

Supplementary material accompanying “Efficiency gains from team-based coordination – Large-scale experimental evidence” (AER-MS 20081027)

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Supplement A) Experimental instructions

We provide a translation (from German) of the instructions for game WL-BASE in the teams-treatment and the individual treatment. After that we explain the changes that were necessary for the other treatments.

A1. WL-BASE – Teams-treatment

Welcome to the experiment. Please do not talk to other participants until the experiment is completely over. In case you have questions, please raise your hand and an experimenter will assist you.

Number of periods and decision-making units

- This experiment has **20 periods**.
- There will be **units of 15 participants each**. You will only interact with members of the unit to which you are assigned throughout the whole experiment. Neither during nor after the experiment will you be informed of the identities of other members in your unit.

Teams

- Within each unit there will be **teams of 3 subjects** each. That means that each unit will have **5 teams**. Teams will stay together for the entire experiment.
- Members of a given team will have to agree on a **single decision for the whole team**. To do so, members can exchange messages for 2 minutes through an instant messaging system at the bottom of their screens. As soon as you press “Return” after having written a message, it will be visible on the two other members’ screens. You are allowed to send any message you like, except for those revealing your identity and except for using abusive language.

If a team has agreed on a joint decision, each member has to enter this decision on his/her

screen. In case the three entries are not identical, a team can go back to use the instant messaging system to agree on a joint decision. Then team members can enter the team's decision a second time. Note that a team that does not manage to enter a joint decision at that stage will not get any payoff for the respective period. If one team within a unit fails to enter a joint decision of all three members, then this team will not be considered in the determination of the outcome for the other teams.

Sequence of actions within a period

- **Choosing a number**

Each team has to choose a single **number** from the set {1, 2, 3, 4, 5, 6, 7}. Teams have to decide independently of other teams. After all teams have entered their numbers, you will be informed about the smallest number chosen by any team in your unit (including your own team).

- **Period payoff**

Your payoff (in Talers) depends on your own number (i.e., the number of your team) and the smallest number chosen by any team within your unit. The **payoffs for each member** of a team are given in the following table.

Payoff table (for each team member)

Your number	Smallest number in unit						
	7	6	5	4	3	2	1
7	130	110	90	70	50	30	10
6		120	100	80	60	40	20
5			110	90	70	50	30
4				100	80	60	40
3					90	70	50
2						80	60
1							70

Total earnings

The earnings of each period are accumulated and exchanged at the end of the experiment as follows: **200 Taler = 1€** Each participant will receive his total earnings privately and confidentially. In addition to your earnings from the experiment, you will receive a **show-up fee of 2.50€**

A2. WL-BASE – Individuals-treatment

Welcome to the experiment. Please do not talk to other participants until the experiment is completely over. In case you have questions, please raise your hand and an experimenter will assist you.

Number of periods and decision-making units

- This experiment has **20 periods**.
- There will be **units of 5 participants each**. You will only interact with members of the unit to which you are assigned throughout the whole experiment. Neither during nor after the experiment will you be informed of the identities of other members in your unit.

Sequence of actions within a period

- **Choosing a number**

Each participant in a unit has to choose a single **number** from the set {1, 2, 3, 4, 5, 6, 7}.

Each participant decides independently of other members. After all participants have entered their numbers, you will be informed about the smallest number chosen by any participant in your unit (including your own number).

- **Period payoff**

Your payoff (in Talers) depends on your own number and the smallest number chosen by any participant within your unit. The **payoffs** of a participant are given in the following table.

Payoff table

Your number	Smallest number in unit						
	7	6	5	4	3	2	1
7	130	110	90	70	50	30	10
↓ 6		120	100	80	60	40	20
5			110	90	70	50	30
4				100	80	60	40
3					90	70	50
2						80	60
1							70

Total earnings

The earnings of each period are accumulated and exchanged at the end of the experiment as follows: **200 Taler = 1€** Each participant will receive his total earnings privately and

confidentially. In addition to your earnings from the experiment, you will receive a **show-up fee of 2.50€**

A3. Changes for other treatments

In **WL-RISK** we used as the payoff table Table 1 [B] from the manuscript.

In **AO-BASE** the paragraph on “Choosing a number” reads as follows in the team treatment (changes for the individuals treatment are analogous): *“Each team has to choose a single **number** from the set {1, 2, 3, 4, 5, 6, 7}. Teams have to decide independently of other teams. After all teams have entered their numbers, you will be informed about the median number chosen in your unit (including your own team). The median number is the third number when the 5 numbers submitted in your unit are ordered in ascending order.”*

The paragraph on “Period payoff” reads as follows: *“Your payoff (in Talers) depends on your own number (i.e., the number of your team) and the median number chosen by any team within your unit. The **payoffs for each member** of a team are given in the following table.”*

Then we presented Table 2 [A] from the manuscript as the relevant payoff table in **AO-BASE**.

In **AO-PAY** everything was explained as in **AO-BASE**, except that we used Table 2 [B] from the manuscript as the relevant payoff table in **AO-PAY**.

In **AO-RISK** everything was explained as in **AO-BASE**, except that we used Table 2 [C] from the manuscript as the relevant payoff table in **AO-RISK**.

In **SEPARATRIX** the paragraph on “Choosing a number” reads as follows in the team treatment (changes for the individuals treatment are analogous): *“Each team has to choose a single **number** from the set {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14}. Teams have to decide independently of other teams. After all teams have entered their numbers, you will be informed about the median number chosen in your unit (including your own team). The median number is the third number when the 5 numbers submitted in your unit are ordered in ascending order.”* The “Period payoff” was explained as in

AO-BASE, but we used Table 2 [D] from the manuscript as the relevant payoff table in **SEPARATRIX**. The exchange rate was set as **125 Taler = 1€**

In **LEADER** the second bullet point in “Teams” reads as follows (note there is no individuals treatment of LEADER):

Members of a given team will have to make a decision on a number. The final decision will be taken by member M1, though.

Before member M1 enters his/her final decision there are two stages:

Stage 1. Each team member is asked to indicate which number from the set {1, 2, 3, 4, 5, 6, 7} he/she would choose when making the decision him/herself. These numbers are not binding and will not be communicated to the other team members.

Stage 2. Team members can exchange messages for 2 minutes through an instant messaging system at the bottom of their screens. As soon as you press “Return” after having written a message, it will be visible on the two other members’ screens. You are allowed to send any message you like, except for those revealing your identity and except for using abusive language.

After stage 2 the member M1 will choose a number that is binding for the whole team and which will be called the team number.

The rest was explained as in **WL-BASE**, including the use of the same payoff table (i.e., Table 1 [A] in the manuscript).

In **VOTING** the second bullet point in “Teams” reads as follows (note there is no individuals treatment of VOTING):

Members of a given team will have to make a decision on a number. Before they do so, there are two stages:

Stage 1. Each team member is asked to indicate which number from the set {1, 2, 3, 4, 5, 6, 7} he/she would choose when making the decision him/herself. These numbers are not binding and will not be communicated to the other team members.

Stage 2. Team members can exchange messages for 2 minutes through an instant messaging system at the bottom of their screens. As soon as you press “Return” after having written a message, it will be visible on the two other members’ screens. You are allowed to send any message you like, except for those revealing your identity and except for using abusive language.

*After stage 2 each member enters his/her **individual** decision, i.e. a number from the set {1, 2, 3, 4, 5, 6, 7}. The 3 decisions within a team are then ordered in ascending order and the middle number (i.e. the **Median**) is determined as the team number.*

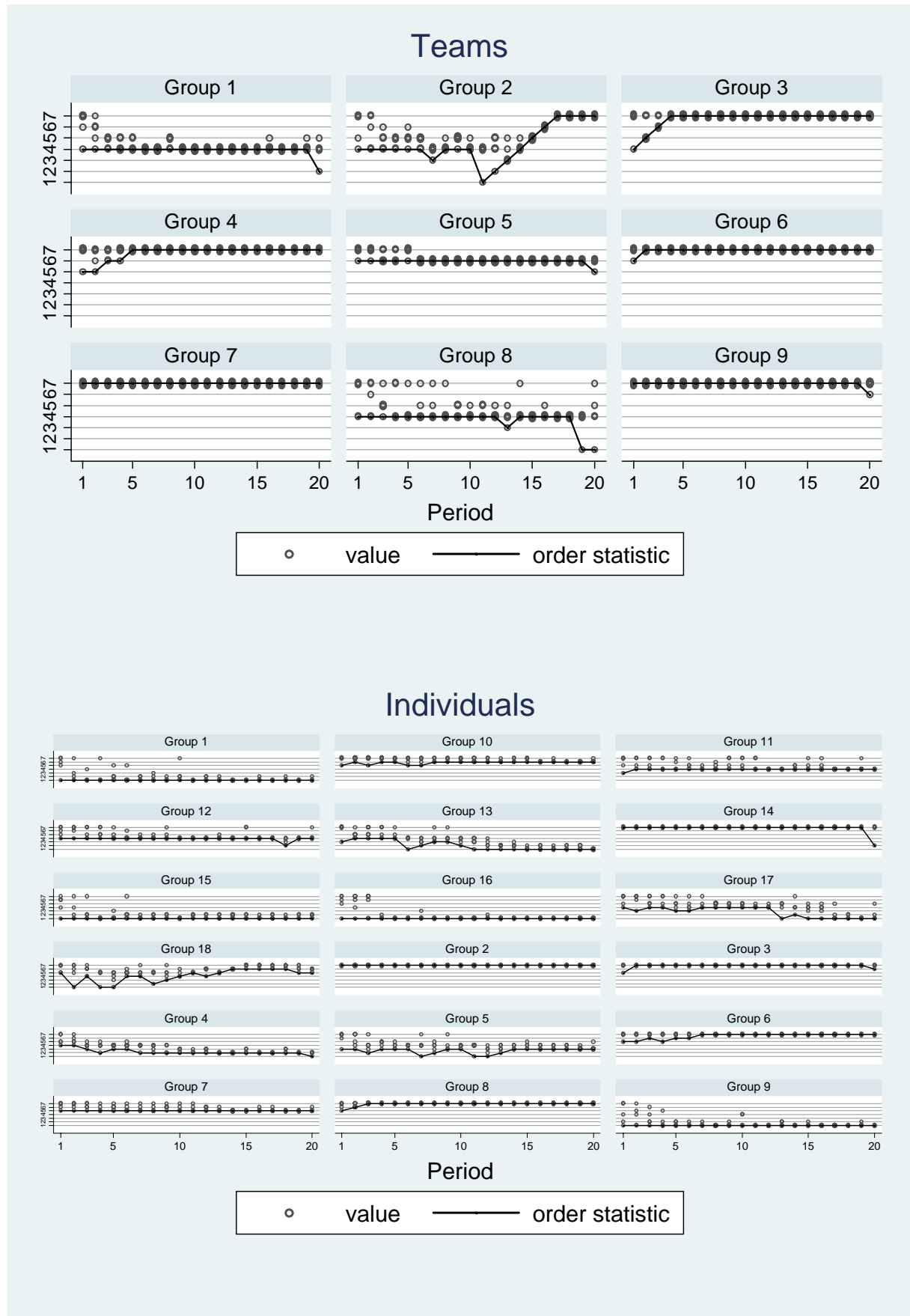
The rest was explained as in **WL-BASE**, including the use of the same payoff table (i.e., Table 1 [A] in the manuscript).

In **2x2-WL** it was explained in the team treatment that units included 6 participants and that within each unit there would be 2 teams with three members each. In the individuals treatment it was explained that 2 participants would be paired for the whole experiment. The decision making procedure was exactly explained as in the instructions for **WL-BASE**. The paragraph on “Choosing a number” reads as follows in the team treatment (changes for the individuals treatment are analogous): “*Each team has to choose a single **number** from the set {1, 2}. Teams have to decide independently of other teams.*” The period payoff was explained as in **WL-BASE** and as payoff table we used the one presented as Table 8 in the manuscript.

Supplement B) Graphical representation of Raw data

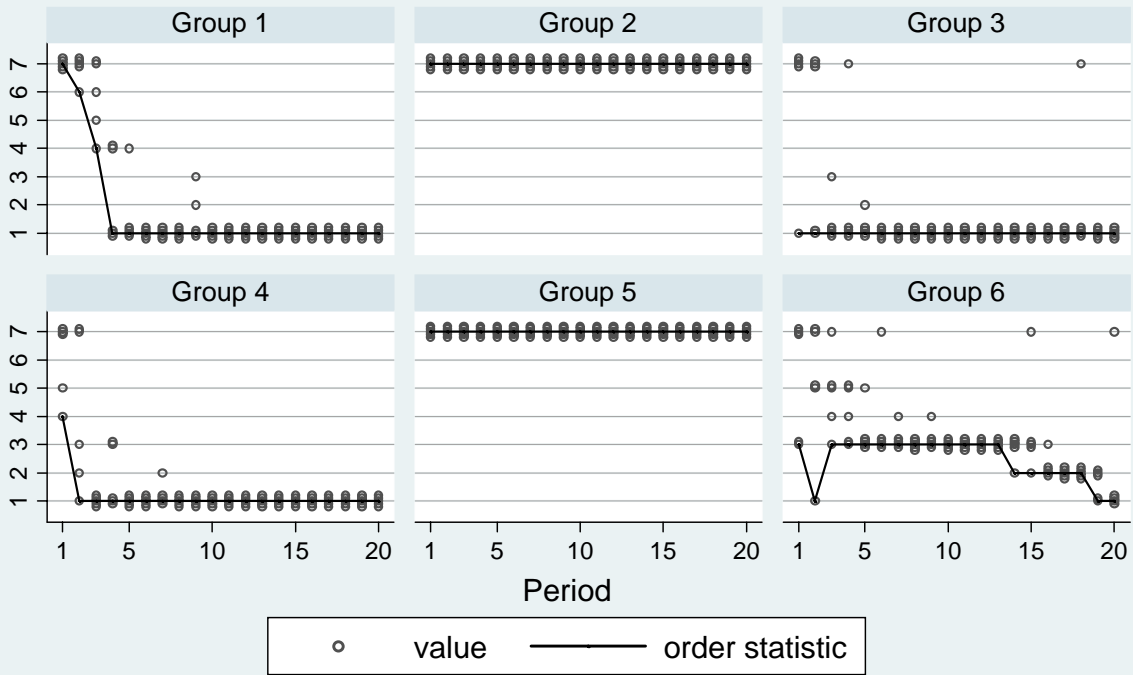
Multiple entries of a given number are indicated by jittering

WL-BASE

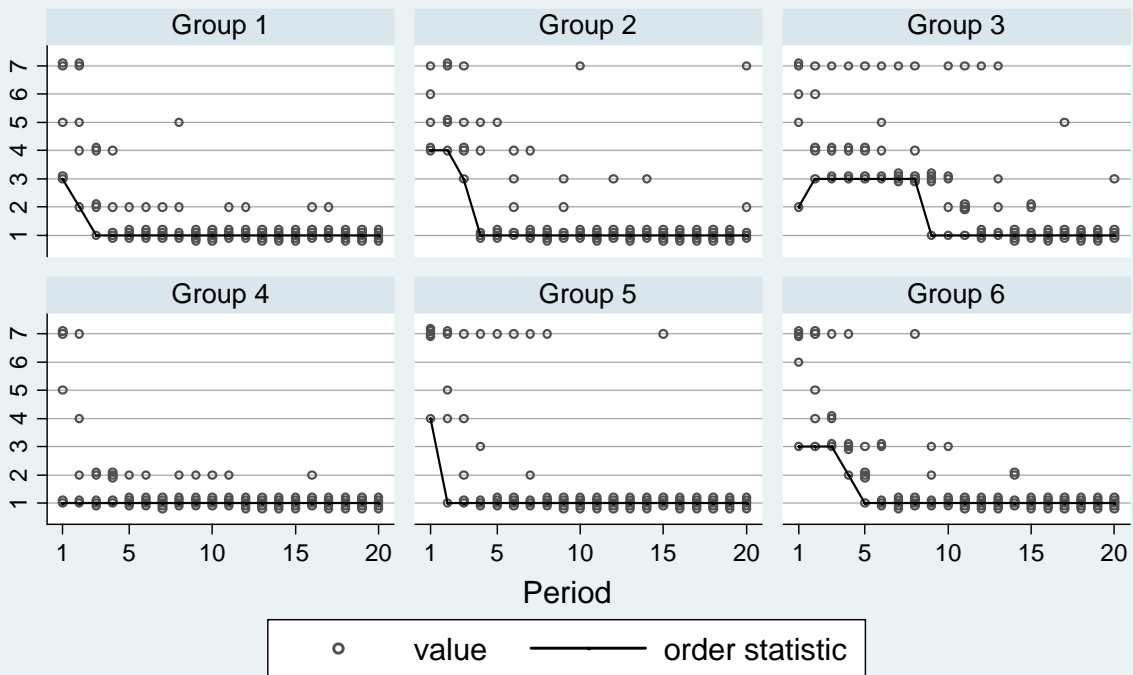


WL-RISK

Teams

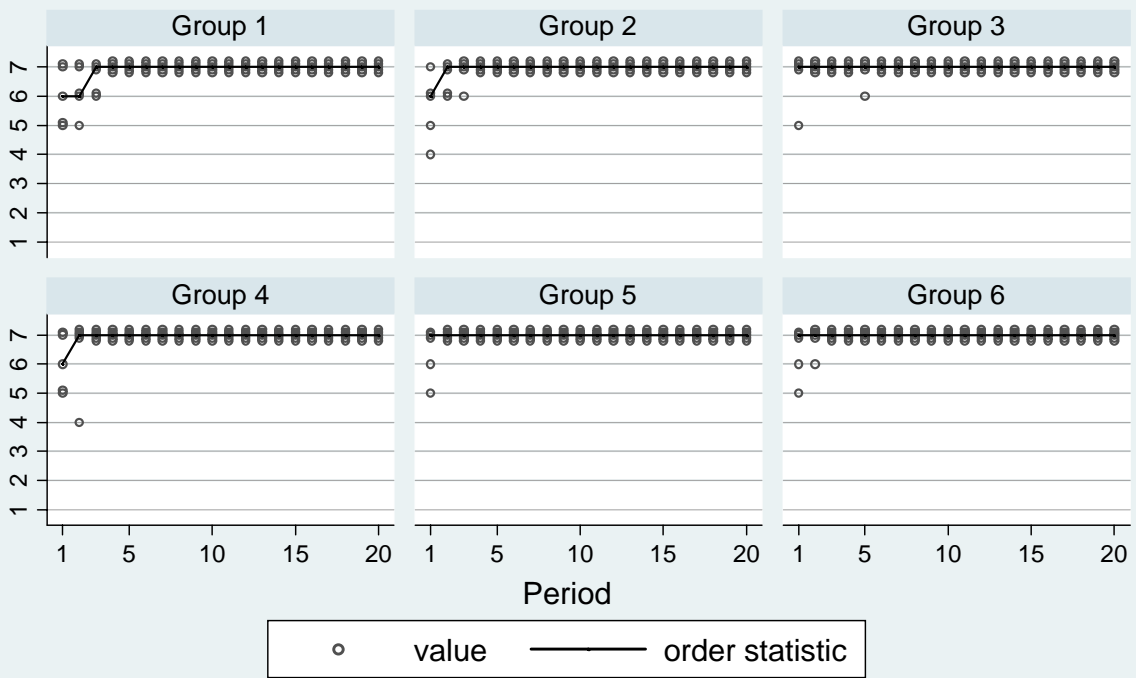


Individuals

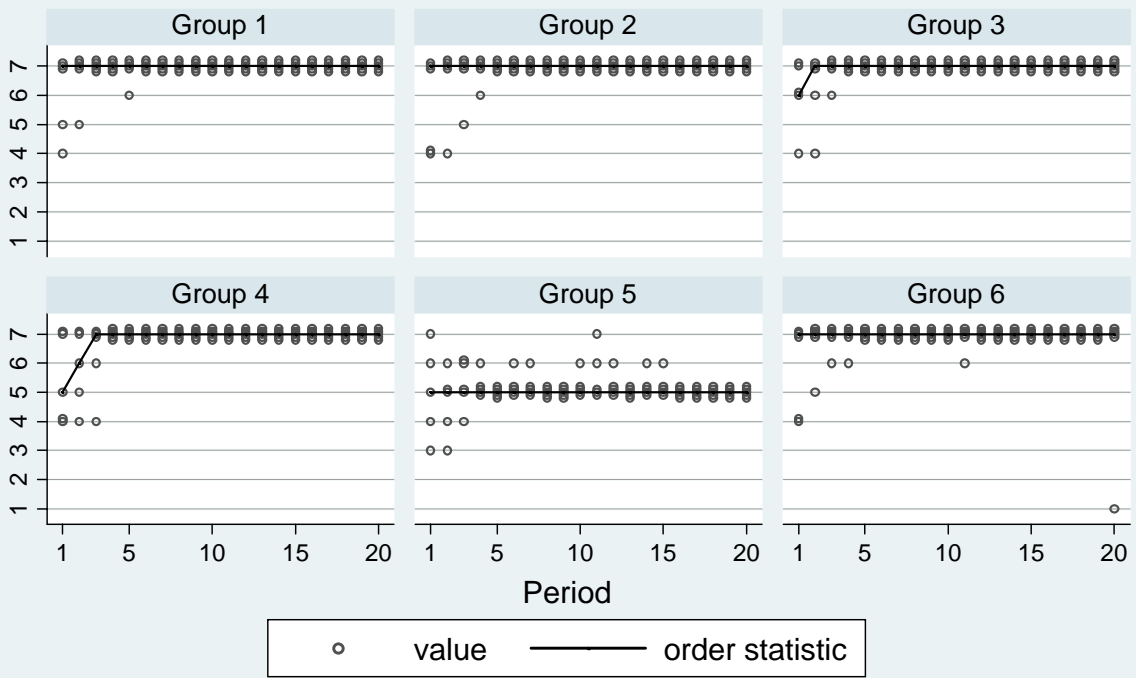


AO-BASE

Teams

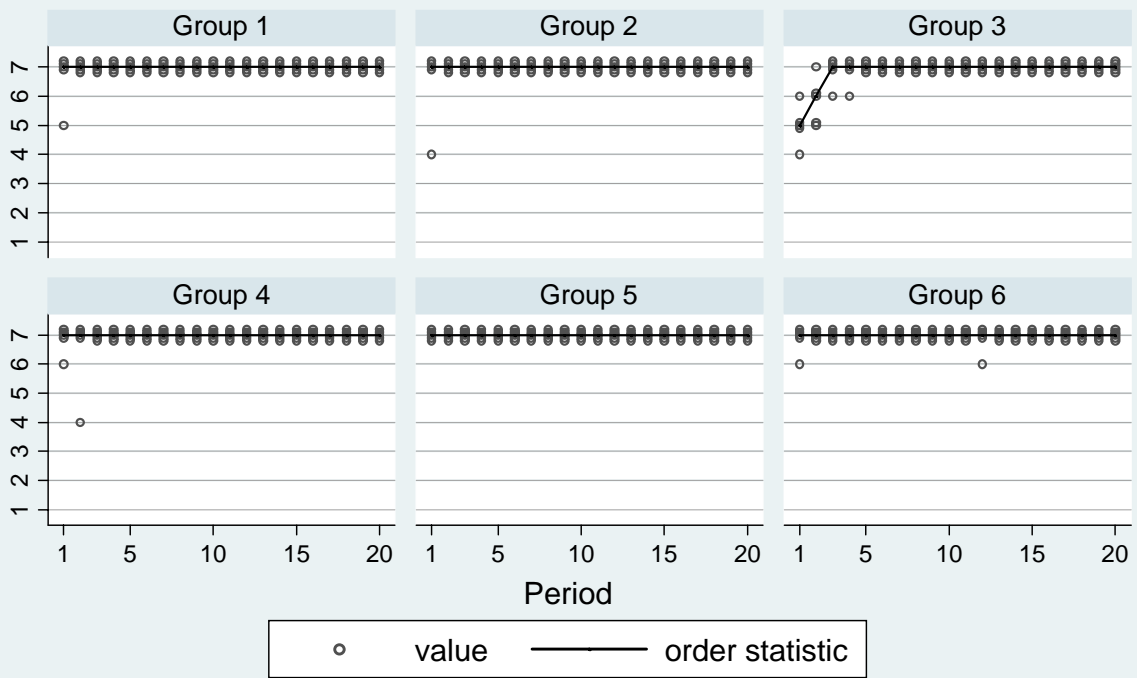


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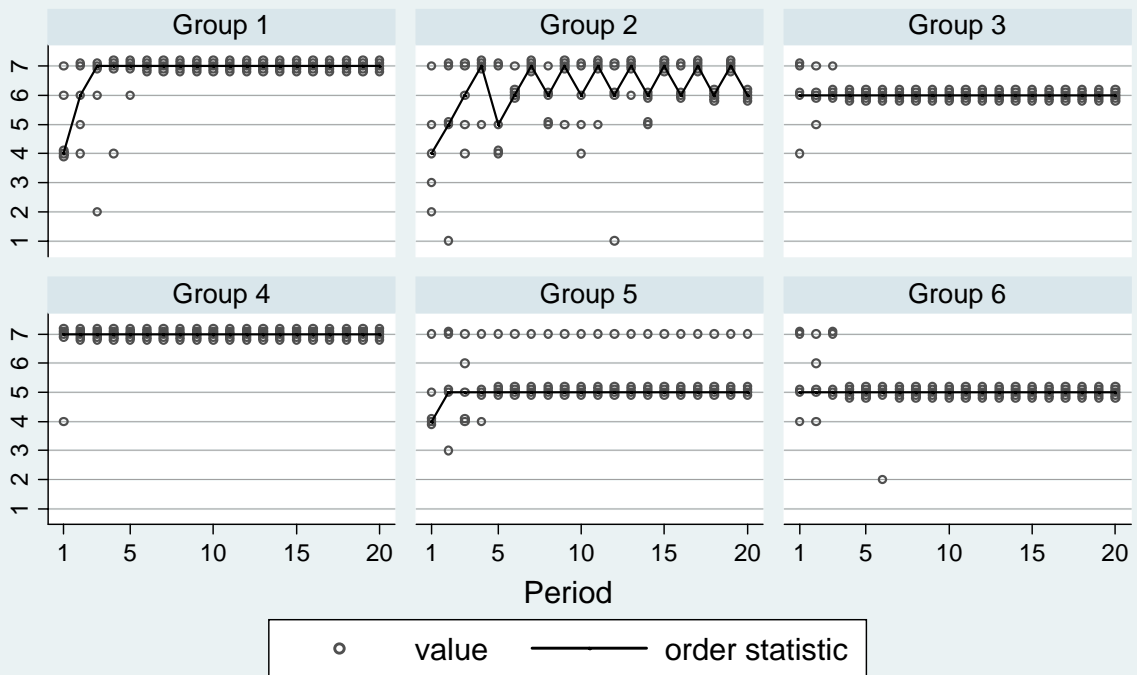


AO-PAY

Teams

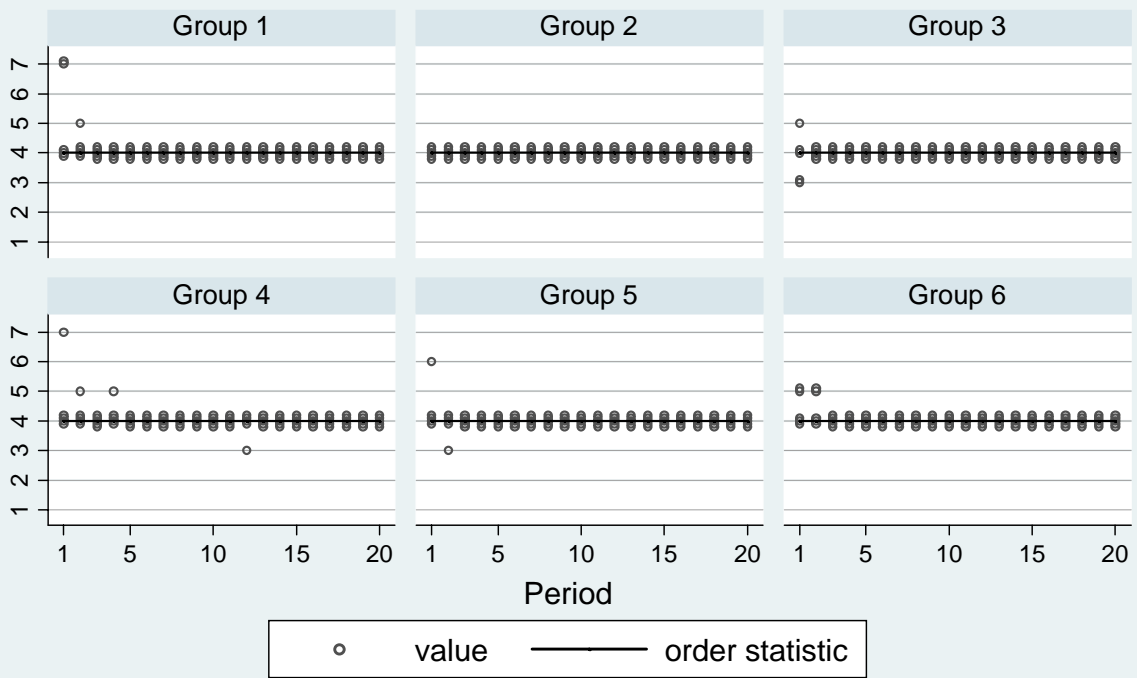


Individuals

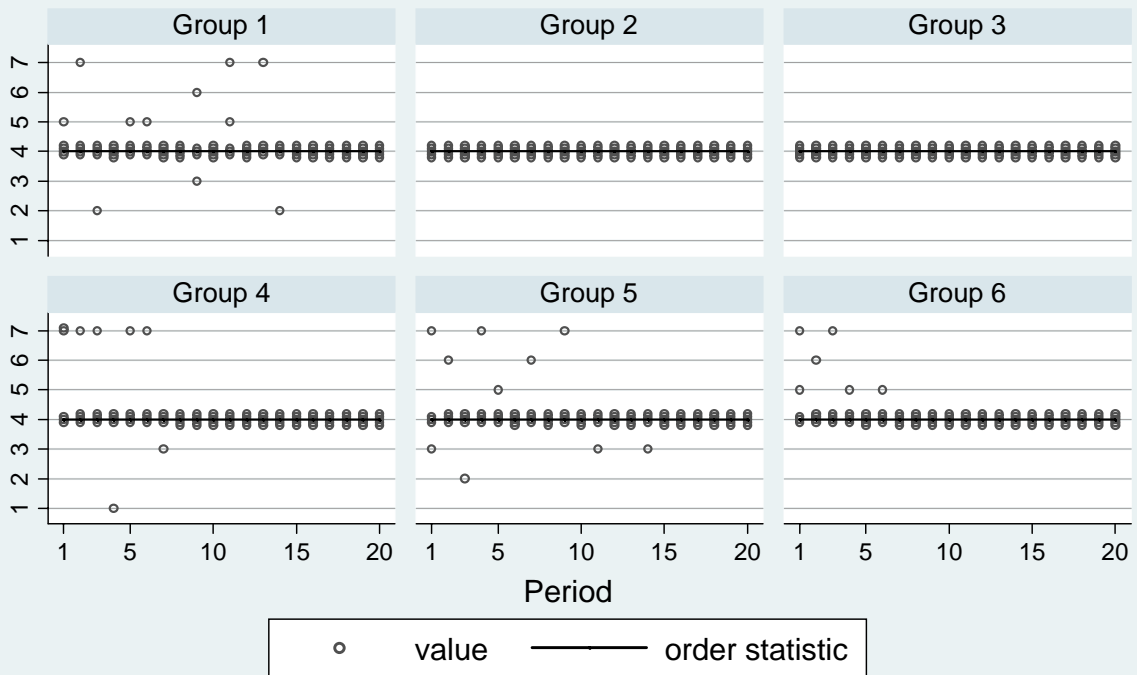


AO-RISK

Teams

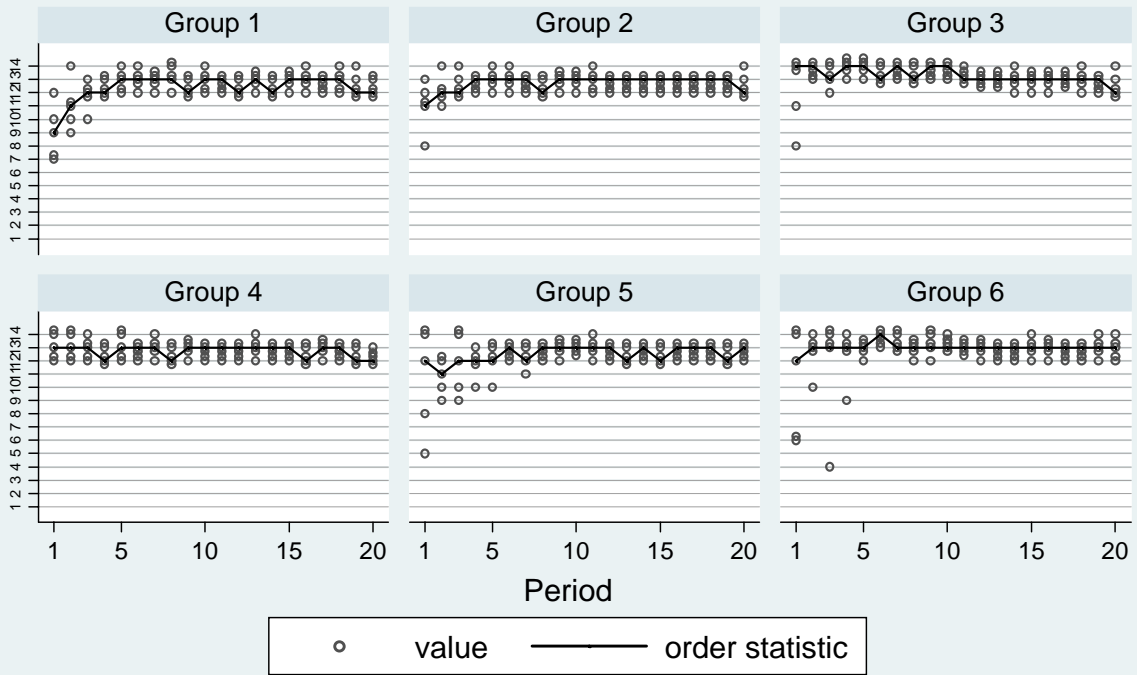


Individuals

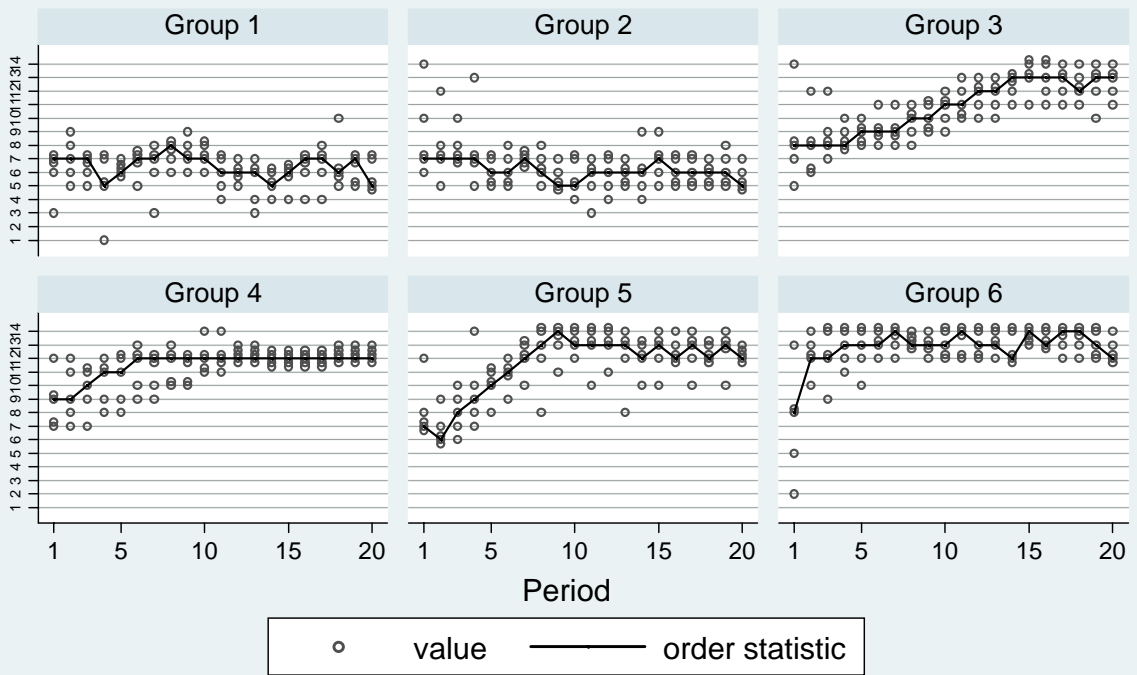


SEPARATRIX

Teams

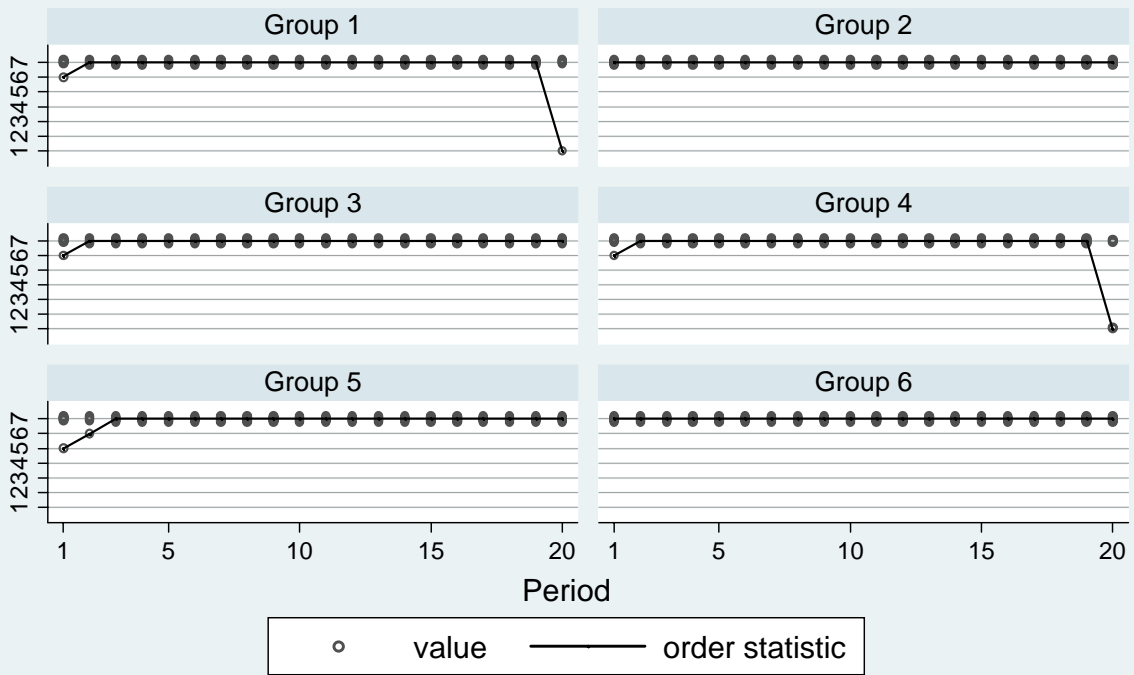


Individuals

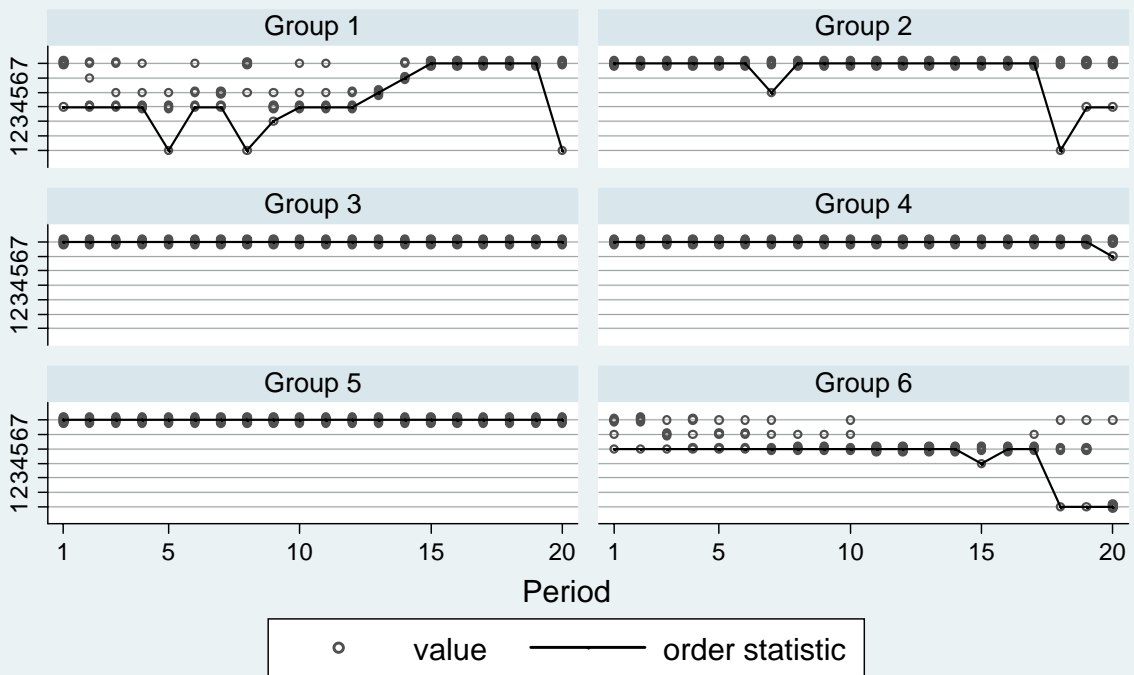


WL-BASE – Voting and Leader

Voting

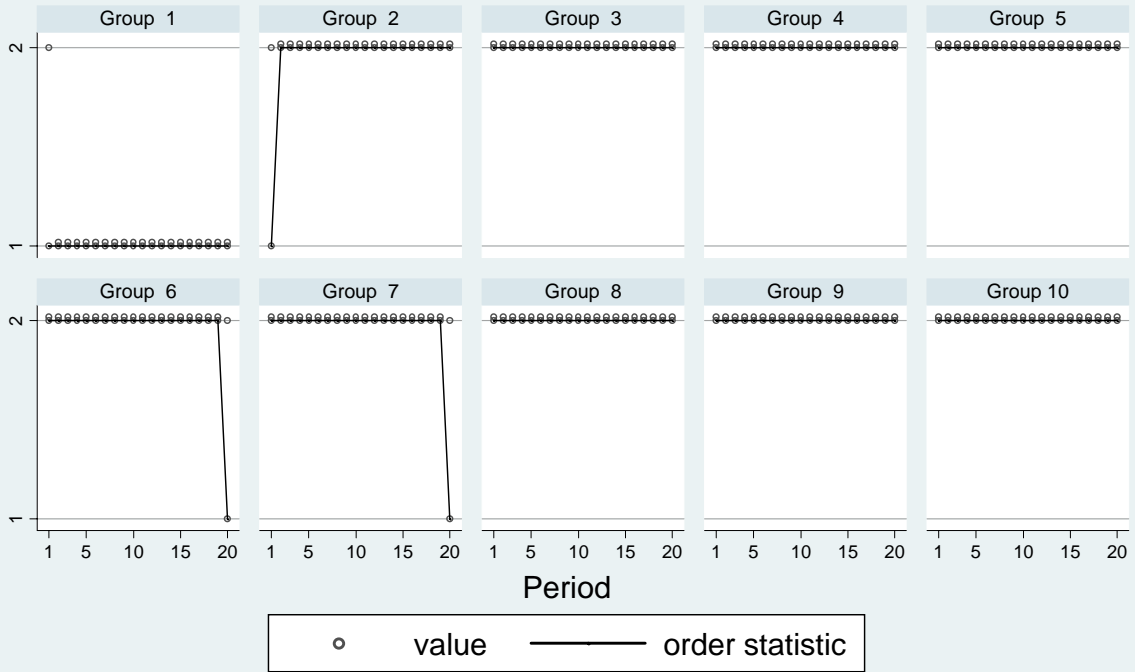


Leader



2x2 GAME

Teams



Individuals

