How Mediator Compensation Affects the Conflicting Parties’, and the Mediator’s Behavior. An Economic and Experimental Analysis.†

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Abstract

This paper examines three different types of payment schemes for mediators: contingent payment, fixed payment, and partisan payment. We examine theoretically and experimentally the impact of each type of contract on the willingness of two disputing parties to employ a mediator, on the mediator’s effort to settle the conflict, and on the efficiency of the settlement result.

In our model, the mediator is an expert and, therefore, an informational asymmetry exists between the mediator and the conflicting parties. The parties are interested in obtaining the mediator’s private information since it enhances settlement efficiency.

The experimental data confirm a widely known conjecture regarding contingent payment in economic theory: Mediators who are paid a proportion of the amount at stake have a vivid interest in an efficient settlement and, thus, if employed, most often reveal their information. Unsurprisingly, they are employed very often. However, the data also justify the common German practice to compensate mediators even though this is in sharp contradiction with economic theory: a fixed payment is nearly as efficient as contingent fees. Moreover, as theory predicts and data show, a partisan mediator is seldom employed, never reveals his private information, and is a severe damage to efficiency.

JEL classification: C7; C9; D82; K4

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1 Introduction

Mediation is one of a variety of Alternative Dispute Resolution (ADR) methods for which conflicting parties may opt. The set of ADR methods contains a wide range of possibilities to solve a conflict through negotiation and settlement vs. going before a judge. This paper focuses on mediation, hence no other ADR methods will be taken into consideration. In essence, in our model two disputing parties can choose between settling out of court among themselves, or going to trial (outside option), or calling for a mediator. The mediator here is modelled as an experienced, independent, and trusted person that can be expected to facilitate settling a dispute by negotiating in a collaborative way. Moreover, the mediator, being an expert in his field, holds information that is important for solving the conflict suitably. This information is not known by the conflicting parties. Our model analyzes the mediator's incentives to reveal this private information given a certain payment contract.

Very little work seems to have been done in this area. There is a broad literature that examines the conflicting parties' financial incentives of conflict settlement compared to going to trial (see, e.g., Landes 1971, Posner 1973, Gould 1973), as well as the strategic enforceability of a settlement under unilateral private information (see, e.g., P'ng 1983, Bebchuk 1984, Nalebuff 1987). The case of one-sided private information is extended to the strategic situation under two-sided private information (see, e.g., Schweizer 1989, Sobel 1989, Dougherty/Reinganum 1994). However, mediation in the above mentioned sense of a neutral third party helping to solve a conflict, is not explicitly modelled. A type of literature that attempts to account for that aspect models the mediator as a mechanism for information revelation of the conflicting parties' private knowledge (see, e.g., Myerson 1979, and 1981, Myerson/Satterthwaite 1983, Chatterjee/Samuelson 1983), or as a mechanism for information transfer and communication between the conflicting parties (see, e.g., Myerson 1985, and 1986, Forges 1986, Crawford/Sobel 1982, Ben-Porath 1998). Nevertheless, a mechanism is not a third party and possesses no scope of action. In this paper, we model a mediator as an independent third party holding private information the conflicting parties can benefit from, and being allowed to act at will.

We look at situations of conflict between two parties that contain two aspects: first, the disputing parties as a whole can enhance efficiency simply by terminating the quarrel. Second, after having stopped to dispute, the question arises how the amount at stake shall be divided. This is known as the so-called "negotiators dilemma" (see Mackie 1991, 86).

The conflict and the negotiators dilemma are modelled as follows in this paper: two parties negotiate on how to divide a pie of size $X$. The two players in turns make offers until one of them accepts a proposal made by the other player. Then an agreement is reached. Since lengthy negotiations are costly, each decline of an offer shrinks the amount by a certain proportion.

The conflicting parties are modelled as risk-neutral, rational, payoff-maximizing players. As a result, either of the two strives for as large a share as possible which sets hurdles to a quick and easy settlement. A certain agreement
in the bargaining process consists of the percentage division between the two parties. Both parties’ shares add up to 100%.

It is the mutual agreement on the particular relative division of $X$ that is of high interest here. This specific division generates the ultimate valuation of $X$ which is denoted by $Y$. In the end, this money amount at stake of size $Y$ is divided according to the former bargaining agreement on relative shares. Dependent on the respective settlement, $Y$ can be larger than, smaller than, or of equal size as the amount $X$. Thus, besides bargaining costs in terms of rejected offers, the settlement of the conflict, i.e., the percentage shares, covers an additional effect on overall efficiency: the parties should divide $X$ such that $Y$ reaches maximum size.

However, it is the mediator only who is familiar with this certain division. With that the mediator is modelled as an experienced expert holding superior information that is crucial to a mutually advantageous agreement. Of course, the conflicting parties are able and allowed to settle their conflict completely on their own. But if they do call for an expert, the mediator is able to make a contribution to solving the conflict that enhances overall efficiency. However, the mediator is not forced to reveal his superior knowledge. Being an independent expert he can act at will.

It is one of three key questions in this paper how the mediator accomplishes his task, given the compensation scheme. The second question is, whether the mediator is employed at all dependent on his payment scheme. Thirdly, the players’ payoffs, i.e. the final shares in line with the respective agreements are evaluated.

As to the information structure in this bargaining game, the conflicting parties are aware of the fact that the mediator knows the optimal division. He is in possession of information the two of them can benefit from. Additionally, the mediator’s payment scheme is commonly known by all players.

The mediator is payed according to one of the three following possible contracts. The three types of contract also generate the three different treatments later in the experiment. Under each of the three contracts the mediator obtains a fixed payment if he is called upon. In addition to this, the

- first type of contract promises to the mediator another fixed payment of equal size if the conflict is settled during the mediation process. This type of contract pictures the German compensation rule for professional mediation according to the BRAGO (Bundesrechtsanwaltsgebührenordnung).

- second type of contract gives to the mediator a certain percentage of the final pie. This kind of payment reflects a contingent fee for the mediator. Being payed in accordance with the

- third type of contract, the mediator’s compensation rises proportionally to one player’s settlement share. The latter kind of contract pictures a mediator who is partial to that party, and therefore is the more “rewarded” the higher the share received by this player.
The experimental data confirms a widely known conjecture in economic theory: Mediators who are compensated contingent on the agreement reached perform best and, moreover, are most often invited. Surprisingly, the data on the first type of contract justifies a common German practice to compensate mediators even though this is in contradiction with economic theory: A fixed payment works nearly as efficiently as the contingent fee. What is more, parties in conflict, obviously, to a large extent trust in the fixed payed mediator, even though he personally does not benefit from a larger pie. He is nearly as often sought advice from as a mediator in the contingent fee treatment. It is highly inefficient to reward a mediator in line with the settlement share of only one party, as theory predicts and data show.

The rest of this paper is organized as follows: In section 2, the conflict between the two parties as well as the possibility of seeking advice from a mediator is modelled. In section 3, the experimental design and the observed behavior is presented. Finally, chapter 4 summarizes the results.

2 The Conflict

2.1 Negotiations Between the Conflicting Parties

Two parties, A and B, negotiate on how to divide a pie of size X. They alternate in making offers with player A making the first proposal. Offers are made in relative shares, asking a fraction a (or b respectively) for oneself and conceding the remainder 1-a (or 1-b respectively) to the other player. Thus a + b = 1, and a, b ∈ [0, 1]. An offer can be accepted or rejected. The negotiations can be terminated by reaching an agreement, i.e. if one party accepts the other party’s offer. No matter of who offered, each refusal is costly and reduces X by c · X with 0 ≤ c ≤ 1, and shrinks the pie to (1 - c)X. The quantity r of rejections within the bargaining process finally cuts the pie down to X_r = X · (1 - c)^r.

The conflict also comes to an end if at least one party opts for breaking off the negotiations and going to court. In that case, both parties receive a positive expected amount x · X_r of X_r. The remainder (1 - x) · X_r “decays”, which reflects the cost of putting someone on trial. Each of the two players always has the opportunity to choose this “outside option” at every stage of the game.

An agreement reached within the bargaining process is symbolized by the settlement shares s for player A, and 1-s for player B with s ∈ [0, 1]. These relative shares (s, 1 - s) essentially influence the size of the amount Y that is finally divided. Dependent on s, Y can be larger than, smaller than, or of equal size as X_r. That is, when ceasing the conflict through bargaining agreement instead of by court decision, the size of Y is affected as follows. A value function f(.) assigns a certain value to the bargaining agreement s. f(.) is a linear function with domain s ∈ [0, 1], and a unique interior maximum. That is, f(s) has a positive slope from s = 0 to s = s^* for which f(s) reaches maximum value f^* = f(s^*), and slopes downwards until s = 1.
This value $f(s)$ affects the efficiency of the settlement, since the money amount $Y$ results from assessing value $f(.)$ to $X_r$, i.e. $Y = X_r \cdot f(s)$. The optimal share $(s^*, 1 - s^*)$ that leads to maximum value $f^*$, and to maximum size of $Y$ is called “the optimal share” in the following. Note, that “optimal” share here means “socially optimal”. The share $s^*$ in our model is chosen as to split the pie asymmetrically, giving unequal shares of the pie to the two players.

The exact shape of $f(s)$, as well as the optimal share $s^*$ are unknown to the conflicting parties. They only keep hold of information on the linearity of $f(.)$, on the fact that there is a unique interior maximum, and on the values $f^*$, and the minimum $f_{\min}$ of $f(.)$.

Only the mediator has complete information of the value function $f(.)$, and both players know that the mediator is completely informed. We thereby model the mediator as a person with specific knowledge of solving conflicts favorably, and profitably for all parties. The mediator is able to enhance efficiency of the bargaining outcome. For that reason, the conflicting parties may have a strong interest in contacting the mediator.

However, the mediator’s knowledge is his private information that he may not necessarily be ready to disclose. From an economic point of view, his willingness to reveal the private information depends on his incentives to do so. These incentives are defined by the way he is rewarded for his service, i.e., by the specific payment contract. The possible types of contract, and their incentive compatibility for information revelation are described in the following sections.

### 2.2 The Mediator’s Private Information, and his Contract

The mediator’s wage is paid in equal shares by the two conflicting parties. They unanimously can invite a mediator $M$ to help solving the conflict. The mediator holds private information on how the settlement should be like in (the social) optimum. Only $M$ knows the value function $f(.)$ that determines the final pie size $Y = f(s) \cdot X_r$, and he knows that $s^* = 0.25$. That is, for the pie to take on maximum size party $A$ should be assigned a share of (only) 25%, leaving the remaining 75% for party $B$. The optimal sharing, therefore, is an asymmetric one.

$M$ is payed according to one of the following contracts, which is completely known by all players: in principle, under each of the three possible contracts $M$ once obtains a fixed fee $F$ when he is employed. This fee is due even if $M$ is dismissed later on in during mediation process. Additionally, $M$ gets

- **under contract $M1$**: another fixed fee $F$, if the conflict is settled during the mediation process. This kind of payment reflects the German payment rule for mediators according to the BRAGO (Bundesrechtsanwaltsgebihrnordnung);

- **under contract $M2$**: a proportion $m \cdot Y$ with $0 < m < 1$, also in case of a dismissal. If negotiations break down and one player opts for going to trial, $M$ receives $m \cdot X_r$. This reflects a contingent fee;
• **under contract $M3$:** a payment $n \cdot s$ with $n > 0$, i.e. a compensation proportional to the settlement share of party $A$, i.e., the fee is risen **partial to** $A$. With this type of contract the mediator gets higher reward the more favorably the conflict is settled for player $A$.

For the mediator to receive his payment under $M2$ and $M3$ it is sufficient that he is invited. A dismissal during the course of the negotiations does not affect his payment adversely. On the one hand, we hereby prevent the mediator from being exposed to opportunistic behavior of players $A$ and $B$, who could trick $M$ out of his reward by dismissing him. On the other hand, the parties’ chance to do so would turn the mediator from disclosing his private information. Finally, this would result in no invitations of a mediator by the conflicting parties.

$M$ mediates the conflict essentially by making own proposals of how to share the amount at stake. Like all other rejections, a mediator’s proposal rejected by at least one of the conflicting parties causes costs of $c \cdot X_r$.

$M$ can be dismissed any time during the mediation process. Therefore, it is sufficient that at least one of the two players $A$ or $B$ opts accordingly.

An overview over the players’ payoffs from the mediation game are presented in the next section.

### 2.3 The Players’ Payoffs

We denote by $\Pi_i$ with $i \in \{A, B, M\}$ the players’ payoffs from the mediation game.

After $r \geq 0$ rejected proposals, be it offers from the mediator or from the conflicting parties, the amount at stake at the starting point of the dispute is finally reduced in size to $X_r$. Thus, the sooner an agreement is reached, i.e., the fewer rejections take place, the larger is the amount finally divided.

$M$ receives a positive payment only if he is employed. Otherwise $\Pi_M = 0$. The mediator’s payment in accordance with the respective contract is

- **under $M1$:** $\Pi_M = F$ if he has been invited and dismissed, and $\Pi_M = 2 \cdot F$ if after having been invited an agreement is reached within the mediation process;
- **under $M2$:** $\Pi_M = F + m \cdot f(s) \cdot X_r$ if an agreement $s$ has been reached, and $\Pi_M = F + m \cdot X_r$ if the case goes to trial;
- **under $M3$:** a payment of $\Pi_M = F$ and an additional payoff of size $n \cdot s$.

Note that the additional payment under $M3$ is a compensation which is not paid by the conflicting parties. It rather reflects a kind of **idealistic reward** for a mediator whose satisfaction increases the more the conflict is settled in favor of party $A$. Nevertheless, the reward is measured in monetary units.\(^1\)

There are two ways for the conflict to be terminated by players $A$ and $B$: proceed to trial or come to an agreement. The players’ payoffs depend on how the game ends.

\(^1\)In the experiment, the experimenter pays for it.
If A or B chooses the outside option, i.e., goes to trial:

If negotiations break down and the case goes to trial, the mediator first receives his payment $\Pi_M \geq 0$. The remaining money amount $X_r - \Pi_M$ is distributed as follows: with probability 50% player A receives a share of $0,15 \cdot (X_r - \Pi_M)$ and B one of $0,05 \cdot (X_r - \Pi_M)$. With probability 50% it is player B who receives the slightly larger amount of $0,15 \cdot (X_r - \Pi_M)$, and A gets $0,05 \cdot (X_r - \Pi_M)$. Thus, each party obtains an expected 10% of $X_r - \Pi_M$ when the case goes to trial, and the players’ earnings are:

- $\Pi_M$ for the mediator,
- $E(\Pi_A) = 0,1 \cdot (X_r - \Pi_M)$ for player A, and
- $E(\Pi_B) = 0,05 \cdot (X_r - \Pi_M)$ for player B.

The remainder of size $0,08 \cdot (X_r - \Pi_M)$ “decays” which reflects the cost of going to trial.

Solving the conflict through settlement:

The mediator receives the reward $\Pi_M \geq 0$. In keeping with the agreed upon settlement shares $(s, 1-s)$, function $f(.)$ takes on the value $f(s)$ and the players’ payoffs are:

- $\Pi_M$ for the mediator,
- $\Pi_A = s \cdot (f(s) \cdot X_r - \Pi_M)$ for player A, and
- $\Pi_B = (1-s) \cdot (f(s) \cdot X_r - \Pi_M)$ for player B.

Let us now turn to the theoretical conjectures with respect to the players’ behavior that follow from expected payoffs in the game.

2.4 Predictions from Theory

We look at a sequential game with $M$ holding private information on the optimal settlement $s^*$ which players A and B have only a vague idea of. They do not even know a probability distribution of $s^*$. Thus, the computation of a game-theoretic equilibrium is impossible for many cases. Therefore, the following theoretical predictions are made on a qualitative rather than a quantitative basis.

The behavioral hypotheses differ with the specific payment contract of the mediator. Hereby, both the mediator’s and the conflicting parties’ behavior is supposed to be affected.

The Mediator’s Willingness to Reveal Information

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2For the question under scrutiny, it is unimportant whether or not these cost of trial adequately reflect reality. Since we focus on mediator compensation and the hereby induced behavior, we have decided to make the outside option rather unattractive.
M’s expected behavior in our model depends on his readiness to reveal his private information. All mediators are payed the same fixed fee for having been invited.

Under **contract M1** the mediator is additionally rewarded for settling the dispute during mediation. Therefore, he has an incentive to propose an agreement, that both parties are willing to accept. There is a strong focal point for such a proposal: the equal split. Thus, for the mediator to get payed his second fixed fee we expect him to propose a fifty-fifty split. We do not suppose him to expose the optimal share, since he personally does not benefit from it.

A mediator acting under **contract M2** is payed in accordance with the whole amount at stake. This provides for him a strong motive to do what he can to achieve the maximum possible amount at stake. Thus, he is expected to announce the optimal share \( s^* = 0.25 \) and to make some effort to convince player A to accept.

**Contract M3** gives the more money to the mediator the bigger party A’s share is. For that reason, we expect him to make an offer partial to A and to talk party B into accepting it.

**The Parties’ Desire to Call for a Mediator**

The conflicting parties’ interest in calling for help by a mediator fundamentally depends on his presumed willingness to inform them about \( s^* = 0.25 \). If the parties do not expect him to do so, they will not employ him.

A mediator acting under **contract M1** has no incentive to reveal his knowledge of the optimal share. For that reason, he will not be employed.

Under **contract M2** the conflicting parties expect information revelation by the mediator because of his personal interest in doing so. In consequence, he will be invited to help settling the conflict.

If a mediator acts under **contract M3**, only party A opts for mediation. Party B will object. Since he enters the stage only if both parties vote for it unanimously, a mediator will not be invited.

Before we start looking at the observed behavior of the mediator and the parties in conflict in the experiment, we first turn to the experimental design in the following section.

## 3 The Experiment

To prevent the experimental subjects from acting the role of a person in conflict, the experiment has been conducted in a framework as neutral as possible: two parties A and B had to negotiate on how to divide a pie. They were able to reach an agreement between themselves, or to call for a mediator by mutual agreement, or to choose an outside option by going to trial.
3.1 Experimental Design

The experiment has been carried out in a computerized way. The following three experimental treatments have been conducted at the economics faculty of the University of Karlsruhe in 2002 and 2003:

- **Treatment M1**: the mediator is paid according to contract \( M1 \),
- **Treatment M2**: the mediator gets paid corresponding to contract \( M2 \),
- **Treatment M3**: the mediator obtains payment in line with contract \( M3 \).

The payment mode of a mediator was common knowledge among subjects. 225 students of the University of Karlsruhe participated in the experiment. We conducted 5 experimental sessions per treatment, adding up to 15 sessions. Every session consisted of 15 participants altogether, with 5 subjects each in the roles of players \( A \), \( B \), and \( M \). Every subject participated in the experiment only once.

Subjects were randomly assigned the roles of players \( A \), \( B \), and \( M \). They stayed in this role during the whole experiment. At the beginning of the experiment, one subject of type \( A \), of type \( B \), and of type \( M \) each were randomly matched. Each matching group remained unchanged during the experiment. The players of type \( M \) were separated from types \( A \) and \( B \) in different rooms. The participants were not permitted to communicate with each other during the experiment. Written instructions were distributed and read aloud. Questions were asked and answered only in private.

The subjects of type \( M \) had been invited 45 minutes before the actual start of the experiment. Within that time, the experimental monitors gave detailed training to the mediators. This preparation took place on a neutral basis without any instructions concerning the future behavior. The \( M \)-types were only informed about all options at their disposal during the mediation process. No questions or remarks were allowed relating to intended behavior in the future mediation process.

The written instructions for player \( M \) contained detailed information on possible options, i.e., a picture of the computer screen that appeared during mediation. The computer screen (see table 1) was split in two parts such that the upper area contained the current division proposals sent to \( M \) by the conflicting parties, together with a short message up to 50 letters. The lower area indicated the mediator’s choice of actions. The screen appeared as soon as the conflicting parties unanimously agreed on inviting a mediator.

Options could be chosen by mouse click and were delivered to the parties in the same wording. When deciding for option 1, the mediator had the only chance
Table 1: M’s choices of action, based on some exemplary claims of A and B

From player A: share for A: 80% share for B: 20%
Message: "I want at least 60%, otherwise I'll reject!"

From player B: share for A: 50% share for B: 50%
Message: "I'd prefer a fair division."

1. You have reached agreement
2. Agreement is possible without the pie being fully distributed
3. No agreement could be reached
4. The mediator favors the proposal of party A
5. The mediator favors the proposal of party B
6. Party A should obtain a bigger share
7. Party B should obtain a bigger share
8. My suggestion concerning A’s share in %:
9. My suggestion concerning A’s share in %:
10. Money transfer from A to B in % of his payoff
11. Money transfer from B to A in % of his payoff
12. Comment:

to immediately terminate the game by himself. This was feasible only if the shares each party claimed for himself added up to no more than 100%, which was checked by the computer. All other options could be chosen at will by the mediator, without any verification on the part of the experiment monitor or the computer. Moreover, options 2 to 12 could all be chosen simultaneously without any need for consistency. What to do during mediation was fully discretionary to the mediator.

By opting for alternatives 4 or 5, the mediator was able to make known to both players the division received from the respective player before. With options 8 to 12, the mediator was enabled to participate in the conflict resolution more actively. He was allowed to make an own division proposal, and to suggest a money transfer\(^5\) from one party to the other at the end of the game. The transfer, if it was accepted, took place at the very end of the game. The last option, finally, allowed for a short message in direction of the conflicting parties attached to the division proposal. For instance, the mediator was able to reveal the optimal share $s^*$ also verbally and to briefly explain his suggestions.

Proposals and messages from the parties and suggestions and comments from the mediator could go back and forth. An agreement within the mediation pro-

\(^5\)Only the mediator had the power to suggest a money transfer. The parties’ actions, as described above, were restricted to making division proposals and attaching a short message to it.
cess was achieved if a division proposal on the part of $M$ had been accepted by both parties. An acceptance also included possible money transfers suggested by $M$.

The selected parameter setting was as follows: Parties $A$ and $B$ negotiated on a pie of size $X = 1000$ ECUs (Experimental Currency Units). Each rejection, be it between players $A$ and $B$ or during mediation, caused costs of $c \cdot X = 0.025 \cdot X$. $M$'s private information on $s^*$ and the shape of the value function was $s^* = 0.25$ and $f(s) = 0.9 + 1.6 \cdot s$ if $s < 0.25$ and $f(s) = 1.7 - 1.6 \cdot s$ if $s \geq 0.25$. The knowledge of the conflicting parties was limited to the fact that $f(.)$ was linearly shaped with a unique maximum. They knew that the maximum value of $f(.)$ amounted to $f_{\text{max}} = 1.3$ and took on value $f_{\text{min}} = 0.1$ in the worst case.

The fixed fee to pay for the mediator’s service was $F = 50$ ECU. The contingent fee consisted of a proportion $m = 0.2$, i.e. of 20% of the final pie size. If $M$ was payed partial to party $A$, he obtained an amount of 400 times the percentage share of $A$, i.e. $n \cdot s = 400 \cdot s$ which the experimenter and not the conflicting parties paid for. Additionally, the subjects of type $M$ received a show-up fee of 450 ECU only for taking part in the experiment, for it was uncertain whether they would be called and then payed for their service at all.

After the experiment the subjects were payed their earnings in cash. Thereby, 100 ECU corresponded to 2 Euros.

3.2 Experimental Observations

The chosen parameters realized an average payment of about 10 Euros per person; leaving aside the mediator training, the experiment lasted approximately 30 to 45 minutes.

3.2.1 Predictions from Theory Examined

Table 2 gives an overview over all 15 observations per treatment.

Row number 2. reveals that not one single court decision was observed. This is not surprising since, as mentioned above, in order to focus on mediation, we tried to make the outside option as unattractive as possible. With the rejections during mediation taken into consideration, the mean number of rejections is low in all treatments (see row 3.).

Let us now turn to the predictions drawn from economic theory in section 2.4.

Since the parties have a strong interest in information revelation, we expected them to invite the mediator under the contingent fee-treatment $M_2$, but not in the fixed fee-treatment $M_1$, or in the partial to $A$-treatment $M_3$. Row number 4. shows that the mediator was employed in a sound 75% of the cases under treatment $M_2$. Astonishingly, under treatment $M_1$ a mediator was invited in far more than half of the cases (exactly: 60%). Under treatment $M_3$, the conflicting
Table 2: Overview over Data from Treatments M1, M2, and M3

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No. of Observations</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>2. No. of Court Decisions (outside option choices)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. Mean Rejected Offers</td>
<td>1.9</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>4. No. of Invitations of M</td>
<td>9</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>5. No. of Revelations of s* by M</td>
<td>7</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>6. No. of Equal Split Proposals by M</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7. No. of Proposals s &gt; 0.5 in Favor of A by M</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>8. No. of Settlements within Mediation Process</td>
<td>4</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>9. No. of Settled Money Transfers from B to A</td>
<td>4</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>10. No. of Settled Money Transfers from A to B</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>11. M’s Mean Proposed Share for A</td>
<td>28%</td>
<td>27%</td>
<td>79%</td>
</tr>
<tr>
<td>12. Mean Settlement Share of A</td>
<td>43%</td>
<td>35%</td>
<td>54%</td>
</tr>
<tr>
<td>13. Mean Settlement Share of B</td>
<td>56%</td>
<td>65%</td>
<td>46%</td>
</tr>
<tr>
<td>14. Mean Payoff of A in ECUs</td>
<td>448</td>
<td>441</td>
<td>392</td>
</tr>
<tr>
<td>15. Mean Payoff of B in ECUs</td>
<td>470</td>
<td>467</td>
<td>373</td>
</tr>
<tr>
<td>16. Mean Payoff of M in ECUs</td>
<td>43</td>
<td>213</td>
<td>99</td>
</tr>
<tr>
<td>17. Mean pie size Y in ECUs</td>
<td>961</td>
<td>1121</td>
<td>865</td>
</tr>
</tbody>
</table>

...parties asked for the mediator in only 33% of cases.

In section 2.4, we conjectured M to reveal the optimal share s* of 25% for party A only in the contingent fee-treatment M2. We deduced this from the fact that only under payment scheme M2 the mediator has a monetary interest in disclosing s*. Since a share of only 25% is unlikely to be accepted enthusiastically by player A, the mediator is expected to make some effort to convince player A of accepting. This could most easily be done by recommending an adequate money transfer from B to A at the very end of the game in order to compensate for the efficient but “unfair” division s*. In the experiment, the optimal share was revealed in all of the mediation cases in treatment M2. Thereof, about 80% (i.e. 9 out of 11, see rows 8. and 4.) settled during mediation, and almost 90% of these settlements contained a money transfer from B to A (i.e. 8 out of 9 in row 9.). These observations under treatment M2 are clearly in line with the theoretical predictions.

In the fixed fee-treatment M1 we expected the mediator to make a proposal that could easily be accepted, since he gets his second fixed fee only if the conflict settled during the mediation process. At first glance, there are two possible ways for the mediator to make a trouble-free suggestion. From countless previous experimental observations (see, e.g., Roth 1995) it is known that the equal split is the focal point in bargaining, as this is habitually considered fair. For that
reason we suspected $M$ to propose a fifty-fifty split and to pretend it to be the optimal share. Or we conjecture the mediator to recommend the optimal division together with an adequate money transfer from $B$ to $A$ (exactly: 33% of $B$’s payoff). This also creates easily acceptable equal earnings, yet on a higher level of efficiency. But note that this second option demands higher effort from $M$ than suggesting the simple fifty-fifty solution, because it requires sending comments and messages to convince $A$ to accept. Since $M$ gets no reward for the higher effort in return, he is expected to suggest an equal split and not to reveal $s^*$. But, as row 6. reveals, only 1 out of 9 mediators (11%) went the easy way of proposing the fifty-fifty solution. This mediator was dismissed later on and therefore did not obtain another fixed fee. The parties then agreed on an equal split!

An amazing 7 out of 9 mediators (78%) under treatment $M1$ disclosed their private information (see row 5.) and 6 out of the 7 additionally suggested a money transfer from $A$ to $B$. Thereof, slightly more than one half (4 out of 7) were accepted (see row 9.). The other 3 mediators were dismissed, presumably in order to avoid the second fixed fee. After the dismissal, 2 out of 3 parties split equally and the remaining 1 split 40:60 in favor of $B$. One out of the 9 invited mediators sent only messages without making a proposal. He was dismissed after a while and the parties then agreed on an equal split.

These results under treatment $M1$ contradict the theoretical predictions. The first remarkable fact is that even fixed fee mediators seem to feel responsible for social efficiency and therefore try to develop the maximum amount at stake. However, they often are mislead by the conflicting parties. Nearly 50% of them are dismissed after information revelation, most likely in order to save money.

Finally, under contract $M3$, the mediators acted as expected (see rows 4. to 6.) The private information has not once been revealed. The $M$-subjects most often (4 out of 5 cases) proposed a division strongly in favor of $A$, despite the harmful consequences to overall efficiency. To better persuade player $B$ to accept, 2 out of 4 mediators additionally suggested a money transfer from $A$ to $B$. One out of 5 invited mediators simply proposed an equal split.

To sum up, under treatment $M3$ the low level of trust into the mediator on the part of the conflicting parties resulted in the employment of only 5 out of 15 mediators. 4 out of these 5 mediators clearly misled players $A$ and $B$ by proposing a highly inefficient but individually profitable bigger share for party $A$. Only one of the mediators obviously tried to equalize the mutually interfering incentives by proposing an equal split $s = 0.5$ that caused a moderate inefficiency ($f(0.5) = 0.9$), brought about equal earnings for $A$ and $B$, and yielded $M$ a considerable profit of 400 · 0.5 = 200 ECUs. He, nevertheless, demonstrated no altruistic behavior by suggesting the efficient division.

Finally, row 11. displays the mediators’ mean shares proposed to (not necessarily accepted by) player $A$.

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*Player B’s mean share simply reflects the mirror image of player A’s.
under treatment $M2$ and $M1$ to a highly inefficient 79% under treatment $M3$.

### 3.2.2 Observed Social Efficiency

Rows 12. to 16. of table 2 exhibit the mean agreed on shares of parties $A$ and $B$, as well as the mean earnings of all three types of subjects.

The mean pie sizes $Y$, i.e. the finally divided pies are presented in row 17. From the viewpoint of social efficiency, contract $M2$ is definitely preferred over the remaining two. The maximum achievable pie size with no rejections and optimal division amounts to $X \cdot f(s^*) = 1000 \cdot 1.3 = 1,300$. Under treatment $M2$ with a mean $Y = 1,121$, 86% of maximum efficiency is realized, compared to 74% in treatment $M1$, and 67% in treatment $M3$. The parties’ payoffs are nearly the same under the first two treatments which reveals that in the second treatment it is only the mediator who profits from the efficiency gain. This is due to the fact that $M$ earns 20% of $Y$ which could very likely be changed by somewhat reducing the contingent fee. The conflicting parties earn less in treatment $M3$.

The situation described here is pictured in figure 1. The mean payoffs are put on top of each others and add up to the finally divided amount $Y$. Besides the experimental data, a hypothetical situation called “reference situation” is added to the data in figure 1. The reference situation pictures some behavior widely known in experimental economics: If two subjects are to divide an amount of known or unknown size, they are likely to decide for splitting it equally. Thus, parties $A$ and $B$ dividing fifty-fifty without any rejections, and without asking for a mediator would accomplish the earnings shown under “reference” in figure 1. Under these idealized circumstances (because of no rejections) the conflicting parties fare better than under the “unfair” mediator in $M3$, but worse than under $M1$ and $M2$. Thus, from an efficiency point of view, mediators should be payed according to the contingent fee-contract $M2$, or at least to the fixed fee-contract $M1$.

### 4 Conclusion

The mediator payment has enormous impact on the likelihood of his employment, and on the efficiency of conflict settlements. Our experiment reveals that fixed fees in (experimental) reality are better than their reputation in economics. Especially contingent fees, but also fixed fees, enhance overall welfare. Mediators having incentives that guide their behavior partial to one party cause high efficiency losses.

In this paper, a mediator has private information that positively influences social welfare. We observe that mediators need appropriate monetary incentives to reveal their private information. The right incentives then develop mutually advantageous efficiency effects.
References


Figure 1: Payoffs of $A$, $B$, and $M$


