## **Institutional Authority and Collusion - Codebook**

Variable name	Variable	Description	Theoretical minimum	Theoretical maximum	Observed minimum	Observed maximum
	type		value	value	value	maximum value
Quantity	numeric	The quantity sold per firm in round t 1	0	100	0	100
lagged_quantity_1	numeric	The quantity sold per firm in round t-1 The quantity sold per firm in round t-1	0	100	0	100
Total_Quantity_1	numeric	The total quantity sold per market and round	0	200/400	10/12.4	124/266
group_quantity_ratio	numeric	Average Nash ratio (actual quantity / Nash quantity) per	U	200/400	10/12.4	124/200
		market and round	0	-	0.1515	0.359
players_2	dummy	1 if the market consists of 2 firms and 0 if the market consists of 4 firms	0	1	0	1
baseline	dummy	1 in the Baseline 2 and Baseline 4 treatments and 0 otherwise	0	1	0	1
ask	dummy	1 in the Authority 2 and Authority 4 treatments and 0 otherwise	0	1	0	1
ask_explain	dummy	1 in the Explaining Authority 2 and Explaining Authority 4		1	0	
ind ook	dummi	treatments and 0 otherwise	0	1	U	1
ind_ask	dummy	1 in the Private Authority 2 and Private Authority 4	0	1	0	1
less_than	dummi	treatments and 0 otherwise  1 in the Private Authority Less 2 and Private Authority Less	U	1	U	1
	dummy	4 treatments and 0 otherwise	0	1	0	1
Treatment	anta gariani	0: Baseline 4;	U	1	U	1
		1: Explaining Authority 4; 2: Authority 4; 3: Explaining Authority 2; 4: Authority 2; 5: Baseline 2; 6: Private Authority 4; 7: Private Authority 2; 8: Private Authority Less 4;				
		9: Private Authority Less 2	0	9	0	9
Period	numeric	Round of observation	1	24	1	24
Period2	numeric	Square of round of observation	1	576	1	576
p1	dummy	1 in round 1 and 0 otherwise	0	1	0	1
p13	dummy	1 in round 13 and 0 otherwise	0	1	0	1
stage_2	dummy	1 in rounds 13-24 and 0 otherwise	0	1	0	1
ugroup	numeric	unique market identifier	-	-	101	2706
usub	numeric	unique subject indetifier	-	-	101	2712
recommended_quantity	numeric	missing value in treatments B4 and B2; 12.4 in treatments A4, EA4 and PA4; 24.8 in treatments A2, EA2 and PA2; 19.8 in treatment PAL4; 33.0 in treatment PAL2	NA, 12.4	NA, 33.0	NA, 12.4	NA, 33.0
count_sds	numeric	Social Desirability Score	0	16	1	16
gender_male	dummy	1 if the participant's stated gender was male and 0 otherwise	0	1	0	1
age	numeric	Age in years	18	-	18	50
eco	dummy	1 if the participant's major field of study was Economics and 0 otherwise	0	1	0	1
best_response	numeric	best response production quantity of player i to the observed production quantities of player(s) -i in round t-1	0	49.5	0	49.5
imitate_average	numeric	average production quantity of all other firms in the market in round t-1	0	100	0	90
br_to_nudge_followers	numeric	best response production quantity of player i to the production quantities of player(s) -i in round t-1 if all players -i had followed the nudge by the experimenter perfectly	30.9	37.1	30.9	37.1