opting for the \$6/\$4 division exceeded P-I negotiators by a ratio of 2:1. Both arbitrated and unarbitrated P-I negotiators submitted the highest proportion of noncooperative \$10/\$0 offers for all five cases - 17% and 46%, respectively. Overall, 47% of the ANEG and 29% of the UNEG group opted for offers exceeding the hypothesized \$6/\$4 outcome. In terms of the position manipulation, 66% of the arbitrated and 46% of the unarbitrated P-I negotiators opted for such offers.

The results obtained for Case 4 suggest that P-II negotiators strongly believed that the windfall profit is extraneous to the negotiation activity. P-I negotiators, however, perceived the windfall profit endogenous to the negotiation task and claimed (possibly more than) their (fair) share. A strong bias on the part of the negotiating parties appears to exist. Such a bias may have taken the form of egocentric interpretations concerning the

negotiation domain. An 'anchoring and adjustment' effect¹³ impacting on the arithmetic employed may have been experienced by some of the Ss and complemented Ss' egocentric interpretations of what should or should not be considered relevant in the determination of outcomes.

Case 5:

This last task imposed a \$2 out-of-pocket cost on P-I negotiators and a \$4 opportunity cost on their P-II counterparts. Approximately half of the arbitrated negotiators opted for the proposed \$6/\$4 offer. Two-thirds of the unarbitrated, P-I negotiators opted for the \$6/\$4 offer, whereas none of their P-II counterparts chose this offer. In fact, all of the

TABLE 5e: ADJ Response Frequencies For Case 5

	\$3/\$7	\$4/\$6	\$5/\$5	\$6/\$4	\$10/\$0
ANEG	5%; 6%, 5%	19%; 14%, 27%	18%; 20%, 14%	49%; 49%, 50%	9%; 11%, 5%
UNEG	0%; 0%, 0%	33%; 15%, 55%	25%; 8%, 46%	33%; 62%, 0%	8%; 15%, 0%

¹: n/a - this choice was not available to Ss for this case.

Note: Combined frequencies precede P-I and P-II frequencies. The hypothesized choice is highlighted.

unarbitrated P-II negotiators opted for choices exceeding their 'fair' \$4 share. Compared to C2 and C3 responses, 23% of the ANEG and 21% of the UNEG respondents chose offers in accordance with the proposed divisions for Case 2 (\$6/\$4), Case 3 (\$5/\$5) and

¹³ Such an effect was consistently observed in the pretesting stage based on a 'free choice' questionnaire. Specifically, Ss appear to 'anchor' on a fair division of the gross profit and then 'adjust' for, i.e. incorporate, the various cost and/or profit components. The high proportion of \$10/\$0 offers may be the result of this bias as [$\$10/2 + \$6/2 + \$2, \$10/2 - \$6/2 - \2] = [$\$10, \0].

Case 5 (\$6/\$4). These percentages are slightly below the proportion associated with the hypothesized behaviour for Case 2 on the part of the ANEG group. The UNEG responses, however, are quite inconsistent in their responses submitted for Case 2, Case 3 and Case 5 in that unarbitrated P-II negotiators unanimously opted to either ignore both direct and opportunity costs or account for both costs. Although egocentric interpretations concerning the cost structures incurred on the part of P-II negotiators are a plausible explanation, such a bias was not observed for either their arbitrated or P-I counterparts. It appears that the more uncertain negotiation environment coupled with a symmetric cost structure resulted in an effect prompting the equal acknowledgement, or lack thereof, of the imposed direct and out-of-pocket costs.

Experimental Manipulations, Other Effects And Manipulation Check

For the purposes of effects testing, nonparametric Kruskal-Wallis one-way ANOVA (two-tail testing) was employed on a case-by-case basis. With the exception of the experimental manipulation concerning the conflict resolution mechanism, which is summarized in TABLE 6, results are found in TABLE 7a and 7b below.

Arbitrated (ANEG) vs. Unarbitrated (UNEG) Negotiators

The first set of comparisons was based on a straightforward comparison of the arbitrated (ANEG) against the unarbitrated (UNEG) negotiator data regardless of the P-I/P-II

position manipulation. The second set of comparisons is based on the testing of the adjusted ARB data against the adjusted ANEG and UNEG subsets. Although ANOVA results for both ADJ and UADJ data sets are presented, only the ADJ data are discussed here.

TABLE 6: Arbitrated vs. Unarbitrated Negotiators

	Case 1	Case 2	Case 3	Case 4	Case 5
(a) ANEG, UNEG 1 df $n_{UADJ} = 57, n_{ADJ} = 24$	0.4316 0.1366	0.8169 0.4949	0.0284 0.0197	0.2235 0.5281	0.2382 0.2157
(b1) P-I df $n_{UADJ,ANEG} = 38, n_{UADJ,UNEG} = 20$ $n_{ADJ,ANEG} = 35, n_{ADJ,UNEG} = 13$	0.7878 0.3836	0.6318 0.8115	0.2985 0.2234	0.5332 0.8089	0.5805 0.3920
(b2) P-II $n_{UADJ,ANEG} = 37, n_{UADJ,UNEG} = 19$ $n_{ADJ,ANEG} = 22, n_{ADJ,UNEG} = 11$	0.1405 0.2059	0.7904 0.3840	0.0341 0.0377	0.4307 0.4602	0.0121 0.0150

Note: The first set of ANOVA's, (a), is based on the comparison of the entire ADJ UNEG data to the entire ADJ ANEG data - regardless of the POSITION manipulation. The second set of ANOVA's (b1) utilizes the entire ANEG-P-I and the ADJ UNEG-P-I data. The third set of ANOVA's, (b2), is based on the entire ADJ ANEG-P-II and UNEG-P-II data.

Based on the ANOVAs employed, significant effects for this manipulation are apparent for Case 3 and Case 5. The third case, C3, shows significant effects for both the combined and the P-II data sets, whereas C5 indicates a significant effect only for the P-II data set. The effect for Case 3 appears to account for the relatively high proportion of arbitrated P-II negotiators claiming the opportunity cost. Similarly, the effect for the P-II group for Case 5 accounts for the unarbitrated (P-II) negotiators' dichotomous choices for the \$5/\$5 and the \$4/\$6 choices. A possible explanation for the difference in Case 3 and Case 5 responses may be directly grounded in the presence, or absence, of final binding

arbitration. For Case 3, for example, final arbitration assured ANEG with a minimum (certain) payoff of \$5/\$5 if a \$6/\$4 offer was submitted - regardless of the opponent's offer¹⁴.

Experimental Manipulations, Other Effects Testing & Manipulation Check

Effects testing for the adjusted ANEG data sets does not reveal any significant effects for any other experimental manipulations, such as order and position, demographic effects, such language and gender, or the manipulation check (GU*IN), except for a significant effect for position on Case 4 which was discussed above.

TABLE 7a: Experimental Manipulations & Other Effects Testing - ANEG

	Case 1	Case 2	Case 3	Case 4	Case 5
Order (O-I, O-II), 1df. $n_{UADJ}, n_{ADJ} = 70, 57$	0.3168 0.2034	0.3576 0.2861	0.1587 0.1098	0.2211 0.2092	0.2473 0.3198
Position (P-I, P-II), 1df. $n_{UADJ}, n_{ADJ} = 75, 57$	0.6664 0.3076	0.0807 0.8862	01.304 0.4788	0.0168 0.0013	0.6235 0.1700
Gender, 1df. $n_{UADJ}, n_{ADJ} = 75, 57$	0.5622 0.1294	0.7515 0.4915	0.5831 0.8558	0.4950 0.7373	0.1834 0.2576
Language, 1df. $n_{UADJ}, n_{ADJ} = 72, 55$	0.4797 0.9701	0.4556 0.8653	0.3476 0.1188	0.4442 0.6920	0.8353 0.8567
GU * IN, 4df. $n_{UADJ}, n_{ADJ} = 69, 58$	0.6514 0.6021	0.1218 0.2892	0.7388 0.6907	0.7161 0.8806	0.5779 0.9287

Note: cell-entries for UADJ data are followed by p-values for ADJ data.

¹⁴ This notion assumes that the arbitrator, if required to intervene, would choose a \$6/\$4 offer over any \$10/\$0 offer - not an unreasonable assumption on the part of a negotiator.

ANOVAs applied to the adjusted, unarbitrated negotiator data does not indicate any significant effects with the exception of a (marginally) significant effect of the manipulation check (GU*IN) on C5, which did not show significant for any of the cross-group comparisons associated with a multi-level Kruskal-Wallis ANOVA, and may not be considered systematic.

TABLE 7b: Experimental Manipulations & Other Effects Testing - UNEG

	Case 1	Case 2	Case 3	Case 4	Case 5
Position, 1df n _{UADJ} , n _{ADJ} = 37, 21	0.1624 n/a ¹	0.5602 0.3479	0.4201 0.9643	0.0991 0.1299	0.6507 0.4310
Gender, 1df n _{UADJ} , n _{ADJ} = 39, 24	0.0857 n/a	0.1326 0.1290	0.4126 0.8181	0.1850 0.4885	0.7128 0.7078
Language, 1df n _{UADJ} , n _{ADJ} = 39, 24	0.7339 n/a	0.1649 0.9290	0.4075 0.2850	0.3554 0.1400	0.2092 0.6720
GU*IN, 4df n _{UADJ} , n _{ADJ} = 39, 24	0.5027 n/a	0.0467 0.2170	1.0000 0.5371	0.5980 0.2957	0.0133 0.0937

¹: The data adjustment resulted in univariate, \$5/\$5 responses for C1.

Note: cell-entries for UADJ data are followed by p-values for ADJ data.

Overall, neither the demographic characteristics, the manipulation check nor the experimental manipulations, appear to have systematically impacted upon arbitrated and unarbitrated negotiator responses. The notable exception, i.e. POSITION for C4, was already discussed.

Summary

The negotiators also provided strong support for the proposed community standards governing which costs should and should not be taken into account. The results suggest that the majority of the negotiators regardless of their (asymmetric) cost position condone the exclusion of opportunity costs from the fair division of surplus. Out-of-pocket costs conceptually analogous to opportunity costs, however, are agreed to be taken into account in determining fair outcome formulations.

The only significant effect of the position manipulation actually did not impact on the enactment of the community standard but concerned the egocentric interpretation of negotiators with respect to the negotiation domain. Furthermore, the significant effects for Case 3 and possibly for Case 5 associated with the conflict resolution mechanisms manipulation are in line with negotiation theory as discussed above. Although this manipulation impacted on the enactment of the community standard, the effect was essentially limited to C3 and not strong enough to 'neutralize' the support for the proposed community standard. Neither of the demographic characteristics nor the manipulation check indicated (systematic) significant effects.

3.3 Between-Experiment Comparison: Arbitrators versus Negotiators

As indicated on the outset of the analysis, the possible difference between the first and the second experiment may be the result of a difference in *communally prescribed and enacted* behaviour. Negotiators may have had a vested interest in their respective share of the outcome. Arbitrators, on the other hand, acted from a value-neutral position, i.e. arbitrators did not stand to gain (or lose) from the negotiation tasks regardless of their choice of offers.

Whether this difference in (expected) value positions was reflected in the submission of offers (or choices) is tested via nonparametric, one-tail Kruskal-Wallis ANOVA. The arbitrator data (ARB) is separately compared against the arbitrated (ANEG) and unarbitrated (UNEG) negotiator data sets. Two separate sets of ANOVAs were conducted for each comparison. The first set of comparisons was based on a straightforward comparison of the arbitrator data against the arbitrated negotiator and against the unarbitrated negotiator data regardless of the position manipulation. The second set of comparisons is based on the testing of the adjusted ARB data against the adjusted ANEG and UNEG POSITION subsets P-I and P-II. Although ANOVA results for both ADJ and UADJ data sets are presented, only the adjusted data are discussed.

Effects testing for gender ($p = 0.2713$, 2df), language ($p = 0.1240$, 2df) and the manipulation check, GU*IN, ($p = 0.1975$, 2df) was not significant across the first and the second experiment.

3.3.1 Arbitrators vs. Arbitrated Negotiators

The ANOVA results obtained for this comparison suggest that the arbitrated negotiators deviated from the prescribed community standard as 'suggested' by the arbitrator choices. On a combined basis, i.e. pooling the responses regardless of the position manipulation (which was significant only for Case 4), only Case 5 indicates agreement between the arbitrator and arbitrated negotiator choices. Furthermore, the statistical significance indicated for Case 4 appears to be entirely attributable to egocentric interpretations of the negotiation domain by P-II negotiators, as arbitrators strongly opted to ignore the windfall profit.

TABLE 8a: Between-Experiment Comparison - Arbitrators vs. Arbitrated Negotiators

	Case 1	Case 2	Case 3	Case 4	Case 5
(a): ARB vs. ANEG - 1 df $n_{ARB}, n_{ANEG}^1 = 41, 75$ $n_{ARB}, n_{ANEG} = 32, 57$	0.0223 0.0432	0.1967 0.0753	0.0089 0.0108	0.0156 0.0020	0.2618 0.1853
(b1): ARB vs. ANEG, P-I - 1df $n_{ARB}, n_{ANEG,P-I} = 41, 38$ $n_{ARB}, n_{ANEG,P-I} = 32, 35$	0.0342 0.0865	0.2020 0.1747	0.0032 0.0186	< 0.00005 < 0.00005	0.3294 0.3613
(b2): ARB vs. ANEG, P-II - 1df $n_{ARB}, n_{ANEG,P-II} = 41, 37$ $n_{ARB}, n_{ANEG,P-II} = 32, 22$	0.0159 0.0166	0.0119 0.0236	0.0731 0.0253	0.1620 0.4566	0.0594 0.0798

¹: The first set of n-values reflects the sample sizes of the UADJ data, whereas the second set of n-values reflects the ADJ data.

Note: The first set of ANOVAs, (a), is based on the comparison of the entire ADJ ARB data to the entire ADJ ANEG data - regardless of the POSITION manipulation. The second and the third set of ANOVA's utilize the entire ARB data to the ADJ ANEG-P-I, (b1) and ANEG-P-II, (b2), data, respectively.

The significant effects for the remaining three cases, i.e. Case 1, Case 2 and Case 3, appear to be combined result of (a) \$10/0 offers (only) on the part of the negotiators and

(b) other strategic 'deviations' from the proposed outcome formulations (as prescribed by the arbitrators).

The differences between the arbitrators (ARB) and arbitrated negotiators (ANEG) may be mainly attributed to (a) 'the diffusion of responsibility' associated with the provision of final binding arbitration, (b) egocentric interpretations concerning the negotiation domain and/or (c) arithmetic 'anchoring and adjustment' problems associated with the outcome determination. Before these issues are further discussed, the comparison between the arbitrator (ARB) data and the unarbitrated negotiators (UNEG) is discussed.

3.3.2 Arbitrators vs. Unarbitrated Negotiators

Unlike the ANEG responses, the unarbitrated negotiator offers are considerably more in unison with the arbitrators' choices. Significant effects are limited to C4 and C5. As for the ANEG comparison presented above, unarbitrated P-I negotiators incorporated the windfall profit of their opponents into their outcome formulation, whereas their P-II counterparts did not. This effect was already discussed and attributed to negotiator's egocentric interpretations of the negotiation domain. The significance of Case 5 appears to be mainly the result of the P-II negotiators treating P-I's direct cost and their own opportunity cost 'approximately' equal. That is, unarbitrated P-II negotiators either

TABLE 8b: Between-Experiment Comparison - Arbitrators vs. Unarbitrated Negotiators

	Case 1	Case 2	Case 3	Case 4	Case 5
(a): ARB vs. UNEG - 1df $n_{ARB}, n_{UNEG1} = 41, 20$ $n_{ARB}, n_{UNEG} = 32, 24$	0.0723 n/a ²	0.1610 0.2462	0.4821 0.3460	0.3962 0.0631	0.0394 0.0214
(b1): ARB vs. UNEG, P-I - 1df $n_{ARB}, n_{UNEG,P-I} = 41, 20$ $n_{ARB}, n_{UNEG,P-I} = 32, 13$	0.0206 n/a	0.4777 0.3059	0.1698 0.4176	0.0221 0.0019	0.1496 0.2001
(b2): ARB vs. UNEG,P-II - 1df $n_{ARB}, n_{UNEG,P-II} = 41, 19$ $n_{ARB}, n_{UNEG,P-II} = 32, 11$	n/a n/a	0.0388 0.2116	0.1073 0.1765	0.0450 0.2369	< 0.00005 < 0.00005

¹: The first set of n-values reflects the sample sizes of the UADJ data, whereas the second set of n-values reflects the ADJ data.

²: n/a - both ADJ UNEG and ARB opted exclusively for the \$5/\$5 division.

Note: The first set of ANOVA's, (a), is based on the comparison of the entire ADJ ARB data to the entire ADJ ANEG data - regardless of the POSITION manipulation. The second and the third set of ANOVA's utilize the entire ARB data to the ADJ ANEG-P-I, (b1), and ANEG-P-II, (b2), data, respectively.

accounted for both foregone gains and direct costs or ignored both cost structures.

Clearly, arbitrators, and arbitrated negotiators, did not respond in this manner as these Ss

accounted only for P-I's direct cost.

Summary

The comparison between the arbitrators and negotiators highlighted several issues impacting on the formulation rather than the prescription of 'acceptable' outcomes. First, a strong egocentric bias concerning the negotiation domain of Case 4 exists among negotiators. In this case, negotiators chose positions that favoured their respective payoff schedules. That is, P-I negotiators insisted on 'sharing' their P-II counterparts' windfall profit, whereas P-II negotiators did not consider this (extraneous) profit relevant to the

negotiation at hand. From a 'prescriptive' perspective, arbitrators agreed with the beneficiaries of the windfall profit (i.e. P-II negotiators) in their notion that these profits are extraneous and should not be integrated into the negotiation domain. Second, the impact of the conflict resolution mechanism manipulation appears to have led arbitrated negotiators to (a) diffuse some of their decision making to the arbitrators and (b) engage in a higher number of 'strategic' and/or opportunistic \$10/\$0 offers. The latter issue may actually be comprised of a 'diffusion of decision making' effect and strategic responses as the result of certain payoff floors provided by final binding arbitration. Third, arithmetic mistakes based on an 'anchoring and adjustment' effect, such as dividing the \$10 first and then adding or subtracting the (ir)relevant costs and profits, may have prompted Ss to respond differently from their intended choice(s). Fourth, unarbitrated P-II responses for Case 5 differed significantly from their arbitrated counterparts' as well as the arbitrators' choices. A direct source of this differential response pattern may lie in the interaction of several effects and manipulations, such as the lack of a conflict resolution mechanism and egocentric interpretations of multiple, asymmetric cost structures.

Overall, none of these (possible) effects negated, or 'neutralized', the basic notion of the proposed community standard. In particular, negotiators appear to have been rather conscious of their own as well as their opponents cost positions: no egocentric interpretations of the community standard, as prescribed by arbitrators, occurred on the part of the negotiators.

3.4 Analysis of Excluded Data Points

A non-trivial issue concerns the excluded data points, i.e. the invariant responses excluded from the above analyses. The following table, TABLE 9, summarizes the invariant \$5/\$5 and \$10/\$0 offers for the arbitrators of the first and the arbitrated and unarbitrated negotiators of the second experiment.

TABLE 9: Excluded Data Point - Absolute and Relative Frequencies

	ARB	ANEG	UNEG	Total ⁵
\$5/\$5	9, (22%)	16 ¹ , (21%)	13 ³ , (33%)	38, (25%)
\$10/\$0	0	2 ² , (3%)	2 ⁴ , (5%)	4, (3%)
Total	9, 22%	18, (24%)	15, (38%)	42, (27%)

¹: 14 (88%) of those responses originated in the P-I group.

²: These two responses were equally distributed between the P-I and P-II group.

³: 5 (38%) of those responses originated in the P-I group.

⁴: Both responses originated in the P-I group.

⁵: The percentage figures of this column are based on the combined, UADJ sample size for ARB, ANEG and UNEG: n = 155.

The opportunistic \$10/\$0 responses obtained are rather negligible. Of the total sample size (n = 155) only 3% of the Ss opted for \$10/\$0 offers for all five scenarios. Notably, none of the arbitrators opted for this choice. Invariant \$5/\$5 offers, on the other hand, comprised approximately one-fifth for both the ARB and ANEG responses peaking at about one-third of the responses of the UNEG responses. Thus, this group, although excluded from the primary analysis above, constitutes a non-trivial share of the total

responses obtained. Fisher's exact two-tail chi-square analysis was employed to test experimental manipulations, demographic characteristics, and the manipulation check¹⁵.

For both experiments gender did not significantly impact on Ss' responses. Language, with the (marginal) exception for unarbitrated negotiator (UNEG) responses, also does not appear to have impacted on the invariant response patterns for either the first or the second experiment. Position, although not significant for UNEG, tests highly significant for the ANEG variation. The latter result is not unexpected given that a high proportion

TABLE 10: Effects Testing For Excluded Data Points

	Gender - 1df.,	Language - 1df.	Position - 1df
Arbitrators	0.1280, n = 9	0.6868, n = 9	N/A ¹
Arbitrated negotiators (ANEG)	1.0000, n = 16	0.5926, n = 16	0.0011 , n = 16
Unarbitrated negotiators (UNEG)	0.7397, n = 13	0.0931 , n = 13	0.7475, n = 13

¹: This manipulation was not employed for the ARB experiment.

of invariant \$5/\$5 responses for ANEG sample originated in the P-I group. A plausible explanation of the invariant \$5/\$5 responses concerns the (perceived) sunk cost nature of both the OOPC and OC employed in the negotiation task. This explanation was provided in debriefing sessions by several Ss across both experiments. Specifically, Ss approached the experimenter after the experiment and commented "... you almost got me there. I almost did not realize that those costs were sunk ... and should not be counted."

¹⁵ Due to the negligible number of invariant \$10/\$0 responses, these data points are excluded from further analysis.

4.0 Discussion, Implications And Suggestions For Further Research

The purpose of this research project was to examine the role of opportunity costs, or foregone gains, in the context of communally acceptable negotiation settlements. The two experiments carried out focused on the communal prescription and enactment of such a standard. The widespread support from both experiments, but particularly from the first, arbitrator experiment, appears to reflect the (latent) community standard proposed for testing: opportunity costs should not be taken into consideration when formulating a 'fair' negotiation offer, whereas out-of-pocket, or direct, costs should be taken into account. Over the two experiments conducted neither demographic characteristics, the manipulation check nor the experimental manipulations showed systematic effects.

Although the complexity associated with the negotiation tasks per se was relatively low when compared to multi-issue, real-world situations, negotiators encountered a non-trivial degree of uncertainty concerning the expected behaviour of their opponents in either the arbitrated or unarbitrated, single and simultaneous move exchange environments. Despite this complexity, cognitive-based biases, and especially the egocentric bias (Messick & Sentis, 1979; Ross & Sicoli, 1979), did not impact on the enactment of the community standard per se. The only instance of egocentric interpretations on the part of the negotiators concerned the negotiation domain. Furthermore, an 'anchoring and adjustment' effect appears to have impacted on negotiators' formulation of (fair) outcomes¹⁶. Slovic

¹⁶ Although the evidence for this bias is more circumstantial than substantial, this bias has been extensively encountered during the pretesting stage and has eventually prompted the use of a multiple choice format. But even this precaution did not seem sufficient.

and Lichtenstein (1971) as well as Tversky and Kahneman (1973, 1974) provide conclusive evidence that decision makers develop estimates based on an initial starting point, or anchor, regardless of the relevance or accuracy of this starting point. Moreover, adjustments from this anchor as a means of integrating new information into the decision making process(es) are usually not sufficient¹⁷. The anchoring and adjustment effect observed concerned negotiators fallacious arithmetic employed to formulate an offer reflective of their integration of their opponents' windfall profit. Following a 'fairness heuristic', negotiators calculated offers by equally dividing the gross revenue in disregard for the costs/benefits involved and then 'adjusted' for the respective proportional inputs, as perceived to be relevant - despite the 'cues' provided to Ss.

The largest impact on negotiators' deviations from the arbitrator choices, or 'prescriptions', seems grounded in the provision of a conflict resolution mechanism per se. As suggested above, negotiators' deviation from the arbitrator choices may have been prompted by (a) the 'diffusion' of decision making and/or (b) purely strategic, self-serving motives on the part of negotiators. The threat of arbitration to negotiators has been repeatedly shown to reduce negotiators willingness to compromise. Empirical research addressing the impact of conventional arbitration, i.e. the arbitrator determines the payoff to the negotiators (Elkouri & Elkouri, 1981), has repeatedly demonstrated that negotiators have an incentive to exaggerate their claims and to concede little (Long & Feuille, 1975;

¹⁷ In the terminology of Bayesian theory, the anchor may be viewed as prior probability and the adjustment as updating the prior(s).

Feuille, 1975). Furthermore, under conventional arbitration the party that gives up the least benefits the most, which in turn leads to greater reliance on the arbitration process (Stevens, 1966; Notz & Starke, 1978). Final binding arbitration when compared to conventional arbitration, however, has been shown to increase negotiators willingness to settle in both field (Kochan, Mironi, Ehrenberg, Baderschneider & Jick, 1979; Delany & Feuille, 1984) and laboratory research (Grigsby & Bigoness, 1982; Notz & Starke, 1978; Starke & Notz, 1981; Neale & Bazerman, 1983; Farber, Neale & Bazerman, 1990; Bazerman et al., 1992).

The difference between negotiator offers and arbitrator responses observed by this study suggests that even if final arbitration, rather than conventional arbitration, is provided to negotiators, a significant difference occurs. In the context of this study, however, negotiators' reliance on the arbitration process appears to be based on negotiators' expectation of both the arbitrator and negotiating opponent(s) to follow (latent) norms of procedural justice. Such norms, as proposed by this paper and demonstrated by the 'dual principle of entitlement' (Kahneman, Knetsch & Thaler, 1986a, 1986b, 1990; Kahneman & Tversky, 1992), suggest that negotiating parties hold norms of justice and base their offers on these norms. Furthermore, these norms, or community standards, appear to be based on the perception of procedural rather than distributive fairness.

Bloom (1986) found that the primary determinants of the payoffs awarded by arbitrators was based on the negotiators' final offers, which led him to conclude that payoffs based

on splitting the difference between the negotiators' offers reasonably describes conventional arbitration. Arbitrators splitting the difference would act in accordance with Rawls' (1971) egalitarian theory of justice, which suggests that scarce resources should be allocated equally to all (involved) parties. Farber and Bazerman (1986, 1989; Bazerman & Farber, 1985) argued that Bloom's research ignores the possibility that negotiating parties hold norms of justice on which their offers are based. The results of this study suggest that negotiators expecting final binding arbitration either enact such norms or use such norms as the basis for their strategic behaviour. Both the 'principle of dual entitlement', as suggested by Kahneman, Knetsch & Thaler (1986a, 1986b, 1990), and the standard proposed by this paper indicate that economic agents rely on procedural (e.g. Adams, 1963, 1965) rather than distributive justice (e.g. Rawls, 1971). Further research should explicitly address negotiators' norms of justice and their axiomatic isomorphism to arbitrator norms. Furthermore, the role of distributive versus procedural fairness in the context of interpersonal (rather than institutionalized) exchange negotiations should be established.

An interesting 'response bias' observed concerned some subjects' notion that both the opportunity and the out-of-pocket costs imposed on negotiators were sunk and consequently should not be taken into account. This notion appears to reflect participants sensitivity to normative theory - after all, the experiments were conducted in classes supposed to sensitize students to normative theory. The sensitizing of decision makers to abstract norms, such as sunk costs, appears to leave 'adhering' decision makers short-

changed. Those negotiators that (rightfully) argued for the sunk cost norm may find themselves in extensive conflict and subject to reciprocal action. The value of a good, or right (to negotiate), should be reflected in decision makers decision processes - not the cost of the good, or right, per se (Alchian, 1968). In the absence of a functioning market evaluating the value of a good, or right, in the form of a (equilibrium) price, however, costs may function as reference for (further) transactions. The majority of the responses obtained for both experiments suggests the validity of this notion. Further research should attempt to test this notion via eliciting third-parties' and involved parties', e.g. negotiators, judgement of the minimum acceptable profit allocation after a negotiator, or negotiating opponent, has committed to the 'purchase of the right to negotiate.' Almost all of the negotiators incurring costs over the course of a negotiation activity arrived at a 'net gain', i.e. their share of the profit minus the (out-of-pocket) cost incurred. It may well be possible that the notion of interpersonal 'fairness' dictates a minimum return covering negotiators' (out-of-pocket) costs.

Both the student arbitrators and negotiators strongly supported the proposed communal acceptance that direct costs should and opportunity costs should not be accounted for in fair outcome formulations. Although opportunity costs were made very salient, these costs were underweight or not conceded at all. The research results obtained by Northcraft & Neale (1986), i.e. increasing the salience of opportunity costs increases decision makers tendency to acknowledge such costs due to the invoking of loss aversion, is not at odds

with the results obtained from this study. Northcraft and Neale researched opportunity costs in the context of multiple decision alternatives to an individual decision maker. This study, however, focused on the acceptability of passing on such costs in an interpersonal, multi-party context. That is, the first use of opportunity costs comprises a case of gathering or establishing (perfect and) complete information, whereas this study focused on the (interpersonal) role of such costs once a decision was made. Furthermore, this paper suggests that even if opportunity costs are salient, community standards governing the judgement and enactment of fairness do not consider it acceptable to include such costs into joint profit schedules. It may very well be, however, that negotiators are even more inclined to ignore opportunity costs in fair outcome formulations when these costs are (comparatively) less salient.

With the exception to the impact of final binding arbitration on negotiator responses, no systematic effects impacted upon Ss' responses. That is, the proposed community standard proved rather robust to cognitive heuristics and biases. Although the 'lack' of a more pronounced display of behavioural decision biases may be the result of the 'cued' multiple choice questionnaires, the notion of community standards of fairness per se appears to provide a rather robust research frame that allows the divulgence of economic actors', such as negotiators, (procedural) notion of fairness in an axiomatic manner. Furthermore, these norms, such as the standards proposed for the purposes of this paper or the 'principle of dual entitlement' (Kahneman, Knetsch & Thaler, 1986a, 1986b, 1990), appear not only robust to cognitive-based heuristics and biases but also seem to reflect

the social 'internalization' of (bounded) human rationality. This issue awaits further research.

Clearly, the generalizability of the results are limited to dyadic negotiations within student populations. Furthermore, the lack of performance-based incentives to the negotiators may have skewed results favourably as the 'vested interest' of Ss was not at peak or unfavourably as the lack of monetary incentives may have resulted in more 'noisy' responses. The overwhelming number of 'fair' responses from highly sensitized business students as well as the majority support received for the choice/offer in accordance with the proposed community standard for each of the five negotiation tasks, however, lends support to the results.

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Appendix I: Questionnaires¹⁸

The order of the enclosed questionnaires corresponds to the sequence in which the experiments were conducted and presented above.

-1-	Experiment 1:	Arbitrators
-2a-	Experiment 2, P-I, O-I:	Arbitrated Negotiators
-2b-	Experiment 2, P-II, O-I:	Arbitrated Negotiators
-2c-	Experiment 2, P-I, O-II:	Arbitrated Negotiators
-2d-	Experiment 2, P-II, O-II:	Arbitrated Negotiators
-3a-	Experiment 2, P-I:	Unarbitrated Negotiators
-3b-	Experiment 2, P-II:	Unarbitrated Negotiators

¹⁸ Note that the enclosed questionnaires were reduced by approximately 15% to conform to publication requirements.

1 - Arbitrators

This Questionnaire Is Part Of A MBA Thesis And Your Co-operation Is Greatly Appreciated.

Your Participation Is Voluntary & You May Withdraw From The Completion Of This Questionnaire At Any Time.

Please complete the following section first:

Gender: F:___ M:___ Age: ___ yrs. Indicate your class: - - - - -

Is English your first language: Yes / No
=====

INSTRUCTIONS

- * In another experiment, students were randomly paired, e.g. student A with student B, student C with student D, student E with student F, etc., and asked how they would divide \$10 between themselves under various conditions ('cases')
 - * For each case, the experimenter provided the \$10.
 - * The (paired) students had identical information for each case but did not interact face-to-face.
 - * Each student submitted a final offer per case to an independent, anonymous arbitrator.
 - * This arbitrator would make a final, binding choice if the (paired) students' offers did not match. That is, the arbitrator would pick one or the other of the non-matching offers for each pair of submissions.
 - * Assume you are the arbitrator. For each of the cases below indicate how you think the students should divide the \$10.
 - * Treat each case independently.
- =====

Case 1:

- * Student A and student B were given \$10 to divide between themselves.
- * No costs were incurred by either student.

How do you think A and B should divide the money? Circle one of the choices below.

- 1 Each student should receive \$5.
 - 2 Student A should receive \$10 and student B should receive \$0.
 - 3 Student A should receive \$0 and student B should receive \$10.
- =====

Case 2:

- * Student C and student D were given \$10 to divide between themselves.
- * Student C had to pay \$2 to participate in this experiment.
- * No cost outlay was incurred by student D.

How do you think C and D should divide the money? Circle one of the choices below.

- 1 Each student should receive \$5.
 - 2 Student C should receive \$6 and student D should receive \$4. [To account for C's \$2 cost.]
 - 3 Student C should receive \$10 and student D should receive \$0.
 - 4 Student C should receive \$0 and student D should receive \$10.
- =====

PLEASE TURN OVER!

Case 3:

- * Student E and student F were given \$10 to divide between themselves.
- * Student E had to choose between 'this' experiment or another experiment. If s/he had chosen the other experiment, s/he would have been \$2 for sure.
- * Student F did not have this choice.

How do you think C and D should divide the money? Circle one of the choices below.

- 1 Each student should receive \$5.
 - 2 Student E should receive \$6 and student F should receive \$4. [To account for E's \$2 foregone gain.]
 - 3 Student E should receive \$10 and student F should receive \$0.
 - 4 Student E should receive \$0 and student F should receive \$10.
-

Case 4:

- * Student G and student H were given \$10 to divide between themselves.
- * However student G had just won \$6 in a lottery-type game preceding the experiment.
- * Student H had to pay \$2 to participate in the experiment but did not gain any profits.

How do you think G and H should divide the money? Circle one of the choices below.

- 1 Each student should receive \$5.
 - 2 Student H should receive \$6 and student G should receive \$4. [To account for H's \$2 cost.]
 - 3 Student H should receive \$8 and student G should receive \$2. [To account for G's \$6 gain.]
 - 4 Student H should receive \$9 and student G should receive \$1. [To account for both H's \$2 cost and G's \$6 gain.]
 - 5 Student H should receive \$10 and student G should receive \$0.
 - 6 Student H should receive \$0 and student G should receive \$10.
-

Case 5:

- * Student I and student J were given \$10 to divide between themselves.
- * Student J opted to participate in 'this' experiment. However, by doing so s/he had to forego the opportunity to earn \$4 in another experiment.
- * Student I had to pay \$2 to participate in the experiment.

How do you think I and J should divide the money? Circle one of the choices below.

- 1 Each student should receive \$5.
 - 2 Student I should receive \$6 and student J should receive \$4. [To account for I's \$2 cost.]
 - 3 Student I should receive \$3 and student J should receive \$7. [To account for J's foregone gain.]
 - 4 Student I should receive \$4 and student J should receive \$6. [To account for I's \$2 cost and J's \$4 foregone gain.]
 - 5 Student I should receive \$10 and student J should receive \$0.
 - 6 Student I should receive \$0 and student J should receive \$10.
-

* What do you think this questionnaire is about: _____

* Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No. (Circle one.)

* If your guess influenced your choices, indicate how: _____

Thank You For Your Participation.

2a - Arbitrated Negotiators

This Questionnaire Is Part Of A MBA Thesis And Your Cooperation Is Greatly Appreciated

Your Participation Is Voluntary And You May Withdraw From The Completion Of This Questionnaire At Any Time

Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _ _ _ _ _

Is English your first language: Yes / No

Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
- * If your offer regarding the division of the \$10 does not match with the offer from the other student, both submissions will be forwarded to an independent, anonymous arbitrator.
- * The arbitrator will make a final, binding decision, i.e. the arbitrator will choose one or the other offer but not reject either offer and not generate compromises. The \$10 will be divided according to the arbitrator's choice.
- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

Case 1:

- * You and another student unknown to you were given \$10 to divide between the two of you.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$ 0 to the other student.
-

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and a student unknown to you were given \$10 to divide between yourself.
- * You had to choose between this or another experiment. If you had chosen the other experiment you would have been paid \$2.
- * The other student did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 forgone by you.]
 - 3 You claim \$10 and offer \$0 to the other student.
-

Case 4:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had played in a lottery-type experiment preceding this experiment and won \$6.
- * The other student did not have to pay to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
 - 3 You claim \$8 and offer \$2 to the other student. [To account for the lottery gain by the other student.]
 - 4 You claim \$9 and offer \$1 to the other student. [To account for the \$2 paid by you and the other student's \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
-

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had the choice to participate in this experiment or another experiment where s/he would have been paid \$4.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer the other student \$5.
 - 2 You claim \$6 and offer \$4 to the other student. [To take account of the \$2 paid by you.]
 - 3 You claim \$4 and offer \$6 to the other student. [To account for both the \$2 paid by you and the \$4 forgone by the other student.]
 - 4 You claim \$3 and offer \$7 to the other student. [To account of the \$4 forgone by the other student.]
 - 5 You claim \$10 and offer \$0 to the other student.
-

* What do you think this survey is about: _____

* Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)

* If your guess influenced your choices, indicate how you would have chosen otherwise: _____

2b - Arbitrated Negotiators

This Questionnaire Is Part Of A MBA Thesis And Your Cooperation Is Greatly Appreciated

Your Participation Is Voluntary And You May Withdraw From The Completion Of This Questionnaire At Any Time

Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _ _ _ _

Is English your first language: Yes / No

Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
- * If your offer regarding the division of the \$10 does not match with the offer from the other student, both submissions will be forwarded to an independent, anonymous arbitrator.
- * The arbitrator will make a final, binding decision, i.e. the arbitrator will choose one or the other offer but not reject either offer and not generate compromises. The \$10 will be divided according to the arbitrator's choice.
- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

Case 1:

- * You and a student unknown to you were given \$10 to divide between yourself.
- * You had to choose between this or another experiment. If you had chosen the other experiment you would have been paid \$2.
- * The other student did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 forgone by you.]
 - 3 You claim \$10 and offer \$0 to the other student.
-

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had the choice to participate in this experiment or another experiment where s/he would have been paid \$4.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer the other student \$5.
 - 2 You claim \$6 and offer \$4 to the other student. [To take account of the \$2 paid by you.]
 - 3 You claim \$4 and offer \$6 to the other student. [To account for both the \$2 paid by you and the \$4 forgone by the other student.]
 - 4 You claim \$3 and offer \$7 to the other student. [To account of the \$4 forgone by the other student.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

Case 4:

- * You and another student unknown to you were given \$10 to divide between the two of you.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$0 to the other student.
- =====

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had played in a lottery-type experiment preceding this experiment and won \$6.
- * The other student did not have to pay to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
 - 3 You claim \$8 and offer \$2 to the other student. [To account for the lottery gain by the other student.]
 - 4 You claim \$9 and offer \$1 to the other student. [To account for the \$2 paid by you and the other student's \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

* What do you think this survey is about: _____

* Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)

* If your guess influenced your choices, indicate how you would have chosen otherwise: _____

2c - Arbitrated Negotiators

This Questionnaire Is Part Of A MBA Thesis And Your Cooperation Is Greatly Appreciated

Your Participation Is Voluntary And You May Withdraw From The Completion Of This Questionnaire At Any Time

Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _____

Is English your first language: Yes / No

=====

Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
- * If your offer regarding the division of the \$10 does not match with the offer from the other student, both submissions will be forwarded to an independent, anonymous arbitrator.
- * The arbitrator will make a final, binding decision, i.e. the arbitrator will choose one or the other offer but not reject either offer and not generate compromises. The \$10 will be divided according to the arbitrator's choice.
- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

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Case 1:

- * You and another student unknown to you were given \$10 to divide between yourself.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$ 0 to the other student.
- =====

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 paid by the other student.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to choose between this and another experiment. If s/he had chosen the other experiment s/he would have been paid \$2.
- * You did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 forgone by the other student.]
 - 3 You claim \$10 and offer \$0 to the other student.
- =====

Case 4:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
- * You had played in a lottery-type experiment preceding this experiment and won \$6.
- * You did not have to pay to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 paid by the other student.]
 - 3 You claim \$2 and offer \$8 to the other student. [To account for your \$6 gain.]
 - 4 You claim \$1 and offer \$9 to the other student. [To account for the \$2 paid by other student and your \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
- * You had the choice to participate in this experiment or another experiment where you would have been paid \$4.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer the other student \$5.
 - 2 You claim \$6 and offer \$4 to the other student. [To take account of the \$2 paid by the other student.]
 - 3 You claim \$4 and offer \$6 to the other student. [To account for both the \$2 paid by the other student and the \$4 forgone by you.]
 - 4 You claim \$3 and offer \$7 to the other student. [To account of the \$4 forgone by the other student.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

What do you think this survey is about: _____

- * Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)
 - * If your guess influenced your choices, indicate how you would have chosen otherwise: _____
- _____

2d - Arbitrated Negotiators

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Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _ _ _ _ _

Is English your first language: Yes / No

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Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
- * If your offer regarding the division of the \$10 does not match with the offer from the other student, both submissions will be forwarded to an independent, anonymous arbitrator.
- * The arbitrator will make a final, binding decision, i.e. the arbitrator will choose one or the other offer but not reject either offer and not generate compromises. The \$10 will be divided according to the arbitrator's choice.
- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

=====

Case 1:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to choose between this and another experiment. If s/he had chosen the other experiment s/he would have been paid \$2.
- * You did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 forgone by the other student.]
 - 3 You claim \$10 and offer \$0 to the other student.
- =====

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 paid by the other student.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
- * You had the choice to participate in this experiment or another experiment where you would have been paid \$4.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer the other student \$5.
 - 2 You claim \$6 and offer \$4 to the other student. [To take account of the \$2 paid by the other student.]
 - 3 You claim \$4 and offer \$6 to the other student. [To account for both the \$2 paid by the other student and the \$4 forgone by you.]
 - 4 You claim \$3 and offer \$7 to the other student. [To account of the \$4 forgone by the other student.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

Case 4:

- * You and another student unknown to you were given \$10 to divide between yourself.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$0 to the other student.
- =====

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
- * You had played in a lottery-type experiment preceding this experiment and won \$6.
- * You did not have to pay to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 paid by the other student.]
 - 3 You claim \$2 and offer \$8 to the other student. [To account for your \$6 gain.]
 - 4 You claim \$1 and offer \$9 to the other student. [To account for the \$2 paid by other student and your \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
- =====

* What do you think this survey is about: _____

* Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)

* If your guess influenced your choices, indicate how you would have chosen otherwise: _____

3a - Unarbitrated Negotiators

This Questionnaire Is Part Of A MBA Thesis And Your Cooperation Is Greatly Appreciated

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Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _ _ _ _ _

Is English your first language: Yes / No

Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
- * If your offer regarding the division of the \$10 matches the offer from the other student, the \$10 will be divided accordingly. If your offers do not match, however, neither you nor the other student will receive any money.
- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

Case 1:

- * You and another student unknown to you were given \$10 to divide between the two of you.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$ 0 to the other student.
-
-

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and a student unknown to you were given \$10 to divide between yourself.
- * You had to choose between this or another experiment. If you had chosen the other experiment you would have been paid \$2.
- * The other student did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 forgone by you.]
 - 3 You claim \$10 and offer \$0 to the other student.
-
-

Case 4:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had played in a lottery-type experiment preceding this experiment and won \$6.
- * The other student did not have to pay to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$6 and offer \$4 to the other student. [To account for the \$2 paid by you.]
 - 3 You claim \$8 and offer \$2 to the other student. [To account for the lottery gain by the other student.]
 - 4 You claim \$9 and offer \$1 to the other student. [To account for the \$2 paid by you and the other student's \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
-
-

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * You had to pay \$2 to participate in this experiment.
- * The other student had the choice to participate in this experiment or another experiment where s/he would have been paid \$4.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer the other student \$5.
 - 2 You claim \$6 and offer \$4 to the other student. [To take account of the \$2 paid by you.]
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 - 4 You claim \$3 and offer \$7 to the other student. [To account of the \$4 forgone by the other student.]
 - 5 You claim \$10 and offer \$0 to the other student.
-
-

* What do you think this survey is about: _____

* Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)

* If your guess influenced your choices, indicate how you would have chosen otherwise: _____

3b - Unarbitrated Negotiators

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Please complete the following section first - Check or Circle Your Answer :

Gender: F: ___ M: ___ Age: ___ yrs. Indicate Your Class: _ _ _ _ _

Is English your first language: Yes / No

Instructions

- * You and a student unknown to you are required to divide \$10 under various conditions ('cases.')
- * You and the other student are randomly paired.
- * For each case, the \$10 are provided by the experimenter.
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- * Treat each case hypothetically and independently.

NOTE: There are no right or wrong answers. We are interested in your opinion.

Case 1:

- * You and another student unknown to you were given \$10 to divide between yourself.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
 - 2 You claim \$10 and offer \$ 0 to the other student.
-
-

Case 2:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
- 2 You claim \$4 and offer \$6 to the other student. [To account for the \$2 paid by the other student.]
- 3 You claim \$10 and offer \$0 to the other student.

PLEASE TURN OVER!

Case 3:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to choose between this and another experiment. If s/he had chosen the other experiment s/he would have been paid \$2.
- * You did not have this choice.

What is your offer regarding the division of the \$10? Circle one of the choices below.

- 1 You claim \$5 and offer \$5 to the other student.
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-

Case 4:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
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 - 4 You claim \$1 and offer \$9 to the other student. [To account for the \$2 paid by other student and your \$6 gain.]
 - 5 You claim \$10 and offer \$0 to the other student.
-

Case 5:

- * You and another student unknown to you were given \$10 to divide between yourself.
- * The other student had to pay \$2 to participate in this experiment.
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-

What do you think this survey is about: _____

- * Did your guess regarding the purpose of this questionnaire influence your choices: Yes / No (Circle one.)
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-