CONTRAST EFFECT AND DISPUTE RESOLUTION – AN EXPERIMENTAL STUDY*

Abstract: The subject of this paper is the contrast effect in negotiations from the behavioral economics perspective. We conducted an experimental study using a “divorce litigation game” with complete information about payoffs aimed at testing whether participants are prone to context-dependent decisions. The sample was created by 100 law students from the Faculty of Law of the University of Niš. In a “between subjects” design 100 different participants were tested in the control and treatment group. The main finding is that there is a statistically significant difference between the two groups, thus confirming the presence of the contrast effect. The study opens the door to further real experiments with an emphasis on other subjects, such as lawyers, checking if they are so “rational”.

Keywords: contrast effect, negotiation, divorce litigation.

1. INTRODUCTION

Negotiation is the most basic and informal method of dispute resolution that is encountered at almost all levels of human interaction, from family issues to business activities.1 Usually, it is a process in which two parties participate intending

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to reach an agreement on a contentious or potentially contentious matter. Alternatively, lawyers negotiate for and on behalf of their clients. These legal negotiations involve a complex and dynamic principal-agent relationship (between client and lawyer) since the lawyer must help the client to define his/her interests to the other party, keep him/her informed during the negotiations, act in the client’s best interests, and assist him/her in drafting an agreement that the client finally accepts or not. However, in reality, the negotiation process doesn’t follow an ideal path since it is faced with several obstacles. These obstacles disrupt the basic postulate of economic models that people make “rational decisions” striving to the value maximization. This means that negotiators will assign a subjective value to each option based solely on the characteristics of that option, rank-order the options in the choice set, and then select the preferred ones. In this paper, we shall focus our attention on one obstacle in negotiation and more broadly a phenomenon that appears in different contexts and influences our decisions – the contrast effect which can lead to non-value-maximizing decisions.

2. THE NOTION OF CONTRAST EFFECT AND PREVIOUS STUDIES

The contrast effect can be described very simply. When adding dominated (or inferior) option C to dominant (or superior) option A in the existing set of choices (A and B), A becomes more attractive to option B as related to the situation where there is no option C. So, the option C increases the attractiveness of option A. A situation in which people choose from several options including similar ones is common in negotiation. Because of the presence of the contrast effect, the negotiators might choose the option that they do not most prefer and consequently make suboptimal decisions. So, the outcome may be a change in preferences in the presence of an irrelevant option.

More formally, the APA Dictionary of Psychology in the context of experiments defines the contrast effect as “an effect in which participants’ judgments shift away from an anchor after it is introduced”. The contrast effect states the idea that decisions we make are not independent of the context, that normative theories of

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3 Ibid., 12.
choice commonly assume. Quite the opposite, our decisions are context-dependent primarily due to the presence of two main effects: the contrast effect and the compromise effect. The first one, also named as the trade-off contrast or simply the attraction is omnipresent in perception and judgment. Kelman et al. give two examples that the same circle appears larger when surrounded by small circles (and smaller when surrounded by large ones) or the same product appears attractive on the background of less attractive products (as well as unattractive when surrounded by the more attractive ones). The compromise effect, observed by Simonson, suggests that people prefer to choose “medium” rather than extreme options in the set of choices or more formally defined, that the same option is evaluated more favorably when it is seen as intermediate in the set of options under consideration than when it is extreme. Because of this tendency, there is also the term “extremeness aversion”.

The contrast effect was first identified in the marketing area when examining the question of how the introduction of a new brand will be reflected in choice probabilities or market shares of existing products. The main finding is that adding an asymmetrically dominated alternative (an alternative that is dominated by one item in the set but not by another) can increase the probability of choosing the item that dominates it. Other studies also demonstrate not only the contrast effect (positive similarity effect) – which means increasing the favorable perception of similar items but the substitutability effect or negative similarity effect – decreasing the share of a similar item. There is a more sophisticated meta-study that shows not only the influence of this effect on market shares but also the effect of brand quality and range effects. One of the findings in this study is that the contrast

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10 M. Kelman, Y. Rottenstreich, A. Tversky, 288.
13 See: C. Guthrie, 621 or M. Kelman, Y. Rottenstreich, A. Tversky, 288.
16 Ibid., 90.
effect or decoy effect increases the market share of higher-quality brands as opposed to the lower-quality brands.

Numerous other studies show the presence of the contrast effect. There is the classical cash versus goods experiment, conducted by Simonson and Tversky, and usually noted in the literature, which relates to the choice between the cash and the pen. Namely, when choosing between $6 and a Cross pen (two-option group), only 36% of participants chose the Cross pen. However, when given the choice between $6, the elegant Cross pen, and a less attractive pen (three-option group) the percentage of choosing the Cross pen rose to 46%. The experiment shows that the tendency to pay cash for a good can be increased by introducing an inferior option. So, the contrast effect is a robust phenomenon, but we shall put some additional light on the contrast effect in negotiation and afterward present the methodology and the results of our empirical research.

3. PREVIOUS STUDIES OF CONTRAST EFFECT IN NEGOTIATION

There are also experiments in legal settings that demonstrate the existence of the contrast effect. For our study, we single out three experiments in negotiation. In the first and most important for our study, Guthrie examined the contrast effect in negotiation on the sample of 40 participants – first-year law students. They were asked to imagine that they had been in dispute with their law partner about selling a common painting. They were randomly assigned in two groups, the two-option group, in which the subjects had to choose one of the following two options: 1) accept the lump sum payment ($20,000) from the partner in which case the partner holds it; or 2) sell the painting back to the previous owner (“Rioner“) and then split the sum into equal parts (per $20,000). But in the three-option group, it was added a third option, 3) accept the payment from the partner in four installments of $5,000 per year. The third option was inferior to the first one, and Guthrie expected that the presence of a third option would increase the percentage of those who in the two-option group chose the first one. The results are such that a complete change in preferences has occurred. In the first group, 35% of the subjects chose the first option (“Give to Partner“) whereas in the second group 70% of them chose that option. So, the basic hypothesis that the presence of dominated option would increase the attractiveness of the first option was confirmed.

19 I. Simonson, A. Tversky, 287.
20 See: C. Guthrie, 617.
21 Ibid., 617-619.
In the second study, Kelman et al.\textsuperscript{22} examined the contrast effect and the compromise effect by conducting five different experiments from which two of them relate to the contrast effect in negotiations. In one experiment the students were asked to imagine that they were representing an untutored Associate Professor in negotiation (acting as lawyers) with the university administration. Namely, Professor believed that she had been denied a tenure based on her gender and wanted financial compensation, public admission of liability of the university, and a commitment from the university to engage in affirmative actions that would help women in Economics. As in the previous study, the subjects were randomly assigned in two groups, the two-option group, in which they had to choose one of the following two offers from the university: 1) to pay $45,000 in damages and admit liability, or 2) to impose an affirmative action plan without paying damages or admitting liability. But, in the third option group, there was another offer from the university: 3) to pay $35,000 to the professor’s favorite charity and admit liability. This option was inferior to the first one since Professor could always accept $45,000, give $35,000 to the charity, and retain $10,000. The results showed that in the first group 50\% of 36 subjects chose the first option as opposed to 74\% of 31 subjects in the second group. The difference between the two groups was statistically significant. The researchers concluded that the presence of an inferior option in negotiation (which is unlikely to be selected) may increase the attractiveness of the superior one. It was strong evidence of the contrast effect in negotiation.

Finally, Kelman et al.\textsuperscript{23} conducted an experiment in which the subjects were asked to advise the client, Mr. Wells, who is the sole neighbor of a nightclub that was excessively noisy on weekends. The nightclub owner thought that he would have a lower chance in a potential nuisance suit, so he offered several settlement proposals to Mr. Wells. In the two-option group, the subjects were given the following two options to choose for advice: 1) the club would not lower the noise level but would pay for Wells to stay in a fancy hotel each weekend and give him $120 a week, or 2) the nightclub would reduce the noise level. The third-option group received an additional proposal: 3) the nightclub would pay for Wells to stay in a fancy hotel and give him $40 in cash plus $85 of vouchers per week redeemable at several nightclubs. This hotel/vouchers proposal was inferior to the hotel/money proposal, but it was not clear that it has the same relationship to the second option (the noise reduction proposal). Results were such that the hotel/money proposal was chosen by 47\% of the 32 subjects in the two-option group and by 74\% of the 31 subjects in the three-option group. The difference between the two groups was again statistically significant and the introduction of the dominated option lead to a more favorable evaluation of the similar and dominant one.

\textsuperscript{22} M. Kelman, Y. Rottenstreicht, A. Tversky, 297-299.
\textsuperscript{23} Ibid., 299-300.
4. RESEARCH METHOD

4.1. Sample and procedure

The study was conducted in November of 2019. Data were collected under supervised conditions in which participants had to make decisions in hypothetical situations that we shall refer to as “divorce litigation game” below. The choice of this type of litigation game is not random. Namely, negotiations are typical in divorce disputes. In a nutshell, the judge first tries to conduct the conciliation procedure, which takes place with the mandatory presence of both spouses but without the presence of a lawyer. In case the conciliation procedure is not carried out or if it fails, the settlement procedure proceeds. Hence, parties have the possibility to agree on the issues of exercising parental rights (if there are children) and the division of property (if any). If the settlement process fails too, the divorce proceeding is continued. In literature, divorce litigations have often been described as a negative-sum game, in which the parties “diminish or destroy the value of the benefits to be distributed”.

The experiment was carefully explained in class, and a pilot questionnaire elaborating on the procedure and payoff structure was tested to check participants’ understanding. A total of 100 first-year law students from the Faculty of Law of the University of Niš responded to the questionnaire (N = 100). We should note that our sample size is somewhat higher (N = 100) compared to the “Rioner case” (N = 40), “Professor-University Negotiation Case” (N = 63), and the “Neighbor-Nightclub Negotiation case” (N = 67).

Subjects were randomly assigned to the groups (the two-option and the three-option group). Further, to prevent incentives to engage in seemingly other-regarding behavior, participants provided their answers under anonymity. Anonymity and the one-shot manner of the hypothetical case, together with the provided context of the game aimed to ensure that participants are not maximizing their long-term individual material interests and that the results cannot be explained on grounds of reputation.

We used a “between-subject” design in which 100 different participants (law students) were tested in the control and treatment group. To have a better under-

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standing of the contrast effect in the “divorce litigation game” the procedure and payoffs structure were kept simple.

4.2. Instruments

The research was conducted through a survey in which respondents were asked to express their preferences when choosing between presented options. The survey was specifically designed for research purposes. Students in the two-option group (N = 50) were asked to imagine that they were representing the client (spouse) in negotiation with another lawyer who also represents another spouse in their divorce litigation. They read the following facts about the dispute:

Imagine being a lawyer negotiating with another lawyer in a dispute over the division of your clients’ joint assets – former spouses. You have been able to resolve several contentious issues without much tension and effort, but the division of your clients’ shared weekend cottage remains disputed. At that cottage, the spouses spent time together and they were both emotionally attached to it. Each of the spouses would like to keep that cottage and is willing to pay some price to keep it. Otherwise, the cottage was purchased at the beginning of their marriage, and both “in a half” participated in the purchase. The current market value of the cottage is €20,000 as compared to €15,000 when purchased. With that in mind, the minimum (reservation) price at which spouses are willing to sell the cottage is €10,000.

After several rounds of negotiating a “disputed cottage” in six months, the other party’s lawyer decides to send you a final offer that is worded as follows:

“After long discussions with my client, and in the good faith to maintain the correct relationship in the future and considering that almost all other disputed issues have been resolved, we have decided to offer you two options. Specifically, my client would prefer to keep the cottage owned, and would pay you immediately €10,000, but with your immediate consent to keep the cottage. If we cannot agree on this, we have an offer from a third party to purchase the cottage. In that case, everyone would end up receiving €10,000 each from the sale of the cottage. Everything considered we think our offer is fair and you can choose the option that suits you best!”

After that, the subjects read that the client gave them full authority to decide on his/her behalf regarding this issue, that they should care about the reputation of a good lawyer and fully respect the interests and needs of the client, and must choose one of two options for the client:

1) accepting an immediate payment of €10,000 and giving consent that the cottage will be retained by the other party, waiving the part of the ownership over the cottage

or

2) selling cottage and splitting the money in half (per €10,000 each).
Subjects in the three-option group (N = 50) could select the following additional option:

3) accepting payment of €10,000 in four installments (per €2,500 in the next four years) and giving consent that the cottage will be retained by the other party, waiving the part of the ownership over the cottage.

This third option is similar, but inferior to the first option. Both options require the subject to give one half of the ownership over the cottage to the other party. However, subjects selecting the first option receive an immediate €10,000, while those selecting the third option get €10,000 paid out in four €2,500 installments during the next four years. The third option is inferior to the first option because of the greater uncertainty associated with multiyear payments and since the time value of money of receiving €10,000 now worth more than €10,000 paid out over four years. For example, in case the discount rate is 5%, the net present value of the third option is €8,864.

In this game, we expected that the presence of the inferior option three will increase the attractiveness of the first option, thus demonstrating the presence of the contrast effect and the “preference reversal” which leads to suboptimal solutions.28

4.3. Results and Discussion

Table 1 shows the results of the between-subjects experiment. In the two-option group seven subjects or 14% accepted full payment and waived (the one half) of the ownership, while 43 subjects (or 86%) decided to sell the item to the third party and split the sum in half. In the three-option group, 12 subjects or 24% accepted full payment and waived the ownership and an additional 5 subjects or 10% accepted payment in installments, while 33 subjects (66%) decided to sell the item to the third party and split the money. We found that subjects’ preferences were influenced by the presence of the third (inferior) option as relatively more subjects accepted payment instead of sales. The difference between the two groups was statistically significant ($x^2 = 5.48$, $p < .019$), thus confirming our basic hypothesis.

Table 1. Results of the between-subjects experiment

<table>
<thead>
<tr>
<th></th>
<th>“Accept full payment”</th>
<th>“Sell to third party”</th>
<th>“Accept payment in installments”</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-option group</td>
<td>7 (14%)</td>
<td>43 (86%)</td>
<td>/</td>
<td>50</td>
</tr>
<tr>
<td>Three-option group</td>
<td>12 (24%)</td>
<td>33 (66%)</td>
<td>5 (10%)</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>76</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

28 For literature review on the preference reversal see: Christopher K. Hsee, France Leclerc, “Will Products Look More Attractive Presented Separately or Together?”, *Journal of Consumer Research* 25(2)/1998, 176.
These results are consistent with the results of similar research reported in the previous section.\textsuperscript{29} For the sake of comparison,\textsuperscript{30} Guthrie found that the presence of a third, additional option dramatically changed the subjects-students’ preferences, since 70\% of subjects in the third-option group chose the superior option (“Give painting to law partner”) as compared to 35\% of the subjects in the two-option group ($p = 0.03$). So, in the “Rioner case”,\textsuperscript{31} the increase of the attractiveness of option one was 35\%, unlike our case where the increase was 10\%. In the second research,\textsuperscript{32} the increase was 24\% in the “Professor-University Negotiation Case”, and 27\% in the “Neighbor-Nightclub Negotiation case”.

In our case, for subjects assigned to the three-option group, the full and immediate payment of €10,000 appeared more attractive because it was accompanied by a similar inferior option (“Accept payment in installments”). Subjects who would otherwise prefer to sell the item to the third party were induced to accept full payment and waive off the ownership over the item. So, their preferences were reversed in the presence of the additional, inferior option, thus, confirming the influence of the context on the decision-making in this hypothetical case.

A very interesting finding is that in both groups a vast majority of participants (especially in the two-option group, 86\%) chose the option “Sell to the third party” rather than “Accept full payment and give the ownership over the item”. It was not the case in the “Rioner case”. One of the possible explanations might be that the subjects did not want to waive off the ownership over the item (or that were their true motivation) so another available option seems to them more attractive. These participants’ choices might be the consequence of the presence of the so-called endowment effect, i.e., a strong tendency to keep things that people already possess,\textsuperscript{33} which is particularly pronounced in divorce cases. But, this explanation loses some strength considering that the choices were made by the subjects who act as lawyers on behalf of their clients. So, the question is whether they felt this item as being their ownership. Another possible explanation might be that the participants in this “divorce game” expressed social preference named inequity aversion. A person with such a preference wants to achieve an equal allocation of economic resources, that is, to increase or decrease the payoff of another player, depending on whether it is below or above a certain equal level.\textsuperscript{34} Therefore, from this perspective, it seems possible that the majority of subjects did not want

\begin{itemize}
  \item \textsuperscript{29} See: C. Guthrie, 2003 and M. Kelman, Y. Rottenstreich, A. Tversky, 1996.
  \item \textsuperscript{30} See: C. Guthrie, 619.
  \item \textsuperscript{31} Case was named according to the artist from whom the other party bought the painting that is the subject of dispute.
  \item \textsuperscript{32} See: M. Kelman, Y. Rottenstreich, A. Tversky, 299-300.
  \item \textsuperscript{34} This preference has been modeled in for instance: Ernst Fehr, Klaus M. Schmidt, “A Theory of Fairness, Competition, and Cooperation”, The Quarterly Journal of Economics 114(3)/1999,
\end{itemize}
to give the item to the other party because they estimated that their client would be dissatisfied with that choice. In other words, the subjects (acting as lawyers) thought that if they had chosen the first option, their client might have been dissatisfied because their counterpart (ex-spouse) would retain the whole item. Just because of that kind of reasoning they chose the second option – sell to the third party and then split the money. If this is true, then this reasoning contradicts rational economic logic, because in both cases (option 1 and option 2) the outcome is the same (€10,000). From an economic point of view, it should not matter which option they chose, i.e. we might expect that 50% of subjects would choose the first option and 50% of subjects the second option. But it did not happen, since in the first group the relation was 86% regarding 14%, while in the second group it was 66% relative to 24%.

The decision of those subjects in the three-option group (10% of them) that chose option three is particularly “problematic”. They chose the inferior option (“Accept payment in installments”) in the presence of a superior option (“Accept the full payment”). There are three possible explanations for this kind of reasoning. One is that the subjects simply did not understand the case. Second is that they expressed an altruistic tendency toward another party because they gave up ownership and accepted payment in installments for their client. But the question remains whether their client would be satisfied with that choice. The third and most possible explanation is that they made an irrational choice, taking into account that they acted as lawyers from which parties usually expect to behave in a rational manner. Numerous studies confirm that lawyers most often evaluate options in negotiation more rationally as opposed to their clients because of their emotional distance from the case.35 From this perspective, it is obvious the subjects did not adequately play their role as a lawyer and as a result made irrational decisions.

5. CONCLUSION

Our research confirms the existence of the contrast effect in negotiation as previous studies have shown. However, several other issues remain to be examined. Firstly, the participants in our study were students, so the question is whether the results would remain the same in different populations e.g. lawyers or social workers. Secondly, although our sample size was deliberately larger compared to samples in related research, there is no reason not to examine even a larger and more representative sample. Thirdly, in our research, the subjects, law students,

were acting as lawyers, but the question is whether the results would be identical if the lawyers had been put in the position to decide in this hypothetical case. Hence, it would be rewarding to check the presence of the contrast effect in the population of lawyers. Previous research\textsuperscript{36} has found that the lawyers are not so prone to context-dependent decisions. More specifically, this research did not find a statistically significant difference between the two groups of lawyers in the “Rioner case”. The authors inferred that the lawyers are more rational than students when making decisions such as in the “Rioner case”. This finding is linked to the other research\textsuperscript{37} showing that lawyers, when making settlement decisions, are much less prone than their clients to cognitive biases, such as framing, anchoring, and equity-seeking. The authors made a general conclusion that the lawyers’ behavior is much more consistent with the behavior of rational economic actors in standard economics models of litigation.\textsuperscript{38} 

Considering the “Rioner case” on the population of lawyers, there is an open question of whether the results would be the same on the more representative sample. Guthrie and Rachlinski conducted their research on a relatively small sample (N = 33). Are lawyers so “rational” and analytical, as some research suggests,\textsuperscript{39} and in particular are there differences in their reasoning given the difference in culture and mentality? Primarily, the aforementioned studies are mostly performed in the United States. Secondly, other studies have shown lawyers’ “irrational” tendencies, such as framing effect or egocentric bias.\textsuperscript{40} Thirdly, is only the lawyer in the best position to direct clients toward rational decisions? One can argue that a mediator may be in a better position than a lawyer, especially in divorce-related disputes. The mediator’s job is to subtly direct parties to generate more options to resolve the dispute while preventing the contrast effect or other obstacles to effectively resolving the dispute. The mediator acts as the “architect of choice” and can steer the parties towards more efficient solutions.\textsuperscript{41} Of course, the judge who usually plays the role of the mediator is also prone to biases;\textsuperscript{42} but his/her position

\begin{footnotesize}
\textsuperscript{36} See: C. Guthrie, 642. This research was conducted by Guthrie and Rachlinski.


\textsuperscript{38} See: C. Guthrie, 642.


\end{footnotesize}
is far better for eliminating barriers to negotiation. Further research should carefully assess whether the contrast effect could be used as a stimulus or it represents an impediment to successful negotiations. Considering this, our study has contributed to existing conceptual work on the contrast effect in negotiations and paved the way for some future experiments of the lawyers’ behavior in different contexts and different jurisdictions.

REFERENCES


Ефекат контраста и решавање спорова – експериментална студија

Сажетак: Предмет овој рада је ефекат контраста у Јређоварању из угла бихевиорисицичке економије. Спроведено је емпиријско истраживање, коришћењем „игре развода“ са Јоштитим информацијама о могућим исхиљивима, у циљу Јровере да ли су испитаници склони одлуцима које су контекстуално зависне. Узорак је сачињен од 100 студената Правног факултета Универзитета у Нишу. У експерименталном дизајну „између субјекта“, 100 различитих учесника је сачињено у двојици контроне и експерименталне. Главни налаз је да Јоштитоци са Јоштитим интерпретацијама ефекти контраста, са акценти на друге субјекте, као што су адвокати, ради Јровере што ће да ли су они Јоштито „рационални“. 

Кључне речи: ефекат контраста, Јређоварање, бракоразводна Јарница.