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Opportunism and the Role of Financial Incentives: An Experimental Analysis Based on Game Theory

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ABSTRACT

In this study, we measured how people would take advantage of others' misinformation, when the financial incentive size changes in economic games. We conducted a laboratory experiment based on game theory, using a modified version of the ultimatum game, where proposers had the opportunity to manipulate the responder's beliefs by the use of 'hide behind the small cake' strategy. Our results contradict the selfish rationality model predictions. Intermediary financial incentives led people to adopt extremes strategies of pure fair/selfish allocation. Greater levels of financial incentive reduced the full expropriation strategy and at the same time, reduced the presence of fair offers, which suggests an interesting interaction between opportunism and psychological costs of lying. The results showed that opportunism is hugely context-dependent and people will update their decision regarding opportunism in accordance with the financial size incentive. Thus, the same person can behave differently depending on the financial value involved and will not necessarily be more selfish when the financial amount increases.

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INTRODUCTION

Negotiations, be they of any nature, presuppose the existence of some degree of informational asymmetry between individuals. If asymmetry exists, then opportunism between negotiators is a real chance. In this perspective, many real economic and business interactions are characterized by both opportunism and asymmetric information. Opportunism can be defined as the practice of taking advantage of circumstances, guided by self-interested motives. According to the selfish rationality model perspective, people will always try to maximize their payoff (Lambsdorff, 2012). Under the context of asymmetric information, opportunism tends to increase according to the amount of financial gains involved (Vranceanu & Dubart, 2019).

However, the presence of other-regarding preferences can generate very different predictions, especially if some agents possess some degree of deception aversion, as observed in the literature (Abeler et al., 2014; Rosenbaum et al., 2014). Both economic parameters and the psychological cost of lying may be competing with each other, and levels of opportunism are malleable and susceptible to contextual issues (Rosenbaum et al., 2014). According to the social psychology perspective, people will not change their behavior due to the circumstances, since some individuals suffer the psychological cost of lying due to the inculcation of internalized norms of honesty. Fischbacher and Föllmi-Heusi (2008) conducted an experiment showing that some people do not lie, as a personal trait.

Kajackaite and Gneezy (2017) grouped people into three types according to their propensity to be opportunistic: the ethical type, the economic type, and the finite positive cost type. According to Kajackaite and Gneezy (2017), if these groups are stable in our society, they would not be affected by the size of the financial incentive in the game.

According to the literature, some behaviors are expected when people have the chance to act opportunistically. The selfish rationality model in ultimatum games states that people will not miss the chance to get along, so self-regarding individuals will adopt full expropriation strategy regardless of the financial incentive size. Among the empirical consequences, people would always behave selfishly, increasing transaction costs and leading to greater control and monitoring concerns in organizations. From the social psychology perspective, most people will not change their behavior due to the circumstances, since some individuals suffer the psychological cost of lying due to the inculcation of internalized norms of honesty. Fischbacher and Föllmi-Heusi (2008) conducted an experiment showing that some people do not lie, as a personal trait, and financial incentive should not be relevant. Another possibility is that the financial size incentive will change the offerings strategies in each experimental treatment, showing that people are context-dependent, and their decisions will change according to the size of the financial incentive. These distinct theoretical possibilities for opportunistic behavior and their empirical repercussions motivate this study.

Thus, in an attempt to understand Brazilian's behavior when faced with the opportunity to behave opportunistically in a bargain, we proposed a financial experiment based on game theory. We tested how individuals would misrepresent information based on different levels of financial gains, using the game theory framework, more specifically, the ultimatum game. In summary, this paper investigates opportunism from an experimental perspective, evaluating how economic decisions in asymmetric scenarios are influenced by the size of the financial incentive. We proposed the following question: What are the effects of financial incentives to change decisions regarding opportunism?

The ultimatum game, as proposed by Güth et al. (1982) in its standard form, is a two-player game in which one player (the Proposer hereafter) receives a monetary endowment and makes an offer to the other player (the Respondent hereafter) regarding the split of the money between them. Any offer between zero and the initial endowment is allowed. The Respondent observes the offer made by the Proposer and decides whether to accept the offer or not. If the Respondent accepts the proposed split, then players receive their respective share; otherwise, both players receive nothing. Our laboratory experiment was a modified ultimatum-game in which the Proposer knew the amount offered in the game but Respondent did not, characterizing the asymmetric information condition.

Our experiment took advantage of the fact that Proposers were informed about the initial endowment, while Respondents were not. In our experiment, the Proposer had the opportunity to deceive by making their offer appear fairer than it really was and without incurring any penalty. The Respondent was only aware of the probability of each possible endowment, which were, in Brazilian reais: $10 with 0.5 probability; $20 with 0.25 probability; $30 with 0.25 probability. We use the higher probability of a $10 endowment in order to create more opportunities for the Proposer to incur in opportunism if he/she wanted to. Bearing in mind that the Respondent had the power of rejection in the game, self-regarding Proposer would want the Respondent to believe that the size of the pie was equal to $10, the lowest amount in the game. Thus, we investigated the 'hide behind the small cake' effect using an ultimatum

game framework with imperfect information. The 'hide behind the small cake' effect occurs when, under incomplete information settings, Proposers often 'pretend to be fair' when the endowment could take either a small or a large value and the Respondent does not know its true size. Many Proposers offer exactly the equal split of the smallest possible endowment even when they had received the larger one (Güth et al., 1996; Mitzkewitz & Nagel, 1993; Ockenfels & Werner, 2012). As a result, Proposers can strategically exploit this when Respondents are not aware of the (un)fairness of an offer. We did not allow Participants (Proposers and Respondents) to communicate with each other during the experiment, and therefore, Respondents would be inclined to accept a low offer even in the presence of a large endowment if that was the Respondent's belief. A control group was also implemented to isolate the effect of discovering information about the size of the endowment. There were three treatments in this control group (T10, T20, and T30), in which the information about the initial endowment was common knowledge (a standard ultimatum game). All participants were undergraduates from the management, accountability, and marketing degrees.

Our results showed that the financial decisions in the games were hugely dependent on the context, contradicting the assumptions of the subgame perfect Nash equilibrium. We observed that fair offers decreased when the financial incentive increased, and in the same way, the use of the 'hide behind the small cake' strategy (a full expropriation strategy under asymmetric information settings) showed more present for intermediary financial endowment rather than for the highest prize. Greater financial incentives seem to increase the psychological cost of lying, as people decided not to use the game's full expropriation potential. We also observed, as expected, that the asymmetric informational context always increase the pay-off for the better-informed player even when there is no room to manipulate beliefs about the financial size incentive in the game. Under symmetric information condition, Proposers retained more when the financial incentive was the highest, anticipating that Respondents would not reject a significant positive offer.

The relevance of this topic is related to the business environment, since opportunism would increase transactional and agency costs, when dealing with Brazilians, directly affecting business contracts and governance. In Brazil, as a cultural trait, people tend to see themselves as opportunistic, that will not miss the chance to get along. The Portuguese word *jeitinho* is an expression that synthesizes the idea of taking individual advantage in all situations using creativity and smartness in a negative way. From this perspective, predictions based on the Nash equilibrium would be perfectly adequate to describe Brazilians' behavior. Our results showed that this is not true once the use of full expropriation offers showed context-dependent. To avoid unwanted opportunism, organizations should take into account the circumstances surrounding the decision-maker.

To achieve the objective proposed by this study, this paper is structured into five sections. After the introduction, the literature review is presented followed by methodological procedures, results, and conclusion.

LITERATURE REVIEW

In the broadest sense, game theory can be defined as a collection of mathematical models formulated to study situations of conflict and cooperation. The pioneers of this theory, John von Neumann and Oskar Morgenstern, observed that economic problems are much like a game in which players wait for each other's moves, so it requires a new kind of mathematics. However, the need for empirical knowledge about the principles of economic behavior creates a special role for experiments in game theory (Crawford, 2019). The ultimatum game is one of the most famous game. Damme et al. (2014) claim that the ultimatum game internalizes the fact that people react emotionally in bargaining situations in a way that is incompatible with material interests. The ultimatum game, as proposed by Güth et al. (1982) in its standard form, is a two-player game in which one player (proposer) receives a monetary endowment and makes an offer to the other player (receiver) regarding the split of the money between them. Any offer between zero and the initial endowment is allowed. The receiver observes the offer made by the Proposer and decides whether to accept the offer or not. If the receiver accepts the proposed split, then players receive their respective share; otherwise, both players receive nothing.

In settings containing incomplete information, there is a possibility for some degree of opportunism (Chavanne & Ferreira, 2017; Kriss et al., 2013), since some people will be tempted to use their informational advantage to misreport their private information (Kajackaite and Gneezy (2017). The close relation between opportunism and asymmetric information was initially proposed by Willianson (1979), who observed that a firm can incur in greater transaction costs to avoid opportunistic behavior. If the more informed party can benefit from the transaction by exploiting this informational asymmetry, the possibility of opportunistic behavior should be considered. Literature related to bargaining experiments mostly uses models

of complete information between players, as there is a dearth of studies examining this topic under incomplete information.

Under the traditional assumption of self-regarding preferences, Nash equilibrium predicts that opportunism should be expected whenever it raises one's probability of obtaining financial gains. However, the presence of other-regarding concerns can certainly generate different predictions, especially if some agents possess some degree of deception aversion (Abeler et al., 2014; Rosenbaum et al., 2014). More recently, a growing body of literature has pointed that people tend to be 'incompletely dishonest' by balancing these two extreme positions of neither being completely selfish, nor honest all the time (Shalvi et al., 2011). According to this perspective, both economic parameters and the psychological cost of lying are competing, and deceitful levels would be malleable and susceptible to contextual issues (Rosenbaum et al., 2014.

The ultimatum game with informational asymmetries is a quite common research strategy in the study of opportunism (Besancenot et al., 2013; Gneezy, 2005; Kriss et al., 2013; Lundquist et al., 2009). In settings containing incomplete information, there is a possibility for some manipulation of other people's beliefs (Chavanne & Ferreira, 2017; Kriss et al., 2013), since some people will be tempted to use their informational advantage to misreport their private information (Kajackaite & Gneezy, 2017). Kriss et al. (2013) emphasize that 'hiding behind a small cake' is a form of implicit deception, as it manipulates other players' beliefs about the endowment of the game.

According to the conventional economic model based on the assumption of a wealth-maximizing actor, opportunism will happen whenever the expected benefit is higher than the expected cost. Becker (1968) stated that people would selfishly misreport their private information as a way to obtain financial gains. In this perspective, at an extreme, the intrinsic or psychological cost of lying does not even exist and since lying is costless, people will behave opportunistically and lie at will (Lundquist et al., 2009). Opportunism would be closer to the *homo economicus* mindset as the financial gains are increased (Shalvi et al., 2011). Kajackaite and Gneezy (2017) found that, for some people, the decision to lie follows a simple cost-benefit analysis and the tendency to lie increases with the incentives to cheat in the game and decreases with the probability of being caught.

Another stream of thought is rooted in the social psychology perspective, which presents the unconditionally honest individual who suffers the psychological cost of lying due to the inculcation of internalized norms of honesty. Maggian and Villeval (2016) reject the use of lies as the main expected behavior, highlighting the preference for honesty derived from internalized moral norms. Fischbacher and Föllmi-Heusi (2008) also conducted an experiment showing that some people do not lie. In this perspective, if some percentage of people is indubitably fair, the use of opportunism should not increase in response to a change in financial rewards. It would be expected that some proportion of individuals will be fair all the time, regardless of the financial prize.

Rosenbaum et al. (2014) also pointed to a growing literature suggesting that people is situated between these two extremes. In other words, individuals may neither be completely honest, nor completely selfish all the time (Besancenot et al., 2013; Charness & Dufwenberg, 2006; Croson et al., 2003; Gneezy, 2005; Gneezy et al., 2013; Mazar et al., 2008) stated that people try to find a balance between deriving some financial benefit from behaving dishonestly and maintaining their positive self-concept in terms of being honest. Financial gains seem to be crucial on this issue. Gneezy et al. (2013) found that an individual's tendency to lie increases with the gains from lying. In this perspective, people's behavior regarding opportunism is dependent on the financial prize.

METHODS

In this study, two experimental groups were proposed, with the first one being 'the interest group' with incomplete information (allowing opportunism) between players and the other being the control group, with complete information. Both groups played the ultimatum game, which belongs to the experimental game theory literature.

In the ultimatum game, the first player is the Proposer, that is asked to make an offer $x(v)$, $0 \leq x \leq v$, where v is the size of the endowment received by the Proposer. The Respondent observed the offer made and decided whether to accept it or reject it. As in the standard ultimatum game, if the Respondent accepted the offer, the proposed division was implemented, and in the case of a rejection both parties received nothing. If we let a denote the Respondent's decision to accept ($\alpha = 1$) or reject ($\alpha = 0$), the Proposer's payoff is $\pi_P = \alpha\ (v - x)$, while the Respondent's payoff is $\pi_R = \alpha v$.

All sessions were conducted with a game sheet using pencil and paper. The students were invited personally and by email to participate in sessions that occurred in the university, using classrooms. The invitation mentioned that some money would be paid but the value was not mentioned. Instructions for the

game in the experiment following a script previously defined were given before they answer the game sheet.

In the first group, only the Proposer was aware of the size of the endowment. Respondent only received the information regarding the distribution of probabilities of the values in the game, which was $10 with 50% probability, or $20 with 25% probability, or $30 with 25% probability in Brazilian currency.

Given that the empirical evidence strongly suggests that offers above 50% of the endowment are extremely rare in the ultimatum game, the Respondent can infer the following from an offer (x is the offer made by the Proposer): (a) If $x > 10$, then the initial endowment is R$ 30 with certainty; (b) If $6 \leq x \leq 10$, then the initial endowment is either R$ 20 or R$ 30; (c) If $x \leq 5$, then the initial endowment can be R$ 10, R$ 20, or R$ 30.

In order to verify if the Proposer used the values in the game as a way to manipulate the Respondent's beliefs (manipulation check), a post-game questionnaire asked the Proposer about his/her beliefs about the Respondent's deduction of the real amount in the game and his/her reasons for his/her decisions. The objective was to observe how the variation in the amount offered altered the decision-making process in an asymmetric information context, measuring how people would take advantage of the other player's misinformation. Players could not communicate between them. The probability distribution used in the game was common knowledge. In the control group, there were three treatments (R$ 10, R$ 20, and R$ 30), in which the information about the initial endowment was common knowledge (i.e., a standard ultimatum game).

Data and sample

The groups were composed as following: The first group had 79 Proposers in the treatment with R$ 10 (T10), 41 Proposers in treatment with R$ 20 (T20), and 41 Proposers in the treatment with R$ 30 (T30), and the same number to Respondents in each treatment. The control group was composed of 30 Proposers for each treatment (T10, T20, and T30) and the same number of Respondents. Overall, the experiment with the two groups (asymmetric and symmetric) involved 502 undergraduate students from a private university in southern Brazil. We focused our analysis on the Proposer's answers, since he/she were the better-informed player.

When the Proposer answered the game sheet, the other player (the Respondent) was asked to observe the amount sent by the Proposer and say 'yes' or 'no.' Both players were paid according to the game results.

A between subjects' design was adopted with a one-shot game. We conduct the experiment with six conditions: two groups (asymmetric and symmetric informational between players) and three treatments (financial incentive size). We ran a total of 28 sessions with, on average, 18 people per session. Proposers and Respondents participate in distinct sessions and the experimenter was the same person in all sessions. Three students from the post-graduate studies helped in the data collection using paper and pencil. We invited the students personally and by email. The invitation mentioned that some money would be paid but the value was not mentioned. After the game, all participants answered a post-game. We also gathered some information regarding age, income, and gender.

Taking into account the predictions based on the Nash equilibrium, self-regarding Proposers anticipating that unfair offers would be rejected by the Respondents will follow a strategy of full expropriation, which means incurring the strategy of 'hide behind the small cake' for the intermediary (R$ 20) and the highest (R$ 30) financial incentive. From this perspective, the Proposers would send an endowment equal to $ 5.00 to the Respondent as a way to making them believe that the in-game donation was the smallest, regardless of the actual size of the 'cake.'

Our study tested the following hypothesis:

> *H:* Under similar rejection probabilities in the ultimatum game, fully expropriation is the most frequent strategy regardless of the value offered in the game.

We considered that if the full expropriation strategy was adopted for both the intermediary and the highest financial incentives, under asymmetric information settings, opportunism was characterized in the experiment.

RESULTS

Comparing the groups in the symmetric and asymmetric conditions, as we already expected, all treatments in asymmetric conditions allocated higher payoffs to the better-informed player, even for the lowest 'cake,' where there was little room for opportunism (treatment with $10.00 or T10). The amounts allocated to Respondents by the Proposers in both treatments were statistically distinct from each other for all conditions (T10, T20, and T30) according to Mann-Whitney test, reinforcing the relevance of incomplete information to alter the decision-making process. Table 1 shows the descriptive statistics and the values displayed represent the Proposer's endowments.

Table 1. Descriptive statistics of Proposers and endowments from the Proposer to the Respondent

	Asymmetric information			Symmetric information		
Treatments	T30	T20	T10	T30	T20	T10
Average	9.70	7.07	4.06	13.63	9.99	4.68
Mode	10	5	5	15	10	5
Minimum	5	2	5	0	5	0
Maximum	15	12	6	20	19	6
Standard error	3.49	2.77	1.31	3.46	2.03	1.31
Pairs	41	41	79	30	30	30

Note. Developed by the authors

Regarding the first treatment (T10), despite the absence of room for opportunism (given the fact that the Proposers were aware that the Respondents knew that the lowest value in the game was $10 and they indeed received this amount), the difference in the average Proposer's retention was still positive for the asymmetric group in $0.62. According to Mann-Whitney test, the endowments sent in this treatment were statistically distinct (z = 3.134; p-value: 0.0017). It seemed that under an asymmetrical informational context, the perception of greater bargaining power by the better-informed player was strengthened, even when this asymmetry was not enough to manipulate the beliefs of the other player regarding the endowments of the game (see Figure 1).

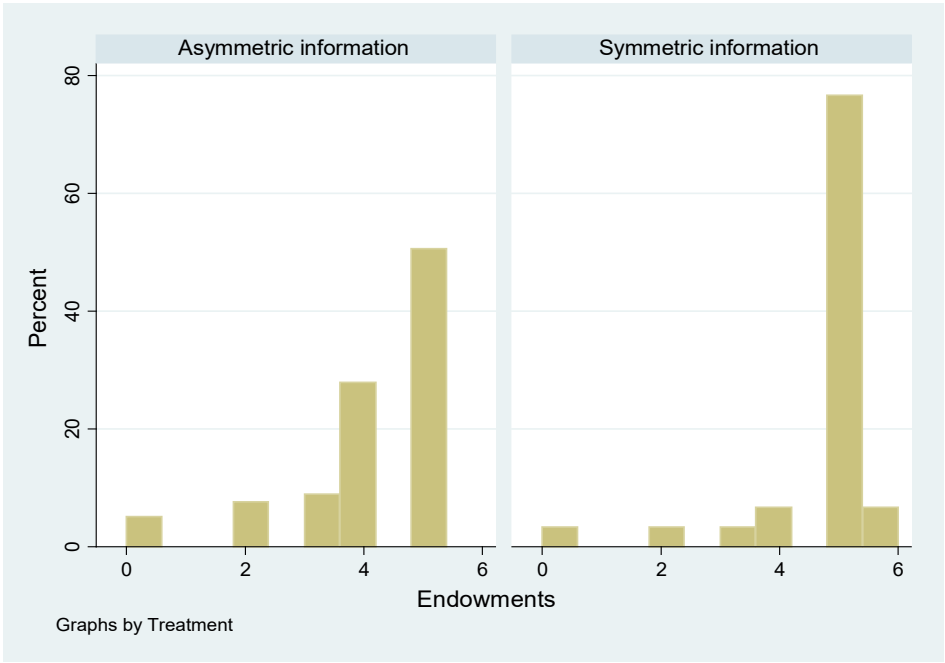

Figure 1. Endowments sent to Respondents by the Proposers in T10
Developed by the authors

Concerning T20 under asymmetric conditions, the modal endowment for the Respondent was only $5, or 25% of the total amount offered in the game, in accordance with our main hypothesis. According to the literature, under symmetric information settings, Respondents would probably reject these endowments (Güth & Kocher, 2014). In the control group, most of the endowments were equal to 50% of the cake.

Understanding why $5 was the modal endowment in the treatment with R$ 20 (T20) for the asymmetric group is straightforward. According to the post-game questionnaire, the objective was to lead the Responder to believe that the amount received in the game was equal to $10, which means that the Proposer used the endowment to send a 'message' to the Respondent, characterizing the opportunism. We observed that 56% of the Proposers purposefully decided to use a strategic offer to the Respondent in order to retain the highest value possible in the game with certain safety margin, which means increase the probability of the offer be accept by the Respondent since it appears to be fair.

However, the amount of people who decided to split the money making fair or generous endowments, not trying to take advantage of the other player's misinformation, was also high, being the second main allocation strategy for this treatment or 39% of the splits in the game. These Proposers reported that they did not intend to manipulate the other players' beliefs regarding the real financial incentive. We found that in T20, the decision-making process was polarized between be fair or be selfish, being the selfish behavior more prominent. Thus, it was observed that more than half of our sample adopted the 'hide behind the small cake' strategy to make their endowments to the other player. For 5% of the sample in this treatment, the Proposer's intentions were not clear through the questionnaires and were not considered as opportunism in this analysis (see Figure 2). Comparing the endowments under asymmetric and symmetric treatments, Mann-Whitney test showed that endowments were statistically distinct (z = 4.073; p-value: 0.000).

When the amount offered in the game increased to R$ 30, we observed that, under asymmetric condition, the most frequent endowment made by the Proposer to the Responder was $10, showing that most participants decided not to adopt the 'hide behind the small cake' strategy, since if the Proposers wanted to maximize their outcome, the expected endowment should be $5, as a way to transmit the idea that the total amount in the game (the cake) was $10. Sending $10 to the Responder, the Proposer's intention was to send a message that the real amount was $20 (not $10, the lowest value, neither $30, the real value), which is an intermediary value in the game.

Sending $10 to the Respondent, even though it was observed the presence of a slighter opportunism (once the Proposer retained 2/3 of the pie), the potential to retain more was even higher or equal to 5/6 of the total amount in the game. Thus, 48% of the Proposers decided to expropriate the Responders in a 'weak' form, which means not to use all the expropriating potential. These Proposers, according to post-game questionnaire, were aware that sending $10, the Respondent would be inclined to believe that the real value in the game was $20, not $30, the real one. These results suggest that most people decided to expropriate less even when having the opportunity to expropriate more. It was also observed that 29% of the Proposers sent $5, being aware that they were manipulating the Responder's beliefs, leading them to deduct that the financial amount was $10, characterizing the use of opportunism in a strong form.

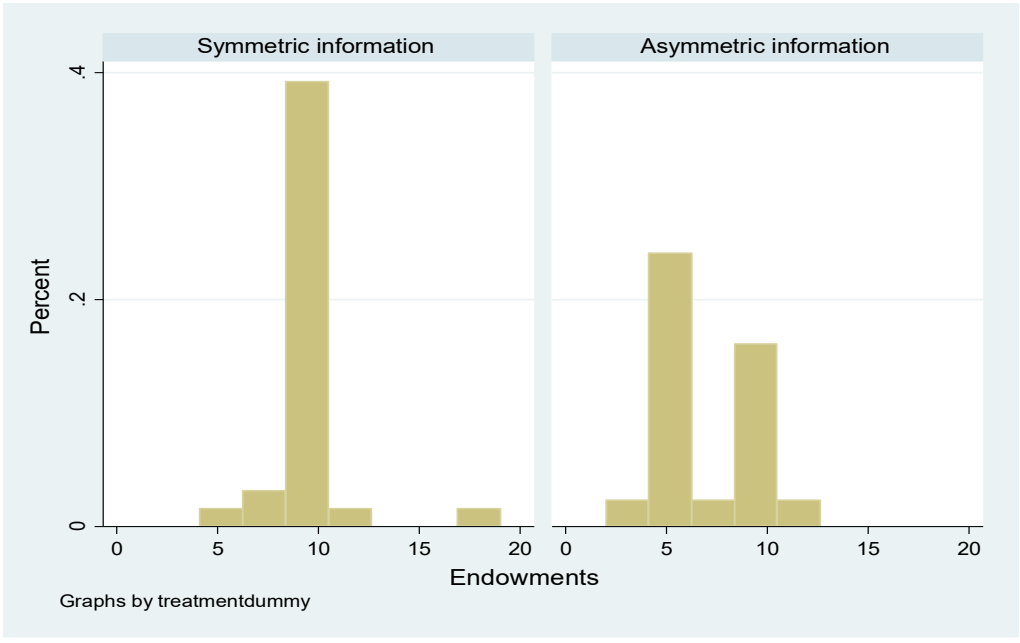

Figure 2. Endowments sent to Respondents by the Proposers in T20
Developed by the authors

Finally, some people in the asymmetric condition decided to be fair (21%), even for the highest cake size in the game. However, this percentage decreased significantly when compared to T20. This result suggests that some people would accept some degree of opportunism at greater financial incentives (see Figure 3). Mann-Whitney test showed that endowments between treatments were statistically distinct (z = 4.531; p-value: 0.000).

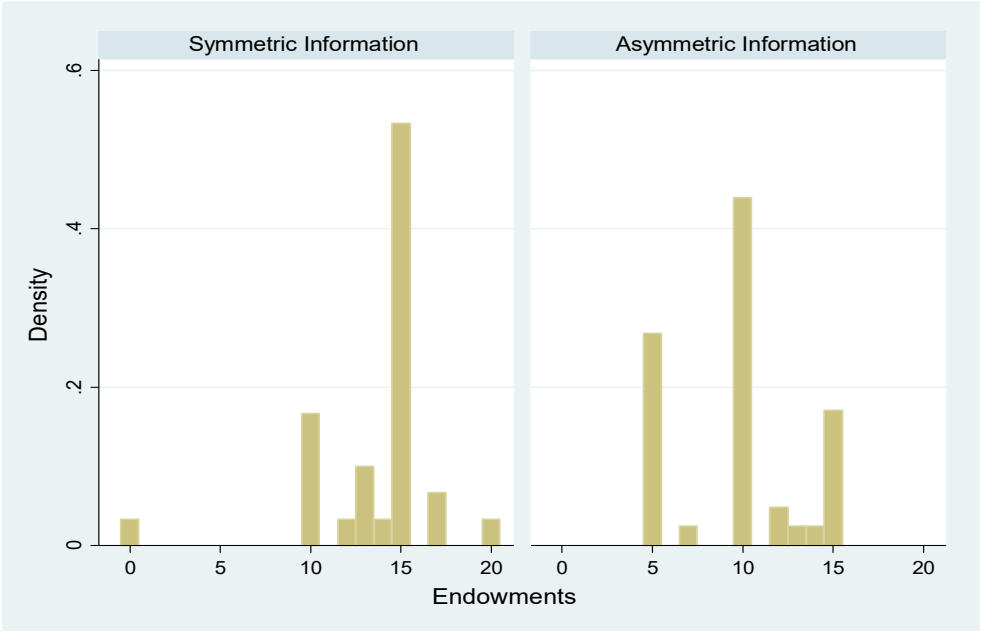

Figure 3. Endowments sent to Respondents by the Proposers in T30
Developed by the authors

Under the symmetric condition, even though the most frequent offers were fair (50% of the cake), some Proposers decided to retain more, probably anticipating that Respondents would not reject offers higher than the half of the small cake. Increasing the financial incentive induced a more selfish offer even when information was complete between players.

Comparing the treatments under asymmetric condition showed that opportunistic strategy changed according to the amount offered in the game (see Figure 4).

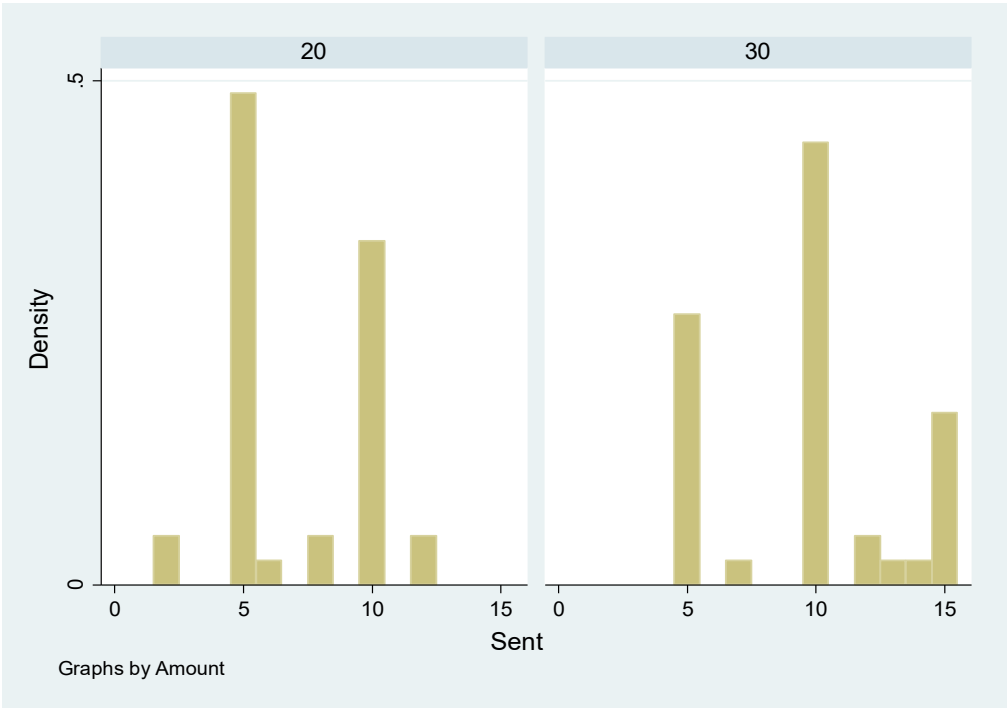

Figure 4. Amount sent in T20 and T30 in asymmetric information condition
Developed by the authors

Due to the results observed here, we proposed to categorize opportunism into two different forms: a weak form, when the player decided to expropriate less when having the opportunity to expropriate more for the same probabilities of rejection in the game, and the strong form, when opportunism is used to expropriate as much as possible. In both forms, we observed a strategic split that tried to maintain an appearance of fairness by manipulating the other party beliefs.

In an attempt to clarify some aspects, we also conducted three regressions models. Regarding model 1, the dependent variable Y was the amount sent from the Proposer to the Respondent. The independent variable (D1) was a dummy that received '1' for splits made by the Proposer to the Respondent under asymmetric information and '0' for symmetric information between players. The other variables were control variable ones, being related to the gender (1 = men), income (five-point scale) and age (number of years). Table 2 presents the regression's results. The second regression model measured the presence of full expropriation using the 'hide behind the small cake' strategy in the splits made by the Proposer in the treatments T20 and T30, under asymmetric conditions. The dependent variable was a dummy that received '1' when offers were equal to $5 in T20 and T30 for those Proposers that reported that intention of manipulate the other player's beliefs was related to the financial incentive. For this, we asked about the Proposer's guess about the Respondent's beliefs of the financial incentive based on the value sent by the Proposers. The independent variable was a dummy that received '1' when the Proposers had received $20 (T20) and '0' when they had received $30 (T30). The main purpose was to clarify what experimental condition was closely related to splits equal to '5.' The other control variables remain the same. Finally, in the regression model 3, the dependent variable was a dummy that received '1' when the Proposer sent a fair offer (equal to 50% of the financial incentive) and '0' for other values. The independent variables were the same as in regression model 2.

Table 2. Regression models

	Amount sent Model 1	Full expropriation Model 2	Fair offers Model 3
D_1 Asymmetric information dummy	-3.24*** (.514)		
D_2 T20/T30 dummy		1.071** (.489)	
D_3 Fair/Unfair dummy			-.982*** (.361)
Gender	-.294 (.502)	.229 (.491)	.461 (.364)
Income	436 (.219)	-.234 (.225)	.270 (.169)
Age	0.007 (.081)	-.147 .108	-.011 (.072)

Note. Significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively presented with regression's coefficients and z-statistics in brackets.

Regression model 1 showed that, under asymmetric conditions, the percentage retained by the Proposer was higher when compared to the symmetric group, reinforcing (as expected) the relevance of complete information to avoid opportunistic behavior. Regression model 2 showed that Proposers that sent endowments equal to $5 were more likely to belong to the treatment T20 instead of T30, showing that Proposers in T30 were dealing with some psychological costs that avoid full expropriation based on the financial incentive. Thus, increasing the financial incentive in the game also increased the disposition to send higher endowments to the other participant, contradicting the predictions about selfish behavior. On the other hand, regression model 3 showed that fair offers were significantly more present when the financial incentive was equal to R$ 20 instead of R$ 30, showing that Proposers feel more comfortable to not be fair when dealing with higher financial incentives. It seems that increasing the financial incentive, the disposition to be fair decreased. Regressions models 2 and 3 combined showed that when financial incentive increased, Proposers felt free to retain more (not being fair) but also increased the endowments to the other participant. Higher financial incentives allowed Proposers to retain more but also to share more. These results showed that the financial incentive size in the game was determinant to the game offers. Thus, decisions regarding opportunism are updated according to financial incentives.

HYPOTHESES DISCUSSION

Comparing the treatments T20 and T30 only for asymmetric information condition, we observed that the patterns of opportunistic strategies were very distinct between them. The most frequent endowment to the Responder was only $5 in T20 while it was $10 in T30,

under the same probabilities of rejection in the game. The use of 'hide behind the small cake' strategy showed more present when the financial incentive was $20. When the endowment in the game increased, different from what we expected by the Nash equilibrium perspective, the most frequent offer was $10, which means that players decided to make it look like the real value in the game was neither the lowest ($10) nor the true one ($30) but an intermediate one ($20). These results draw our attention to the presence of some psychological costs of lying related to the financial incentives. It seems that people felt uncomfortable when expropriation was the highest as possible and even though all conditions were created for the Proposer to manipulate the Respondents beliefs and lead them to believe that the lowest value was more probable. Some individuals decided not to fully expropriate the Respondent by taking advantage of the framework proposed in the experiment. On the other hand, we also observed that, as the financial amounts increased, Proposers started to admit some degree of expropriation and the percentage of fair offers decreased significantly when compared to the intermediate value in the game.

In addition, we observe that fair offers were present in all treatments in the experiment and the social psychology perspective based on internal rules cannot be rejected, however this is likely to be a minority of our society since the percentage of fair offers decreased from 39% to 21% as the financial incentive increased. Nevertheless, further studies are needed on this topic.

CONCLUSIONS

Based on the results obtained in this study, even though Proposers had increased their outcomes when incomplete information between players was present and when manipulation of beliefs happened, the strategy to 'hide behind the small cake' varied significantly. These results corroborated Kriss et al. (2013), as they showed that people are less likely to incur implicit deception than expected by the selfish perspective of the economic man. Under the largest endowment, two main opportunistic strategies were observed, which were called 'strong' and 'weak' forms of opportunism, being the weak form more frequent in T30. This finding showed the presence of some cost of lying since Proposers decided to expropriate less the Respondent when having the opportunity to expropriate more, reinforcing the presence of some disutility related to expropriate others and social preference in the decision-making process, similar to the findings of Croson et al. (2003) and Gneezy (2005). Possibly, some people who were 'fair' in T20 would have switched to weak form of opportunism in T30. It appears that slighter forms of opportunism can promote a change in the behavior from fair to a weak form of expropriation and the amount offered in the game seems to be crucial in this process. It is possible that minor proportion of Proposers would remain fair regardless of the financial incentive. We found Proposers being somewhere in the middle of the selfish-altruistic spectrum and this decision is hugely context-dependent. This finding has not been reported on previous studies on this topic. More opportunistic behavior is expected in the presence of incomplete information but it seems that most players do not have either infinite or zero cost of lying, but will always prefer to find a balance between these two extremes positions, corroborating Mazar et al. (2008)

This study showed that, different from what is expected from the Nash equilibrium perspective, people's positioning regarding opportunism is not stable or solely based on strict internal rules but is hugely dependent on the context since the degrees of opportunism and the size of prizes available may vary. If someone decides to be fair when two alternatives of opportunistic behavior are proposed (be fair or be selfish), in another context with greater reward, the same person would surrender being fair accepting some degree of opportunism. This study may also shed light in deceptive practices in organizations. For instance, incentives to engage in weaker forms of opportunism by committing frauds in smaller scale may still persist as the likelihood of being neither completely selfish nor completely altruistic increases. The relevance of the context showed strengthened by the decision-making process. Finally, it is important to bear in mind that experimental research conducted in the laboratory cannot be understood as simulations of reality, but are dedicated to pointing out the decision-making process in its cognitive aspects and how these react to the manipulation proposed by the experiment. Although students are the most present social group in this type of study, which allows comparability, it is important to remember that they are not representative of the population as a whole and the results described here deserve caution. In addition, laboratory experiments based on game theory, although widely used abroad, are a relatively new methodological tool in Brazil, and this type of study includes our country in the literature on the subject.

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