CBESS Discussion Paper 14-07

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complexity aversion, complexity preferences, risk preferences, mixture models, learning

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Stake Size and the Power of Focal Points in Coordination Games: Experimental Evidence

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July 2014

Abstract

We collect data from symmetric and asymmetric coordination games with a focal point and vary the stake size. The data show that in symmetric games coordination on the label-salient strategy increases with stake size. By contrast, in asymmetric games the coordination rates do not vary with stake size and are close to the levels predicted by both the mixed Nash equilibrium and the level-k model used by Crawford, Gneezy, and Rottenstreich (2008). These findings suggest that players' mode of reasoning, and the extent to which it can be explained by team reasoning or a level-k model, crucially depends on the symmetry or asymmetry of the coordination payoffs.

Keywords: Coordination, labels, focal point, stake size, payoff asymmetry.

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1. Introduction

The experimental literature on focal points (Schelling 1960) in pure and asymmetric one-shot simultaneous-move coordination games have found that payoff asymmetries weaken the power of focal points to serve as a coordination device. This is especially the case for focal points based on purely contextual aspects such as the game's "labels" – see Crawford,

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Gneezy, and Rottenstreich (2008), Isoni, Poulsen, Sugden, and Tsutsui (2014), Poulsen, Poulsen, and Tsutsui (2013), and Crawford, Costa-Gomes, and Iriberri (2013).

In this paper we investigate the hypothesis that the amount of money at stake (the stake size) might play an important role for the power of label-based focal points in these types of coordination games. Our intuition is quite simple: Suppose the monetary gains from successful coordination increase. This might make subjects more likely to engage in a focal-point (or team-based; see Sugden (1993)) mode of thinking, and hence more likely to choose the focal equilibrium. High stakes might "sharpen" players' minds, making them think harder about how they can coordinate, and hence be more likely to appreciate the usefulness of relying on the focal aspect to help the players to coordinate.

We test the hypothesis that stake size matters for the power of focal points by varying the stakes in coordination games with focal points similar to those used in Crawford, Gneezy, and Rottenstreich (2008), henceforth CGR. Our games had two strategies, labeled "A" and "B". We hypothesized that choosing A would be more salient than B. We independently vary the stake size and whether the game is symmetric or asymmetric. This allows us to cleanly measure the effects of payoff asymmetry on behaviour for a given stake size (low or high stakes), and the effect of changing the stake size on the power of the focal point for a given payoff structure (symmetric or asymmetric payoffs).

While there is a sizeable literature on stake size effects in economic experiments,[3] we believe that we are the first to examine the effects of stake sizes on the power of focal points in symmetric and asymmetric coordination games.

We vary stake size as follows. In the symmetric game with low stakes, players 1 and 2 each receive 5 British pounds[4] (£5) from successful coordination, and zero otherwise. In the symmetric high-stakes game, all payoffs are multiplied by three, such that coordination gives each player £15. In the asymmetric game with low stakes, successful coordination gives either (£5, £6) or (£6, £5) to players 1 and 2 respectively. In the high-stake game all coordination payoffs are again three times as high, i.e., (£15, £18) and (£18, £15).

We observe that increasing the stakes in symmetric games increases the power of the focal point: coordination on the focal equilibrium increases significantly when stakes go up. In asymmetric games, on the other hand, increasing the stakes does not make the focal point more salient and there is no impact on the coordination rate.

[3] For an extensive survey please see Camerer and Hogarth (1999).
[4] At the time of the experiment £5=$7.60.

In symmetric games increasing the stake size thus makes the game's labels more salient, while payoff asymmetry reduces the salience of the label-based focal point significantly, no matter how much is at stake. One interpretation is that the presence of payoff asymmetries causes players to reason in a more individualistic, and less team-based, manner (see also the discussion in CGR, and Faillo, Smerilli, and Sugden (2013)). Players are less likely to notice the game's labels, and/or they lose faith that the other player will notice and act on them. Future research should seek to disentangle these explanations.[5]

Our findings are consistent with those from CGR who find that payoff asymmetries significantly weaken the power of focal points. Our results extend their findings by showing that the power of focal points vanishes when payoff asymmetries are introduced, even when the stake size is increased significantly.[6]

The rest of the paper is organized as follows: In Section 2 we briefly describe the related literature. In Section 3 we describe the experimental design. Section 4 presents the results, which are then discussed in Section 5. Section 6 concludes.

2. Related Literature

Game theory predicts that changing a game's payoffs, by multiplying all the payoffs by a positive number or adding/subtracting a constant from all payoffs, will not affect players' equilibrium behaviour. However, the experimental evidence on this prediction is mixed, as shown in Camerer and Hogarth (1999), who provide a very extensive literature survey on the effect of stake sizes in a large variety of games. In some games players' choices are not affected by the fact that payoffs are scaled up or down. In other games, however, Camerer and Hogarth (1999) note that players' behaviours are different when the payoffs are higher. In particular, in experiments where an increase in subjects' effort has the potential of increasing performance, they note that a positive effect is often observed.

Feltovich (2011) and Feltovich, Iwasaki, and Oda (2012) study the effect of varying payoffs in Hawk Dove and Stag-Hunt games in order to investigate whether loss aversion is a robust empirical phenomenon. They find evidence that when payoffs are negative, subjects make very different strategic choices than when payoffs are positive, because subjects dislike losses more than they like making gains. These papers do not investigate the effect of stake sizes on

[5] Faillo, Smerilli, and Sugden (2013) is the first experiment to provide some hints about why players' strategic thinking switch between level-k and team reasoning.
[6] See also Isoni et al. (2013).

label-based focal points. Moreover, in our experiment subjects cannot make losses, so the focus of our paper is very different from these studies.[7]

3. Experimental Design

Participants made decisions in a one-shot simultaneous-move 2x2 coordination game.[8] In order to preserve the one-shot nature of the games, each subject only participated in one treatment (between-subject design) and played its game only once.[9]

In all the games each strategy was labelled with a letter: “A” and “B”. Although there is a wide variety of possible labels (e.g., letters, words, numbers, colours, or graphic patterns; see Bardsley, Mehta, Starmer, and Sugden (2010) and Hargreaves Heap, Rojo Arjona, and Sugden (2014)), using letters is advantageous because the choice is simple for participants to understand and transcends personal biases and interpretation that could be present with most other labels designed by the experimenters. The use of letters is similar to the experiments by CGR, where strategies were labelled as “X” and “Y”.

As in CGR we explore two types of payoff structures. The first is a pure coordination game, while the second is a “battle of the sexes” game. Following CGR we refer to the first as a “symmetric” and the second as an “asymmetric” game (see Table 1). Although in both types of coordination games there are two pure-strategy Nash equilibria (PSNE) and one mixed-strategy Nash equilibria (MSNE), the experimental literature has established that players use the label-based focal point to coordinate in the former game, thereby achieving coordination rates that are significantly higher than those predicted the MSNE (Schelling 1960; Mehta, Starmer, and Sugden 1994a; Bardsley et al. 2010; Crawford, Gneezy, and Rottenstreich 2008). On the other hand, CGR find that labels lose their coordination-enhancing power in asymmetric coordination games (see also Poulsen et al. (2013) and Isoni et al. (2014)).

[7] Other experiments have investigated the effects of stake sizes on players’ choices in Prisoners’ Dilemma games, ultimatum games, and trust games. The conclusions are once again mixed, with some studies confirming the game’s theoretic prediction and other studies showing that subjects’ behaviour is affected by stake sizes. See for example the papers by Clark and Sefton (2001), Darai and Grätz (2010), Cameron (1999), Carpenter, Verhoogen, and Burks (2005), and Kocher, Martinsson, and Visser (2008). Again, none of these studies considers the effect of stake sizes in coordination games with focal points.

[8] As in CGR we choose one-shot games because we wish to concentrate on the coordination power of the salient label and abstract away from other mechanisms that can aid coordination, such as repeated interaction (e.g., through learning, reputation building, and reciprocity).

[9] Although we could have used a within-subject design and not provide feedback on the outcomes until the end of the experiment, we choose not to because there would have been the possibility of introspection between choices and ordering effects, which we wanted to avoid.

Table 1: 2x2 coordination game

	P2	
P1	A	B
A	a_1,a_2	0,0
B	0,0	b_1,b_2

Symmetric game: a_1=a_2=b_1=b_2.

Asymmetric game: a_1=b_2<a_2=b_1

The low-stake payoffs were: (£5, £5) and (£5, £6), (£6, £5), depending on whether the game was symmetric or asymmetric. The high-stake payoffs were obtained by multiplying the low-stake payoffs by three, bringing them to (£15, £15), and (£15, £18), (£18, £15) respectively. The low-stake payoffs were in line with usual student lab rewards (between £2 and £8 for about 25 minutes of participation time), while the high-payoff games rewarded coordination with a payment that was about five times higher than the minimum wage for half an hour of work. These incentives were thus significant.

Table 2: Experimental treatments

		P2	
	P1	A	B
Symmetric Low (SL)	A	£5, £5	£0, £0
	B	£0, £0	£5, £5
Symmetric High (SH)	A	£15, £15	£0, £0
	B	£0, £0	£15, £15
Asymmetric Low (AL)	A	£5, £6	£0, £0
	B	£0, £0	£6, £5
Asymmetric High (AH)	A	£15, £18	£0, £0
	B	£0, £0	£18, £15

Summarizing, we apply a 2x2 between-subjects factorial design. Two independent variables are manipulated: payoff structure (Symmetric, Asymmetric) and stake size (Low, High). Consequently we ran four treatments: Symmetric Low (SL), Symmetric High (SH), Asymmetric Low (AL), and Asymmetric High (AH). Table 2 shows the coordination game payoff matrix for each treatment.

3. Experimental Procedures

A total of one hundred ninety-two students from University of East Anglia (Norwich, UK) participated in the study (average age=23 years; 108 females and 84 males). Participants were recruited using the online recruiting system ORSEE (Greiner 2004). On average a session lasted 25 minutes. We conducted a total of sixteen sessions (4 per treatment), which all took place in the Centre for Behavioural and Experimental Social Sciences (CBESS) Zicer lab facility.

For each treatment we recruited 48 subjects (24 pairs). The instructions explained that they would be randomly matched with another participant in the room and that all decisions would be anonymous (see Appendix 1). Half of the participants were assigned to the "Person 1" (P1) and the other half to the "Person 2" (P2) player role.

Each participant received a copy of the instructions (see Appendix 1), and an empty (white) envelope was placed on their desk. After the instructions had been read out, participants received a brown envelope containing two pieces of paper. Each piece of paper was labelled with a letter (A or B) and the monetary reward that each participant would get if he or she and the co-participant chose the same piece of paper. The instructions made it clear that if the two matched participants chose a different piece of paper they would receive only the participation fee (£2). Participants were informed that they had to take the two pieces of paper out of the brown envelope and put them on the desk in front of them. They then had to choose one of the two pieces of paper (A or B) and put it inside the white envelope, which later on would be collected by the experimenter.[10]

Participants were given as much time as they needed to make their decision. Once all participants had put the chosen piece of paper in the white envelope, one of the experimenters collected all the white envelopes. A demographics and feedback questionnaire was then administered using paper and pencil procedure (see Appendix 2).

[10] In half of the brown envelopes given to the participants, the paper with "A" was on top; in the other half, the one with "B" was on top. Subjects were required to take the two pieces of paper out of the brown envelope and put them on the desk themselves, in order to minimize the potential nuisance effects that could arise if the experimenters had already laid out the pieces of papers on the participants' desks. For example, in the later case, subjects might find it salient to choose the top or left piece of paper.

4. Results

Table 3 summarizes the results. In the symmetric games (SL and SH) Player 1 and Player 2's (P1 and P2) choices can be theoretically pooled since there is no difference between the two roles (i.e., for both players, coordinating on any of the two alternatives yields exactly the same payoff). We also show the expected coordination rate for each treatment, which measures the probability that two different participants selected at random from the set of participants choose the same strategy, i.e., it measures the expected frequency of coordination within a given treatment.[11] Finally, as a benchmark, we also report the expected coordination rate predicted by the Mixed Strategy Nash Equilibrium (MSNE) for each game.

Table 3: Results

	Symmetric Low (SL)	Symmetric High (SH)	Asymmetric Low (AL)	Asymmetric High (AH)
Payoffs for coordinating on "A"	£5, £5	£15, £15	£5, £6	£15, £18
Payoffs for coordinating on "B"	£5, £5	£15, £15	£6, £5	£18, £15
N	48 P1s and P2s	48 P1s and P2s	24 P1s 24 P2s	24 P1s 24 P2s
N(%) choosing "A"	40(83.3%) P1s and P2s	47(97.9%) P1s and P2s	12(50%) P1s 10(41.7%) P2s	11(45.8%) P1s 13(54.2%) P2s
Expected coordination rate	71.6%	95.8%	50.0%	49.7%
Mixed strategy equilibrium coordination rate	50.0%	50.0%	49.6%	49.6%

[11] For the symmetric games P1s and P2s are theoretically poolable; therefore for each label l_k (k=1, 2) let n_k be the numbers of participants (P1s and P2s) who choose l_k and let N be the total number of participants, then it follows that: ECR_{symm} = $\sum_{k=1}\left(\frac{n_k}{N}\right)\left[\frac{(n_k-1)}{(N-1)}\right]$ (see Mehta et al. (1994b, 663)). For the asymmetric games, the ECR is equal to the product of the proportions of players 1 and 2 that choose A plus the product of the proportions of players 1 and 2 that choose B; that is, $ECR_{assy} = \sum_{k=1}\left(\frac{i_k}{N}\right)\left[\frac{j_k}{N}\right]$ where i_k is the number of P1s who choose l_k, and j_k the number of P2s who choose l_k

4.1 Symmetric Games

In both low- and high-stake symmetric games (SL and SH), a significant majority of the subjects chose the letter "A" (83.3% and 97.9%, respectively). We can reject the hypothesis that they chose randomly between "A" and "B" (binomial test, $p<0.001$). In both treatments the expected coordination rates (ECRs) are significantly higher (71.6% in SL and 95.8% in SH) than the MSNE and random choice coordination rates (binomial test, $p<0.005$). Moreover, we find a statistically significant difference between the low- and the high-stake treatment. In the latter, a significantly higher number of subjects chose the strategy with the salient label "A" than in the low-stake treatment (chi2 test, $p<0.05$) and the resulting ECR is significantly higher in the high-stake treatment (chi2 test, $p<0.01$).

4.2 Asymmetric Games

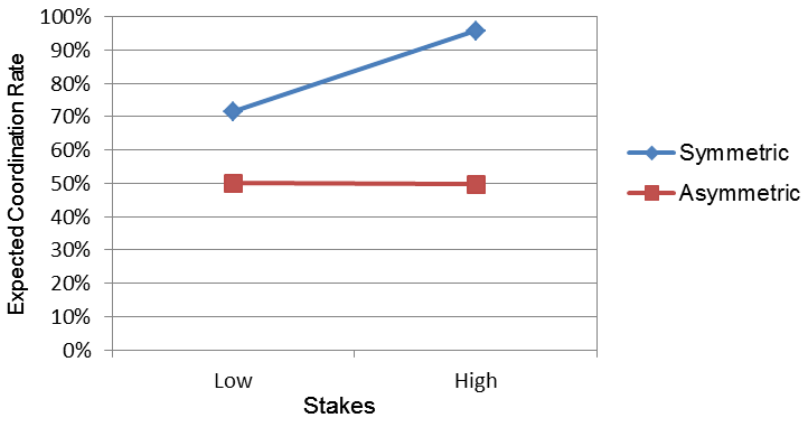
In the asymmetric treatments (AL and AH), however, the strategy "A" was not chosen with higher frequency than "B", not even by players 2 (P2s), for whom the payoff-salient strategy was "A" in both the low- and the high-stake treatment (41.7% and 54.2% of P2 only chose A in SL and SH respectively). In the two treatments the observed distributions of choices for both players are not significantly different from a binary random distribution (binomial test, $p>0.10$) and the ECRs are substantially lower than in the symmetric treatments and very close to both the MSNE and random-choice coordination rates.

We find no evidence of a change in the coordination pattern between low- and high-stakes treatments. Although a larger number of subjects chose their payoff preferred strategy in the high- than in the low-payoff treatment (54.2% vs. 45.8%), this difference is not statistically significant (chi2 test, $p > 0.10$).

4.2 Comparison between Symmetric and Asymmetric Games

The data show that a change in the payoff structure (symmetric versus asymmetric) affects the frequency of label-salient choices and coordination rates. If we compare the proportion of players who chose "A" in the asymmetric treatments (low and high) with their symmetric (low and high) treatment counterparts, we find that they are significantly lower (chi2 test, $p<0.001$, for both). Furthermore, the ECRs in the asymmetric (low and high) treatments are also significantly lower than the coordination rates in their symmetric (low and high) treatment counterparts (chi2 test, $p<0.10$ and $p<0.001$, respectively).

Figure 1: Expected coordination rates



4.4. Comparison with CGR

Our design is similar to the one used by CGR, who labelled the feasible strategies "X" and "Y". CGR find in their symmetric labelled ($5, $5) treatment that 76 percent of the players chose "X", giving an ECR of 64 percent. The percentages choosing "A" and the ECR in our symmetric A-B games are similar, 83.3 percent and 71.6 percent respectively. So the salience of "A" relative to "B" is similar to the salience of "X" relative to "Y". In their asymmetric ($5, $6) game coordination falls, since 78 percent of P1s chose X but only 28 percent of P2s chose X; the ECR is 46 percent. In our asymmetric low-payoff treatment the ECR is very similar, 50 percent.

The only difference between our low-payoff treatment and the strategically similar games in CGR is that in our experiment neither P1s nor P2s tend to systematically choose their preferred coordination strategy (AL (AH) 41.7% (50%) of P2s, and 48.3% (50%) of P1s chose "A"), while CGR find that players in the asymmetric game tend to choose their payoff preferred strategy: 61 percent of P2s, and only 33 percent of P1s, chose X.

5. Explaining the Data

In this section we consider the extent to which different theories can explain our main finding, that higher stakes increase coordination in symmetric but not asymmetric games.

5.1 The Mixed Strategy Nash Equilibrium

The MSNE predicts that an increase in stake size should have no effect on players' choices in equilibrium. Table 3 above shows that the MSNE clearly fails to organise our data for the symmetric games with both low and high payoffs. For the asymmetric games, however, the ECR is not statistically different from the ECR predicted by the MSNE.

5.2 Level-k Modelling

The level-k model (see, e.g., Crawford, Gneezy, and Rottenstreich (2008), Crawford, Costa-Gomes, and Iriberri (2013), Nagel (1995), and Stahl and Wilson (1995)) postulates that players have different level of strategic sophistication, and that players with a high level of strategic sophistication best reply to players with lower level of strategic sophistication.

CGR assume that the L1-players best respond to the L0-players, who only exist in the mind of the L1 players. It is assumed that L1-players assume that L0-players behave as follows: if there is a unique payoff-salient strategy (in the asymmetric games this would be A for player 2), then L0 chooses it with probability p, where $p>1/2$, and otherwise L0 chooses the other strategy with probability 1-p. If the game has two payoff-salient strategies, and one of them is label-salient (letter A in the symmetric games), then L0 chooses the label-salient strategy with some probability greater than one-half. In other words, L1 players assume that L0-players only use label-salient as a tiebreaker when faced with two payoff-salient strategies. L2-players best respond to L1-players. CGR assumes that the populations' proportions of L1- and L2- players are 0.7 and 0.3 respectively.

This level-k model predicts that there should be no effect of a change in stake size on behaviour in both the asymmetric and asymmetric games. The reason is straightforward: Since L0's behaviour is not affected by a change in stake size (the probability, p, does not depend on stake size), the same is true for L1 and L2's behaviour (see Appendix 3 for more details). This level-k model therefore also predicts that the games' ECR is not affected by a change in stake size. This level-k prediction is not consistent with the data for our symmetric game, where it was seen that an increase in stake size significantly raises the ECR; however, the data from the asymmetric games are in line with the level-k prediction, since the ECR in the high- and low-stake asymmetric games are very close. This indicates that this type of level-k reasoning[12] is used by players in asymmetric but not symmetric games.

5.3 Team Reasoning

[12] Of course it may be the case that using different assumptions than the ones used in CGR, for instance a different specification of L0, it could be possible to explain the effect of stake levels in the symmetric games.

Focal point–based or team reasoning (see Bacharach (2006), Bardsley et al. (2010), Schelling (1960), and Sugden (1993)) can be defined as each player trying to find a strategy that if used by both players would lead to an outcome that is better for each player than what they would get if they used a different decision rule. In our setting, team reasoning makes the recommendation that players should choose the label-salient strategy A in both the symmetric and asymmetric games.

A simple team-reasoning model predicts that stakes do not matter in either the symmetric or asymmetric games, i.e., the ECR should be 1. Hence it seems that none of the existing theory (the mixed Nash equilibrium, the level-k, or team reasoning) can explain the data in the symmetric games. However, what is clear from the data is that players' mode of reasoning is very different in the symmetric and the asymmetric games. In the asymmetric games, the ECRs are low, stakes do not matter, and players do not use label salience to coordinate. In the symmetric case, players use label salience to coordinate and coordination increases with stakes.

One possible explanation is that when the game is symmetric more players recognise the salience of A because there is no conflict of interest between their payoffs and their partners' payoffs. This makes players more likely to team reason. Moreover, when stakes are high we expect two-team reasoners[13] to be more, or certainly at least as likely, to find "A" salient than when stakes are low, since the foregone earnings from a failure to coordinate are higher in the former than in the latter case. Our data suggest that neither the level-k model by CGR, nor a very simple team reasoning approach, can account for all the data. Clearly, much more work is needed to explain why players' mode of reasoning switches between a level-k to a team-reasoning approach as payoffs switch from asymmetric to symmetric.

6. Conclusion

Does an increase in stake size affect players' ability to coordinate on a focal point? We collect data from symmetric and asymmetric games with a label salient focal point that differ in stake size. Our results show that when players have more at stake in symmetric games then coordination on the salient focal point increases significantly. But in asymmetric games, increasing the stakes has no effect on coordination. These findings show that players' mode of reasoning differs depending on whether the game is symmetric or asymmetric, as also

[13] We believe that if players are both team reasoners, they think about avoiding losses rather than maximizing their own payoffs. Hence when the stakes increase, potential losses become bigger. So intuitively, the probability that the two team reasoners coordinate when the stakes are higher should be at least as high as when stakes are low.

shown in Crawford, Gneezy, and Rottenstreich's (2008) study. The data for asymmetric games is consistent with CGR's level-k model, while our symmetric data seem to be generated more by a team reasoning–like mode of reasoning.

7. Appendices

7.1 Appendix 1: Experimental Instructions

During this experiment you will be randomly matched with another participant in the room. The two of you will play anonymously. That is, no one will learn whom they are matched with.

You and the participant you are matched with will be referred to as <u>Person 1</u> and <u>Person 2</u>.

You are Person________, and the participant you are matched with is Person_______.

You and the participant you are matched with will make a decision in a task that will be described shortly. How much you earn depends on your decision *and* on the decision of the other person. Your earnings will be paid to you in cash at the end of the experiment. In addition, you will receive £2 for taking part in the experiment.

Please do not turn this page over until you are instructed to do so by the experimenter.

The task:

Each of you will receive two envelopes, one brown and one white. The white envelope is already on your desk and is marked with the number of the desk where you are sitting. The brown envelope will be given to you by the experimenter.

Each brown envelope contains two pieces of paper. Each piece of paper has a letter and payoffs (money earnings) for Person 1 and Person 2 written on it. Your brown envelope has the same content as the brown envelopes given to all the other participants.

When you are instructed to do so by the experimenter, please open the brown envelope, take out the two pieces of paper, and put them on the desk in front of you.

You must choose one of the two pieces of paper.

If you and the person you are matched with choose the same piece of paper, then each of you will earn the corresponding payoffs written on that piece of paper.

If you choose different pieces of paper, then you both receive nothing (each person gets £0).

In other words, the only way for you and the other person to earn money is to choose the same piece of paper.

Once you have decided which piece of paper you want to choose, please put it inside the white envelope (the one with the desk number on it). Also, put the other piece of paper back in the brown envelope. The experimenter will then come and collect the white envelope.

7.2 Appendix 2: Feedback form

Your desk number: __________

FEEDBACK FORM

Gender (male M/female F): _________________

Age: _____________________

Your area of study: _________________________

Nationality: _________________________________

BA/BSc /MA/MSc/Ph.D/Other: _________________________

Please provide feedback here (on how you made your decision and any other aspect you believe is important):

7.3 Appendix 3: Level-k Analysis.

The analysis that follows is simply a repetition of the analysis in CGR. In what follows, we denote Player 1 as P1, and Player 2 as P2.

7.3.1 (£5, £6) Asymmetric Games.

As in CGR (2008) we assume that: P1 Type L0 (P1 L0) chooses "A" with probability 1-p<1/2, and "B" with probability p>1/2.

P2 Type L0 (P2 L0) chooses "A" with probability p>1/2, and "B" with probability (1-p<1/2).

P1 L1 gets expected payoff 5p when choosing "A", and expected payoff 6(1-p) from choosing "B". Therefore P1 L1 chooses "A" when 5p>6(1-p). In other words P1 L1 chooses "A" if p>6/11, and "B" if p<6/11. P2 L1 gets expected payoff 6(1-p) when choosing "A", and expected payoff 5p from choosing "B". Therefore P2 L1 chooses "A" when 6(1-p) >5p. In other words P2 L1 chooses "A" if p<6/11, and "B" if p>6/11.

P1 L2 players chooses "A" is p<6/11, and "B" if p>6/11, and P2 L2 chooses "A" is p>6/11, and "B" if p<6/11.

Aggregate choice proportions: Suppose p<6/11. Denote by *1-q*, the probability that P1 chooses "A", and the probability that he/she chooses "B" is *q*. When *q*=0.7 the choices probabilities are (0.3, 0.7). For P2, the probabilities that he/she chooses "A" is *q*, and that he/she chooses "B" is *1-q*, With *q*=0.7 this gives (0.7, 0.3). The ECR is thus 2*q*(1-*q*)=0.42.

When p>6/11, the P1 choice probabilities are (0.7, 0.3), and those for P2 are (0.3, 0.7). The ECR is thus 2*q*(1-*q*)=0.42.

7.3.2 (£15, £18) Asymmetric Games.

As in the low-payoff game, L0 players choose the payoff-salient strategy with probability p>1/2. In this game, coordination on "A" gives payoff £15 to P1 L0, and coordination on "B" gives payoff £18 to P1 L0. Therefore the payoff salient strategy for P1 L0 is "B". So P1 L0 chooses "A" with probability 1-p<1/2, and "B" with probability p>1/2.

Similarly, P2 L0 chooses "A" with probability p>1/2, and "B" with probability (1-p<1/2).

P1 L1 gets expected payoff 15p from choosing "A", and expected payoff 18(1-p) from choosing "B". Therefore P1 L1 chooses A when 15p>18(1-p). In other words P1 L1 chooses A if p>6/11, and B if p<6/11. These conditions are the same as in the asymmetric game with low payoffs. The behaviour of L1, and hence also L2, is therefore not sensitive to the stake size, and the same is true for the expected coordination rate (ECR).

8.3.3 (£5, £5) Symmetric Games.

In this game P1 L0 and P2 L0 choose "A" with probability p>1/2, and "B" with probability 1-p<1/2. It follows that P1 L1 and P2 L1, and hence also P1 L2 and P2 L2, choose "A", giving ECR=1.

8.3.4 (£15, £15) Symmetric Games.

Type L0 again choose "A" if p>1/2, and b otherwise. As above in this case all players choose "A" if p>1/2, and otherwise choose "B". Thus the behaviour of all L1 and L2 players is the same as in the (£5, £5) game.

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