Doctoral School of Sociology

THESIS SYNOPSIS

of the Ph.D. thesis written by

Attila Gulyás

entitled

‘A friendly offer – fairness and social embeddedness’

Supervisors:

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Director

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A disszertáció a TÁMOP-4.2.1.B-09/1/KMR-2010-0005 azonosítójú projektje Hatékony állam, szakértő közigazgatás, regionális fejlesztések a versenyképes társadalomért címet viselő alprojektjének kutatási tevékenysége eredményeként készült.

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A projekt az Európai Unió támogatásával, az Európai Szociális Alap társfinanszírozásával valósul meg.

1. Introduction

According to one of the most important approach of economics, people are driven by self-interest; this actor model is known as *homo economicus* (Mill 1836; Persky 1995). People are motivated to maximize their gain regardless of others' interests. Numerous models of classical economics assuming pure self-interest – mainly models of competitive markets – have been proved already.

This thesis focuses on an other-regarding behaviour type: fairness. Fairness means altruism and reciprocity mainly guided by our norms. Sharing our goods without future benefit can be considered as an altruistic act (Fehr and Fischbacher 2003; Khalil 2004), while reciprocity means the sanctioning of being treated badly and rewarding good treatment (Fehr and Gächter 2000a, 2000b; Bolton and Zwick 1995; Bowles and Gintis 2003; Berger 2011).

Considering the well-being of others is the background motivation of these behaviour types. Assuming pure self-interest, both of them are irrational.

Such behaviour patterns emerging in social interactions can be researched by using the tools of experimental economics (Camerer 2003). These interactions take place always in an embedded environment. The very same norms dictate different behaviour in different interactions – versus different people.

Due to the strict rules of experimental economics the investigation of the effect of different social ties is quite constrained, or in some

cases completely impossible. This introduced inaccuracy, since social ties indeed play an important role in social interaction – just as it had been shown in various studies about family ties (Peters et al. 2004; Haan, Kooreman, and Riemersma 2006; Madsen et al. 2007; Ben-Ner and Kramer 2011; Vollan 2011).

The main research question of my thesis is the investigation of fairness and embeddedness using tools of experimental economics. I introduce a novel approach, which enables the investigation of the interaction between fairness and embeddedness using dictator and ultimatum games.

Also I created an analytical utility model, which describes fairness considering embeddedness. The basic assumption of the introduced model is that 'fair behaviour' has different meanings in different relationships; and that these motivate more in stronger relationships.

Namely if there's a strong relationship between two people, then according to the model they seek equality and this is a very string motivation for them. In weaker relationships people consider even less 'equal behaviour' fair – and over a certain point fairness norms people are not motivated to be fair at all.

The relationship between people is described by a single number in the model. I introduce a method in this thesis and attempt to test if relationships between humans are 'quantifiable'. The suggested quantification is based on the fairness exhibited in social interactions. Social network analysis describes relationships with either objective or subjective measures. The introduced model is means progress in this

aspect, as the suggested measure contains both objective and subjective components.

It is objective, because it may be explicitly measured with experimental method, yet it remains subjective, because the experimental subject do not explicitly 'tell it', but it is deducted from the subject's behaviour – from the 'subjectively' selected norms.

I have formulated research hypotheses about the relationship of fairness and friendship and tested them on a small sample (64 subjects) with experimental games using a high number of experiments (~1600 game rounds in total). Due to the sampling constraints the use of the results for testing hypotheses is limited (so they're not suitable for the in depth analysis of the model), but are adequate for initial evaluation.

2. Methodology

In this research I applied ultimatum and dictator games (Güth, Schmittberger, and Schwarze 1982; Forsythe et al. 1994) to test the research hypotheses (see later). Both games are two person games, but I used three person variants as well. Such variants have already been used in earlier research (Oppewal and Tougareva 1992; Kagel and Wolfe 2001), but the applied games differ from these variants.

Simply put: the ultimatum game can be considered as a single-turn bargain (offer from one of the players of a split of a given amount of goods, acceptance/refusal from the other player – thus the ultimatum game is often referred to as 'bargaining' -improperly); the dictator

game is about voluntary sharing (a player decides on a split on his own).

Anonymity played a key role in both games, as revealing the identity of the players triggers other norms as well and it also means the continuation of the game in real life. However in the research of human relationships, anonymity is an impenetrable obstacle.

Thus I introduce the ‘one-sided anonymity’ in my research, which means that the identity of the Responder is revealed to the Proposer. So offers are given by the Proposer considering the identity of the Responder, but the Responder does not have such considerations when making a decision.

So, one-sided anonymity really enables investigating the effect of relationship in these games. In the three-player variant one-sided retaining anonymity also enables the investigation of other behaviour types, but I do not discuss these types in my thesis.

In the three player dictator game one-sided anonymity means including another Responder, but in the ultimatum game the third player’s role is completely different. This player is completely passive in this game. The Proposer proposes a split of goods in three parts, but only one of the other players has the right to decide on the acceptance/refusal of the offer. that player can be considered as the Responder, while the third player is merely ‘spectating’.

The experiments in my research was conducted with groups of 6 (11 groups, 2 subjects participating in two groups) consisting of 4 friends and 2 strangers (both to each other and the group). The subjects were paired (or grouped in triads) randomly and also the game type was

selected randomly. The length of one experimental sessions was also random between 50-80 rounds. Thus the game was sequential, but the game length was unknown thus decreasing distortion. Subjects received payoffs at the end of the experimental sessions based on their performance in the experiment (the average of randomly selected rounds).

Surveys were given before and after the experimental sessions. The pre-experimental survey was used to map the relationship between the experimental group members. The post-experimental survey concentrated on the experiences during the experiment and about the demographic background of players.

During the planning of the experimental games I attempted to correct for the most distortions, and due to that the application of one-sided anonymity did not present a problem (no subjects indicated that the experiment was perceived as unfair). Thus I could use the results to evaluate the research hypotheses without constraints (considering sample size of course).

3. Hypotheses and results

I formulated hypotheses in my thesis describing friendship and fairness. They were intentionally formulated taking into account the possibilities of the applied methods (experiments), since it largely improved its testability.

Friendship and two player dictator and ultimatum games

H1. The behaviour in bargaining and sharing situations is influenced by the strength of the tie between the actors. Thus if an actor has a friendship tie towards the other one, then in a DG he will likely give a non-zero to the other actor. If there's no relationship between the players in the dictator game, then zero offers and unfair offers will be observed. In the ultimatum game the same trend is expected – as the stronger the tie, the closer the maximum of the IFN model gets to the equal split.

This hypothesis can be divided to two sub-hypotheses.

We can find strong (also statistically significant) difference in the experimental results between friends or strangers playing. Friends gave usually higher offers, but equal voluntary splitting was not uncommon even when strangers were playing. The same trend was observed in ultimatum games in case of friends and strangers, and stronger friendship also meant higher offers.

In this sense the results presented in this thesis are niche, compared to earlier studies in this field.

Differentiation among friends

H2. When playing three-person dictator games (two Responders) with Proposer anonymity the Proposers will give a different offer to the Responders. The difference depends on the reported (or determined by earlier results) tie strengths according to the predictions of the IFN models.

This hypothesis means that in different situations we behave differently with our close friends and strangers. The experimental results support this hypothesis as well, meaning that the relationship reported in the pre-experimental survey were reflected in the behaviour exhibited in three player games. We perceive equality as fair when interacting close friends, and inequality may also be perceived as fair if interacting others; when interacting a close friend and an acquaintance at the same, then the close friend is favoured manifesting the relationships in behaviour.

General attitudes towards fairness

H3. Those Proposers who give higher DG offers in general, refuse higher offers when playing the role of the Responder in UGs, Proposers giving low DG offers tend to accept lower UG offers as well.

This hypothesis formulates a statement not investigated previously in earlier studies, since it describes the connection between individual behaviour and expectation towards others. This practically means, that people have 'general attitudes' towards fairness, meaning that some are more 'sensitive' to fair behaviour, while others are not.

The experimental results support this for two player games, but due to the low sample size this hypothesis could not have been tested for three player games.

Punishing friends to help strangers

H4. In a three person ultimatum game the Responders are willing to punish even if they're substantially better off than the Passive player. They will do so even if they may think that one of their friends has given

such an offer. Thus they punish their friends when they treat strangers (playing as Passive players in the 3 person UG) highly unfairly.

According to this hypothesis the expectations towards fairness are 'universal', so unfairness is punished depending on the relationship as well. The source of this hypothesis may be deducted analytically from the model introduced.

Unfortunately the low sample size did not allow the statistical test of this hypothesis, but data shows that in three player ultimatum games the Responder cares for his own payoff, disregarding the Passive player's well-being. In games where the Responder was offered less than the Passive player, refusal was observed without exceptions. In other case, when the offer favoured the Responder, the offers were usually accepted.

This hypothesis has been falsified by experimental data – although we have to note that it was not investigated statistically.

4. Conclusions

This thesis focuses on friendship and fairness. Fairness has been investigated in anonymous situations so far, and the methodology I propose in this thesis present advancement to the currently used methods. The following conclusions can be drawn from the analysis of the results:

- Results of simple sharing situations clearly show that people act more fairly with friends than with strangers.

- The extent of fairness is related to the level of friendship: the experimental results have shown that friends prefer to give more equal offers compared to weaker ties.
- We favour our friends in *n* person interactions: I have shown that in three player interactions if the ties to the other two players are different, than the difference is reflected in the actions
- There's a relationship between the fair behaviour and the expectations of others' fairness: I have shown that fair people have higher expectations towards other in terms of fairness.

All these conclusions are logical considering basic human nature, but it is vital to note that they could not have been researched with experimental tools so far. So this research can be considered as niche.

Besides the experimental aspects, I have formulated an analytical model of fairness considering earlier models. The introduced model differs from these models in the sense that it describes fair behaviour, but it focuses on embeddedness (social ties) as well.

In this thesis I introduce a methodology which is capable of describing the manifestation of social relationships through action. Thus is describes the strength of a tie from a novel perspective.

In terms of experimental economics I use a radically different method which enables including embeddedness in research so that it has the list distortive effects.

Summing it: despite that my research hypotheses describe the relationship of social phenomena (embeddedness and fair behaviour), my thesis presents novelty in three areas: I have produced an analytic

model describing fairness and embeddedness; I proposed a new method in experimental economics and using this method I have demonstrated the relationship between fairness and embeddedness.

Low sample size (and large sample cost) presented a real constraint in this research , but new research aiming to explore fairness deeper may be based on the methods and results introduced in this thesis facilitating the development of experimental economics.

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