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ARE WOMEN *NATURALITER* MORE COOPERATIVE?
AN EXPERIMENTAL INVESTIGATION OF THE VOTE-WITH-THE- WALLET GAME

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Are Women *Naturaliter* More Cooperative?
An Experimental Investigation of the Vote-with-the-Wallet Game

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Abstract

We test for the existence of gender effects in a "vote with the wallet" multiplayer prisoner's dilemma. Statics tests and dynamic econometric estimates find that women cooperate significantly more when we start with the baseline version of the game without introducing institutional legality frames, ex post redistribution schemes and conformity information designs. Women therefore reveal themselves as *naturaliter* more cooperative.

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1. Introduction

The paper aims to test the significance of the gender effect in the "Vote-with-the-Wallet" Game (VWG henceforth; Becchetti and Salustri, 2015). In the experiment, as it occurs more and more often in everyday life, players are asked to choose between two different products: a standard product that costs less and a product that costs more and is advertised as more "responsible".[1] We model the price-public good trade-off implied in this choice by assuming that the purchase of the responsible product produces a monetary externality for all the other players in the game. The game is repeated under different variants of the baseline treatment including an ex post mechanism that partially redistributes payoffs from defectors to cooperators, a legality frame for the "responsible" product and a conformity information design testing the relative impact of conformity versus conditional cooperation.

Our main finding is that women "buy responsibly" significantly more than men in the baseline treatment, while the difference is bridged in most cases by the introduction of the above-mentioned treatment variations intended to reinforce cooperation. The above results provide an original contribution to the gender difference in lab experiments surveyed by Croson and Gneezy (2009).

2. Experimental Design and Hypotheses.

The theoretical benchmark for our experiment is the VWG. In this variant of the multiplayer prisoner's dilemma the *n*-players choose between the "responsible" product A that costs more but produces a positive (environmental, social, legal) externality and the conventional product B, less costly but without externality. The game is defined as $G = [N, (S^i)_{(i\epsilon N)}, (U_i)_{(i\epsilon N)}]$, $N=\{1, \dots, n\}$, and $S^i = \{A, B\}$ $\forall i\epsilon N$ and the *i*-th player pay

$$U(S^i, S^{(-i)}) = \begin{cases} \dfrac{(x+1)}{n}\beta + \alpha - \gamma & if\ S^i = A \\ \dfrac{x}{n}\beta & if\ S^i = B \end{cases}$$

with *x* being the number of players buying product *A*. The crucial parameters of the game are the price differential between the two products ($\gamma \in [0, +\infty)$), the other-regarding preference component ($\alpha \in [0, +\infty)$) satisfied by the purchase of the "responsible" product and the positive externality ($\beta \in [0, +\infty)$) accruing to the utility of every player (irrespective of her/his product choice) in proportion to the share of players buying the responsible product A. The VWG the NE is *(B, B)* when $\frac{1}{n}\alpha + \beta < \gamma$, and *(A, A)* otherwise.

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[1] Boston Consulting group refers that around 20 percent of products sold at grocery stores advertise themselves as green or ethical (Smits et al., 2014).

In each experimental session a group of 10 players choose between product A and B in 20 subsequent rounds. Product A costs 10 ECUs, while product B 5 ECUs and each player buying product A generates 3 ECUs for every player in the given round (2 ECUs=1 euro). In each round players are given an endowment of 20 ECUs. The sequence of actions in each round is as follows; i) the i-th player formulates her/his expectation on the number of players choosing product A; ii) chooses the product to buy; iii) is informed about the number of players choosing product A; iv) is asked about her/his satisfaction about the game, her/his own behavior and the behavior of the other players in the game with three different questions on a 0-10 scale.

The above described baseline game has been played in three variants:

i) the "redistribution game": at the end of each round players choosing product B know that they have to transfer 1 ECU in a pool that will be divided in equal parts among players choosing product A at the end of each round.

ii) the "framed game": players are informed that the "responsible" product A is a product awarded with the 3-star legality rating from the Italian Competition Authority (ICA)[2].

iii) the "conformity game": the information provided after player's choice at each round is about choices of players in rounds with the same characteristics in different sessions (and not about choices of other players in the same session as in all non-conformity sessions) that is, the average of what happened in correspondent rounds of sessions 7-9 (10-12) for sessions 13-15 (16-18). The rationale of the conformity information treatment is to test for differences between conformity vs conditional cooperation.[3]

Number of sessions and types of treatment combinations are described in Table 1. Given the payoffs described above the experiment gives the following values to the crucial VWG model parameters: n = 10, β = 30, γ = 5, α = 0. Based on these values, (B,B) is the unique (inefficient) NE of the multiplayer game in non-redistribution treatments since $\frac{1}{n}\beta + \alpha < \gamma < \beta + \alpha$ (i.e. $3 < 5 < 30$). However, in redistribution treatments buying product B yields a lower payoff when there is only one cooperator and the same payoff than buying product A when there are two cooperators. Redistribution treatments therefore partially change the relative monetary convenience in buying product B versus product A.

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[2] Full details of the legality rating system are provided in the online Appendix 1.
[3] In non conformity treatments the information provided (behavior of players in the same session) affects directly players' payoff and is therefore intended to measure conditional cooperation (Fischbacher et al., 2001), that is, the inclination to contribute more to a public good the more other subjects contribute. In conformity treatments the information provided does not affect directly player's payoff and therefore is intended to measure conformity, usually defined as the degree to which persons in a group modify their behavior, to fit the views of the society (Moscovici, 1985 and Cialdini and Trost, 1998).

Details of experiment instructions are in the Online Appendix 2.

[Table 1 – about here]

In order to test the gender effect we formulate the following general hypothesis:

H_0: $C_{i,t\,s}$ *(treatment(s),females)* $=$ $C_{i,t\,s}$*(treatment(s),males)*
H_A: $C_{i,t\,s}$*(treatment(s),females)* $\neq$ $C_{i,t\,s}$*(treatment(s),males)*

where C_{its} is the cooperating strategy selected by the i-th player in round t of treatment s.
The six considered treatments are those shown in Table 1. Each treatment is considered in full and separately when it occurs in the first 10 or in the last 10 rounds (ie. baseline before in sessions 1-3 and baseline after in sessions 4-6). Under the null the share of cooperating females is not significantly different from that of cooperating males.

3. Empirical findings from static tests

Results presented in Table 2 show that the gender effect is significant in the baseline treatment. When we decompose the latter we find that the effect is concentrated in the baseline before treatment where share of cooperators is significantly higher for women than for men (40.6 against 26.7 with $\chi^2$6.58 p-value 0.01). Women cooperate more as well when framed redistribution treaments are in the first 10 rounds and when framed treatments with conformist information and redistribution treatment with frame are in the second 20 rounds.

[Table 2 – about here]

4. Econometric findings

We estimate the following probit specification for baseline "before" treatments in sessions 1-3.

$$PGChoice_{i,t,s} = \beta_0 + \beta_1 Male + \beta_2 Age + \sum_j \delta_i DIncome_j + \beta_3 Round + \varepsilon_{i,t,s} \qquad (1)$$

where the dependent variable (*PGChoice*) is a 0/1 dummy taking value one if the player chooses product A contributing to the production of the public good, *Male* is a (0/1) dummy for male gender, *Age* is player's age, *Dincome* are five income dummies picking up different income brackets and *Round* is the experiment round testing for dynamic effects in our game.
When controlling for round, age and income we find that the gender effect in baseline treatment remains significant and gets stronger in magnitude (75 percent higher probability of choosing product A) (Table 3).

To check the robustness of our econometric findings we test whether gender significantly affects satisfaction about the game in the "before" baseline treatment. The selected ordered probit estimated specification is

$$SatGame_{i,t,s} = \beta_0 + \beta_1 PGChoice_{i,t,s} + \beta_2 PGChoice * Male_{i,t,s} + \beta_3 AvgGroupPGChoice_{t,s} + \beta_4 Male_i + \beta_5 Age + \sum_j \delta_i DIncome_j + \beta_6 Round_t + \varepsilon_{i,t,s} \tag{2}$$

where $SatGame_{i,t,s}$ is satisfaction of the *i*-th player about her/his behaviour in round t of treatment s, *PGChoice*Male* is the interaction between choice of good A and male gender and *AvgGroupPGChoice* is the share of players choosing good A in the given round. Other regressors are as in (1).

Our findings show that β_2 is negative and significant, that is, men are significantly less satisfied about their own behavior than women when buying the more expensive product contributing to the public good (64 percent lower probability of declaring the highest level of satisfaction).

None of the other treatments significant in static hypothesis testing is robust to the econometric checks of this section (results omitted for reasons of space).

[Table 3 – about here]

5. Conclusions

We experimentally test for the existence of gender differences in the VWG. Our findings document that women are *naturaliter* more cooperative, that is, they are significantly more cooperative (departing from the NE) when the experiment starts with the baseline treatment.

References

Becchetti, L., Salustri, F., 2015. The vote with the wallet as a multiplayer prisoner's dilemma. CEIS working paper n. 359, University of Rome - Tor Vergata.

Cialdini, R., Trost, M., 1998. Social influence: social norms, conformity, and compliance., in: Gilbert, D., Fiske, S., Lindzey, G., (Eds.), *The Handbook of Social Psychology.* McGraw-Hill, Boston, pp. 151–192.

Croson, R., Gneezy, U., 2009. "Gender Differences in Preferences", *Journal of Economic Literature* 47(2): 1–27.

Fischbacher, U., Gachter, S., Fehr, E., 2001. Are People Conditionally Cooperative? Evidence from a Public Goods Experiment. *Economics Letters* 71(3): 397–404.

Moscovici, S., 1985. Social influence and conformity, in: Gardner, L., Aronson, E., (Eds.), *The Handbook of Social Psychology*. Random House, New York.

Smits, M., Wald, D., Vismans, D., Huet, E., 2014. *An Imperative for Consumer Companies to Go Green.* Retrieved from https://www.bcgperspectives.com/content/articles/consumer_products_sustainability_when_social_responsibility_leads_growth/

Tables

Table 1. The experimental design

No. of sessions	Stage 1 (rounds 1 to 10)	Stage 2 (rounds 11 to 20)	Stage 3	N. of players
1 – 3	Baseline	Baseline + Redistribution	Questionnaire	30
4 – 6	Baseline + Redistribution	Baseline	Questionnaire	30
7 – 9	Framed	Framed + Redistribution	Questionnaire	30
10 – 12	Framed + Redistribution	Framed	Questionnaire	30
13 – 15	Framed (+ Conformity)	Framed + Redistribution (+ Conformity)	Questionnaire	30
16 – 18	Framed + Redistribution (+ Conformity)	Framed (+ Conformity)	Questionnaire	30

Table 2. Hypothesis testing

	Obs	Share of cooperative choices - women vs men	Pearson χ^2	P-value
Base	600	31.0 – 24.7	3.00	0.084
Redistribution Base	600	39.7 – 35.3	1.201	0.27
Frame	600	35.3 – 37.7	0.352	0.515
Frame (conformity)	600	43 – 36.7	2.51	0.113
Redistribution Frame	600	46 – 37.3	4.64	0.03
Redistribution Frame (conformity)	600	47.3 – 43.3	0.97	0.32
Base before	300	40.6 -26.7	6.58	0.01
Redistribution Base before	150	41.3 - 36	0.85	0.34
Frame before	150	42 – 38.6	0.44	0.55
Frame (conformity) before	150	39.3 -37.3	0.13	0.92
Redistribution Frame before	150	42 - 44	0.12	0.73
Redistribution Frame (conformity) before	150	54.7 - 40	6.47	0.01
Base after	150	22.7 – 21.3	0.077	0.78
Redistribution Base after	150	38 – 34.7	'0.36	0.54
Frame after	150	28.7 - 36.7	2.18	0.14
Frame (conformity) after	150	46.7 - 36	3.51	0.06
Redistribution Frame after	150	50 – 30.6	11.64	0.001
Redistribution Frame (conformity) after	150	40 – 46.7	1.35	0.24

Table 3. Econometric findings

VARIABLES	(1)	(2)
PGChoice		-0.329
		(0.225)
Male	-0.748**	0.769
	(0.356)	(0.676)
PGChoice*Male		-0.642**
		(0.306)
AvgGroupPGChoice		0.958**
		(0.448)
Round	-0.171***	-0.073***
	(0.048)	(0.026)
Age	-0.035	0.030
	(0.037)	(0.072)
Income dummies	Yes	Yes
Observations	300	300
Wald χ^2	25.81	38.26

Dep. Variable: (1) Choice of product A; (2) satisfaction about one's own behavior in the game
Std.errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

APPENDIX 1 – LEGALITY RATING

The Legality Rating is an instrument designed to increase the competitiveness of lawful companies by supporting their ethical and honest initiatives. It was approved by the Italian Parliament at the end of 2012.
Two conditions must be met by the enterprises that work in Italy in order to ask for the legality rating:
1. Achieving a turnover of at least two million of euros in the year before asking for the legality rating. This value must be ascribed either to the single enterprise, or to the group to which the single enterprise belongs to and whose balance-sheet was duly approved;
2. To be signed up in the registry of businesses for at least two years.

Companies willing to be rated can apply throughout an online form, and follow the guidelines published on the AGCM website.
The legality rating ranges from a minimum score of one star to a maximum score of three stars, and it is awarded by the Italian Competition Authority (ICA) on the base of information directly provided by the company and further verified through cross-checks with data owned by the public administration.

"One-star"-legality rating
In order to be eligible for the minimum score (i.e. the "one-star"-legality rating) a firm must fulfil the following requirements:
1. The entrepreneur and other relevant individuals must not be the recipients of preventive and / or precautionary measures, nor must they be convicted for tax-related crimes. They must not be addressed by judicial sentences for mafia, nor must they be involved with mafia activities of any sort. The firm must not have been submitted to compulsory administration, nor must it have been convicted for administrative wrongdoings.
2. In the 2-years period before applying for the legality rating the firm must not have been convicted for serious crimes related to anti-trust, for breaching the code of consumption, for not respecting norms about safety and security of the working place, or for not complying with the obligations towards employees and collaborators as for remunerations, contributions, insurance responsibilities, and fiscal matters. Moreover, the firm must not have been under scrutiny for declaring less income than what verified, for having experienced revocations of public funds that were not duly paid back by the firm itself, or for not having paid taxes. Likewise, the enterprise must not have received any sanction by the Italian Anti-Corruption Authority implying the prohibition either to sign contracts with the public administration, or to participate to auctions for public procurement.
3. Eventually, the company must declare to use exclusively traceable payment methods in order to process financial transactions whose value is higher than one thousand euros.

"Two-stars" and "three-stars"-legality rating
More requirements are needed for firms to be rated with two or three stars of legality. If at least six of the following accomplishments are met, then a firm will obtain two stars:
1. Complying with the Legality Protocol signed by the Ministry of Internal Affairs and the Italian Industrial Federation, with its guidelines for implementation, and with the Protocol signed by the Ministry of Internal Affairs and the Association of Cooperatives together with local prefectures and trade associations;
2. Using traceable payment methods also to process financial transactions whose amounts are lower than the threshold stated by the law;
3. Adopting an organizational framework apt to the conformity control as stated by the law;
4. Adopting processes that grant the Corporate Social Responsibility;
5. Being registered to lists of entities that are not prone to mafia infiltrations;
6. Endorsing the ethical codes of self-regulation that are defined by trade associations;
7. <u>Having in place organizational frameworks to prevent and contrast **corruption**</u>.

Denunciations of crimes by the entrepreneur and her family and collaborators, if followed by legal penal consequences, shall be hold in high esteem.

Duration of the legality rating

The legality rating lasts two years since its release, and it can be renewed upon request.

If one of the minimum prerequisites fails to exist, the ICA will revoke the one-star rating.

If conditions upon which a two-stars or a three-stars rating were awarded stop to be present, the ICA can reduce the legality rating.

The ICA will keep its website up to date with the list of companies awarded with the legality rating, along with effective dates and subsequent suspensions and revocations.

ENGLISH WEB PAGES ABOUT THE LEGALITY RATING BY AGCM:

- http://www.agcm.it/en/newsroom/press-releases/2196-boom-of-requests-to-antitrust-authority-to-obtain-the-rating-of-legality.html
- http://www.group.intesasanpaolo.com/scriptIsir0/si09/contentData/view/Rating_Legalit%C3%A0_eng.pdf?id=CNT-04-000000011635A&ct=application/pdf
- http://www.agcm.it/en/statistics/doc_download/477-annualreport2014presentation.html

POLICY DOCUMENTS MENTIONING THE LEGALITY RATING BY AGCM:

- http://ec.europa.eu/competition/ecn/brief/03_2012/it_powers.pdf (Page 2)

APPENDIX 2 – INSTRUCTIONS

English Translation	Original Italian
General instructions	**Istruzioni Generali**
Welcome and thanks for participating to this experiment.	Benvenuto e grazie per aver deciso di partecipare a questo studio.
Our goal is to verify the impact of some factors on our decision processes.	Siamo interessati alla comprensione di alcuni fattori che influenzano i nostri processi decisionali.
Together with other participants you will have to take decisions in different situations. Depending of your decisions along with those of the other participants you will get a certain number of points. One among all your decision will be picked randomly and the points you get in that particular situation will be converted in euros (with the exchange rate 2 points = 1 euro) and paid to you in cash. Besides, you will receive 5 points for participating. These points will sum up to those gained during the experiment.	Durante questo studio ti troverai a dover prendere delle decisioni in differenti situazioni. Le tue decisioni insieme alle decisioni prese dagli altri partecipanti allo studio determineranno la vincita di un certo numero di punti. Tra tutte le decisioni che prenderai, una verrà estratta in maniera casuale, e i punti guadagnati in quella situazione verranno convertiti in euro e pagati realmente (tasso di conversione 2 punti = 1 euro). Per la sola partecipazione, poi, riceverai 5 punti che andranno a sommarsi a quelli guadagnati durante la sessione.
Your identity and those of the other participants to the experiment will never be revealed even after the end of the experiment. Also your choices and answers will be dealt with anonymously (without reference to your identity).	La tua identità e l´identità degli altri partecipanti non verranno mai svelate, né ora né dopo la fine dello studio. Anche tutte le tue scelte e ogni tua risposta verrà trattata in maniera assolutamente anonima senza nessun riferimento alla tua identità. Nel complesso la sessione durerà approssimativamente un'ora.
Overall the experimental session will last approximately one hour.	Ti chiediamo di lavorare da solo e in silenzio.
We ask you to work alone and in silence.	
Thanks for your participation!	Grazie ancora per la tua partecipazione!
Specific instructions	**Istruzioni specifiche**
Baseline Condition	**Gioco Base**
In this session you will be asked to choose (for 10 rounds) which, among two products (product A and product B), you intend to buy. For every round you will be given an endowment of 20 points that you will be able to spend to purchase one of the two products. At each round, after your choice and the choices of all other players, we will tell to you and them, without revealing their identity, how many players have chosen product A and product B. After this communication you will play the following round.	In questa situazione dovrai scegliere ripetutamente (per 10 volte) quale tra due prodotti (prodotto A e prodotto B) acquistare. Ogni volta ti verrà assegnata una certa dotazione di punti che potrai spendere per l'acquisto di uno dei prodotti. Dopo che tu e tutti gli altri avranno scelto, ti verrà comunicato (in maniera anonima) quanti giocatori hanno scelto il prodotto A e quanti il prodotto B prima di giocare nuovamente
Round n	**Periodo n**
You receive an endowment of 20 points. You must choose whether to buy:	Ricevi una dotazione iniziale di 20 punti. Devi decidere se:
Product A	Acquistare il prodotto A.
Product B.	Acquistare il prodotto B.
Product A costs 10 points. If you buy product A you will receive 3 points for any of the other players choosing to buy product A.	Il prodotto A costa 10 punti. Acquistando il prodotto A otterrai 3 punti per ognuno degli altri giocatori che, nel tuo gruppo, ha scelto di acquistare come te il prodotto A.
Product B costs 5 points. If you buy product A you will receive 3 points for any of the other players choosing to buy product A.	Il prodotto B costa 5 punti. Acquistando il prodotto B otterrai 3 punti per ognuno degli altri giocatori che, nel tuo gruppo, ha scelto di acquistare il prodotto A.
	Le conseguenze (in termini di guadagni) delle due

The effect on your payoff of the two players' choices (buying product A or product B) are summarized in the table which follows: (table A2.1)

Each of the 10 players is in the same situation as you and faces the same payoff table.
Your final payoff from each of the different choices you may make (conditional to other participants' choices) is summarized in the following table: (table A2.2)

Please choose:
Product A
Product B

Redistribution Condition
Same as in the Base treatment plus:

Notice that, at the end of each round 1 points will be subtracted from the payoff of all those participants who have chosen product B. All those point will for a common fund that will equally divided among the participants who have chosen product A.
The effect on your payoff of the two players' choices (buying product A or product B) are summarized in the table which follows: (table A2.3)

Each of the 10 players is in the same situation as you and faces the same payoff table.
Your final payoff from each of the different choices you may make (conditional to other participants' choices) is summarized in the following table: (table A2.4)

Please choose:
Product A
Product B

Frame Condition
As in the Baseline plus framed description of Product A as follows

Product A is a product or service provided by an enterprise awarded with the "3-stars legality rating". This rating can be conferred by the Italian Competition Authority (i.e. Autorità Garante della Concorrenza e del Mercato, "Authority" from now on) upon request of a company. In order to be signaled with the 3-stars rating a company must have in place organizational frameworks to prevent and fight of corruption. Specifically, conditions for 3-stars rating are stated by the Authority as follows:

1. the entrepreneur must not be involved in lawsuit for mafia, tax-evasion, antitrust behaviours, unfair practices towards employees and customers, and bad administration (minimum accomplishments to be 1-star rated);

possibili scelte (acquistare il prodotto A o il prodotto B) sono riassunte nella tabella 1 (tabella A2.1)

Ognuno dei 10 partecipanti si trova nella tua stessa situazione e ha la stessa tabella che descrive i guadagni a seconda delle scelte effettuate dagli altri giocatori.
Il tuo guadagno per ognuna delle 10 scelte dipende non solo da quale bene decidi di acquistare tu, ma anche dalle scelte di acquisto che faranno gli altri giocatori, secondo lo schema della tabella 2: (tabella A3.2)

Quale prodotto scegli?
Profotto A
Prodotto B

Redistribuzione
Come nel trattamento base più:

Nota Bene: Rispetto alla situazione precedente però, ora c'è una novità. Ad ogni giocatore che avrà scelto il prodotto B verrà prelevato 1 punto che andrà a formare un fondo complessivo che verrà, poi, redistribuito in parti uguali a tutti i giocatori che avranno scelto il prodotto A.
Le conseguenze (in termini di guadagni) delle due possibili scelte (acquistare il prodotto A o il prodotto B) sono riassunte nella tabella n.3 (tabella A2.3).

Ognuno dei 10 partecipanti si trova nella tua stessa situazione e ha la stessa tabella che descrive i guadagni a seconda delle scelte effettuate dagli altri giocatori.
Il tuo guadagno per ognuna delle 10 scelte dipende non solo da quale bene decidi di acquistare tu, ma anche dalle scelte di acquisto che faranno gli altri giocatori, secondo lo schema della seguente tabella (tabella A2.4)

Quale prodotto scegli?
Profotto A
Prodotto B

Frame
Come nel gioco base più la descrizione del prodotto A come segue

Il prodotto A è un bene venduto da un'impresa a cui è stato attribuito il certificato "3 stelle di legalità".
Questo certificato viene rilasciato dall'Autorità Garante della Concorrenza e del Mercato (AGCOM) su richiesta dell'impresa interessata. Per ottenere "3 stelle di legalità" è necessario che:

1. L'imprenditore non sia coinvolto in processi per mafia, evasione fiscale, comportamenti anticoncorrenziali, comportamenti scorretti ai danni di lavoratori e consumatori, e cattiva amministrazione (requisiti minimi per l'ottenimento di "1 stella di legalità");

2. the enterprise mush accomplish ministerial codes of conduct, employ trackable paying methods, adopt organisational frameworks liable to the legal conformity control, endorse processes that guarantee the Corporate Social Responsibility, be listed among enterprises that are not tied to mafia, and adhere to existing ethical codes of conduct;

3. have in place organizational frameworks to prevent and fight corruption.

Product A costs 10 points. By buying product A you gain 3 points directly, and you will gain 3 points for each player who purchases product A too.

Product B is a product or service provided by an enterprise which is not awarded with the legality rating issued by the Authority (i.e. either the company did not enquire for the rating, or it asked for the rating but did not obtain it).

Product B costs 5 points. By buying product B you do not gain any point directly, but you will still gain 3 points for each player who purchases product A.

2. L'impresa operi nel rispetto dei codici di condotta ministeriali, utilizzi sistemi di pagamento tracciabili, adotti modelli organizzativi che garantiscano i controlli di conformità, adotti processi in linea con la responsabilità sociale, compaia negli elenchi di imprese non legate all'organizzazione mafiosa, aderisca ai codici etici e di condotta esistenti

3. Abbia "adottato modelli organizzativi di prevenzione e di contrasto della corruzione".

Il prodotto A costa 10 punti. Acquistando il prodotto A otterrai 3 punti per ognuno degli altri giocatori che, nel tuo gruppo, ha scelto di acquistare come te il prodotto A.

Il prodotto B è un bene o fornito da un'impresa priva del certificato di legalità AGCOM (può non averlo richiesto oppure non rispetta tutti i requisiti di cui sopra).

Il prodotto B costa 5 punti. Acquistando il prodotto B otterrai 3 punti per ognuno degli altri giocatori che, nel tuo gruppo, ha scelto di acquistare il prodotto A

Table A2.1

	Payoff	
Your choice	Product A	Product B
Participation bonus	5 points	5 points
Endowment	20 points	20 points
Cost	-10 points	-5 points
Benefit (from the choice of other participants)	+3 points for each participant choosing product A	+3 points for each participant choosing product A

Table A2.2

	When you buy A				When you buy B			
How many players choose good A	*Endowment*	*Cost*	*Benefit*	*TOTAL*	*Endowment*	*Cost*	*Benefit*	*TOTAL*
			3 X n =				*3 X n =*	
10	20	-10	30	**40**	-	-	-	-
9	20	-10	27	**37**	20	-5	27	**42**
8	20	-10	24	**34**	20	-5	24	**39**
7	20	-10	21	**31**	20	-5	21	**36**
6	20	-10	18	**28**	20	-5	18	**33**
5	20	-10	15	**25**	20	-5	15	**30**
4	20	-10	12	**22**	20	-5	12	**27**
3	20	-10	9	**19**	20	-5	9	**24**
2	20	-10	6	**16**	20	-5	6	**21**
1	20	-10	3	**13**	20	-5	3	**18**
0	-	-	-	-	20	-5	0	**15**

Table A2.3

	Payoff	
Your choice	Product A	Product B
Participation bonus	5 points	5 points
Endowment	20 points	20 points
Cost	-10 points	-5 points
Benefit (from the choice of other participants)	+3 points for each participant choosing product A	+3 points for each participant choosing product A
Redistribution effect	The share of the total points withdrawn from the buyers of B equally distributed among the buyers of A	-1 point

Table A2.4

	When you buy A					When you buy B				
How many players choose good A	*Endowment*	*Cost*	*Benefit*	*Redistribution*	*TOTAL*	*Endowment*	*Cost*	*Benefit*	*Redistribution*	*TOTAL*
			3 X *n* =					3 X *n* =		
10	20	-10	30	**-**	**40.0**	-	-	-	-	-
9	20	-10	27	**0.1**	**37.1**	20	-5	27	-1	**41.0**
8	20	-10	24	**0.3**	**34.3**	20	-5	24	-1	**38.0**
7	20	-10	21	**0.4**	**31.4**	20	-5	21	-1	**35.0**
6	20	-10	18	**0.7**	**28.7**	20	-5	18	-1	**32.0**
5	20	-10	15	**1.0**	**26.0**	20	-5	15	-1	**29.0**
4	20	-10	12	**1.5**	**23.5**	20	-5	12	-1	**26.0**
3	20	-10	9	**2.3**	**21.3**	20	-5	9	-1	**23.0**
2	20	-10	6	**4.0**	**20.0**	20	-5	6	-1	**20.0**
1	20	-10	3	**9.0**	**22.0**	20	-5	3	-1	**17.0**
0	-	-	-	-	-	20	-5	0	-1	**14.0**

While in sessions 7-15 at the end of each round is provided the number of co-players choosing product A among the members of the same group, in sessions 16-18 along with the information about the average share of co-operators observed in the parallel sessions 10-12. This kind of information is provided to disentangle conditional cooperation from conformist-type behavior.

Ultimi Contributi di Ricerca CRENoS

16/01 *Leonardo Becchetti, Vittorio Pelligra, Fiammetta Rossetti,* "The Corporate Legality Game A Lab Experiment on The Impact of Policies, Frames and Information"

15/22 *Fabio Cerina, Luisanna Cocco, Katiuscia Mannaro, Michele Marchesi, Francesco Pigliaru,* "Insularity and the development of a local network: a simulation model applied to the Italian railway system"

15/21 *Fabio Cerina,* "Is insularity a locational disadvantage? Insights from the New Economic Geography"

15/20 *Giorgio Garau, Giovanni Mandras,* "Economy-wide rebound effects from an increase in efficiency in the use of energy: the Italian case"

15/19 *Bianca Biagi, Maria Gabriela Ladu, Marta Meleddu, Vicente Royuela,* "Tourism and quality of life: a capability approach"

15/18 *Gianfranco Atzeni, Francesco Chessa, Luca G. Deidda, Malika Hamadi, Stefano Usai,* "Access to microcredit and borrowers' behavior: Evidence from Sardinia"

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15/15 *Oliviero A. Carboni, Giuseppe Medda,* "R&D Spending and Investment Decision: Evidence from European Firms"

15/14 *Leonardo Becchetti, Vittorio Pelligra, Serena F. Taurino,* "Other-Regarding Preferences and Reciprocity: Insights from Experimental Findings and Satisfaction Data"

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15/12 *Leonardo Becchetti, Vittorio Pelligra, Francesco Salustri,* "The Impact of Redistribution Mechanisms in the Vote with the Wallet Game: Experimental Results"

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15/07 *Gianpiero Meloni, Dimitri Paolini, Manuela Pulina,* "The Great Beauty: Public Subsidies in the Italian Movie Industry"

15/06 *Elias Carroni, Berardino Cesi, Dimitri Paolini,* "Peer Group, Distance and tuition fees: when widening university participation is still better"

15/05 *Bianca Biagi, Maria Gabriela Ladu,* "Productivity and employment dynamics: new evidence from Italian regions"