Does a virtuous circle between social capital and CSR exist? A "network of games" model and some empirical evidence

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Aim of the paper

To show the existence of a virtuous circle between Social capital and CSR (corporate socially responsible principle and rules of behaviour) and to empirically verify the existence of these relationships

- Social capital favours compliance with CSR through exogenous disposition to compliance;
- The agreement over a CSR principle and rules of behaviour amongst firms and stakeholders fosters cognitive social capital by inducing preferences for conformity and mutual beliefs .

- Together, they allow creation of sustainable networks of relations involving firms and their stakeholders
  - These involve not just strong but also weak stakeholders
  - Strong stakeholders provide firms with the incentive to cooperate in the long run with weak stakeholders

Intuitive idea (1)

- Networks of relations between firms and their stakeholders can be characterized by non mutual interest for enduring cooperation (in repeated games)
  - cases where two players are involved in a repeated PD, but **one** player (a firm) **hasn't incentive** to cooperate **in the long** run, while the **other** (a weak stakeholder) **would like** to cooperate in the long rum
  - Hence the firm prefers to **defect** with **weak** stakeholders (for example suppliers in a developing country , workers in a delocalized plant etc.), inducing **suboptimal equilibria** in their bilateral relations as result

- Otherwise **strong** stakeholders and firms have **mutual incentive** to cooperate in the long run
- **But** strong stakeholders haven't incentive **to protect** their fellows **weak** stakeholders: they **collude** with the firm

Intuitive idea (2)

- The picture changes dramatically when CSR is introduced as a **norm** of corporate governance and strategic management requiring **fair treatment** of all **stakeholders**

  - CSR is based on the (maybe implicit) **social contract** amongst the firm and its stakeholders, and it is a **self enforceable** norm
  - CSR **self-enforceability** depends on **conformist preferences** that are engendered by an **ex ante non binding agreement** (the stakeholder/firm social contract),
  - But contractarian conformist preferences also exploit compliance **dispositions** that are embedded in a given social environment

- Thus CSR is affected by exogenous Social Capital (SC), but it also produces endogenously SC
- They both induce strong stakeholders to play as **guardians** of the firm's cooperation with weak stakeholders

Hypotheses (1)

- we hypothesize that the economic agents' motivations and preferences system is complex and irreducible to mere rational self-interest.

a) **We assume that agents are characterized by conformist preferences** (Grimalda and Sacconi 2005), i.e., they obtain a positive ideal utility by conforming with some ideal principles that they are willing to fulfil conditionally on the expected behaviour of other agents they are in relation with

b) **We assume that the "social contract of the firm" over a set of principles of fairness and norms of behaviour** - as expressed by the adoption of CSR practices - **is able to activate the agents' disposition to conform with ethical principles of fairness and cooperation** that create the condition for ideal "conformist" utility to arise (this disposition is an element of our notion of cognitive social capital)

Hypotheses (2)

- The firm - stakeholders' social contract (and the adoption of CSR practices) is the basis for the formation of stakeholders' beliefs about the level of the firm's compliance with CSR principles of fair treatment in respect to all its stakeholders (beliefs are the second component of the idea of cognitive social capital adopted in this paper)

Hypotheses (3)

- Conditional dispositions to conform with fairness principles and beliefs on conformity with the CSR principles are the basis for developing psychological preferences for reciprocal conformity (what we call “conformist preferences”) with CSR principles and rules.

Main Result (1)

- We show that ideal (conformist) preferences may be sufficiently strong to make sustainable in the long run a cooperative network of relationships between the firm and all its stakeholders (both weak and strong), a network that, as we will show, would not be sustainable otherwise.

Main Results (2)

- We argue that:

1. dispositions to conform with ethical principle of cooperation incentivize the adoption of CSR practices by the firm;
2. CSR practices allows the formation of stakeholders' beliefs on the firm' fair behaviour;
3. dispositions, beliefs and CSR practices allow the activation of conformist preferences;
4. conformist preferences induce strong stakeholders to act as enforcers of cooperative behaviours by the firm, by punishing the firm which adopts CSR practices and does not fully respect them;

Main Results (3)

5. this strong stakeholders' behaviour may explain the decision of the firm to engage in repeated cooperation not only with strong, but also with weak stakeholders (who are defined as stakeholders interested in cooperating with the firm, whilst the latter prefers to abuse them repeatedly in their relationship);
6. this generate structural social capital, understood as a network of mutually cooperative relationships between the firm and all its stakeholders.

Main Results (4)

- The empirical analysis seems not to confute our theoretical conclusions and shows a positive correlation:

1. between the level of stakeholders' cognitive social capital, understood as dispositions, and the adoption of CSR practices by the firm;
2. between the conditions that allow the activation of strong stakeholders' conformist preferences and the level of cooperative relationship between the firm and weak stakeholders.

Social capital, definitions

- The literature on social capital stresses a multidimensional character of this concept (e.g. Paldam 2000),
- Uphoff (1999) takes into account both **cognitive** and **structural** notions of social capital.
- We define
  - **Structural social capital** in terms **networks** of cooperative relations between pairs of agents
  - **Cognitive social capital consists of**
    - **(a) dispositions** to act according to shared norms, capable of promoting reciprocal cooperation
    - **(b) beliefs** about other agent's norm compliance and other agents' (cooperative) behaviour

CSR, definition

(Sacconi 2000, 2006, 2007, 2010)

A **multi-fiduciary** corporate governance model wherein who runs a firm (entrepreneurs, directors, managers) have responsibilities that range

- from the fulfilment of fiduciary duties towards the owners
- to the fulfilment of analogous fiduciary duties towards all the firm's stakeholders

Stakeholders

- individuals or groups who have essential interests “at stake” in the running of the firm because
  - Strict sense: they make specific investments in the firm
  - *Broad sense: they undergo* the ‘external effects’
-

Stakeholders

- **Strict sense stakeholders are 'strong' and 'weak'**
- Assuming each of them plays a repeated PD with the firm ….
  - a) *Strong stakeholder*: The **difference** between (i) the discounted payoff that both strong stakeholders and firms obtain from **cooperating forever** and (ii) the discounted payoffs from **defecting at the first stage** (and **never** cooperating again) **is positive**.
  - b) *Weak stakeholder*: Weak stakeholders would like to cooperate in the long rum with the firm, **but** the discounted payoff that the firm obtains from **cooperating** forever with them is **lower than** the payoff it obtains by **defecting** at the first stage and never cooperating again.

CSR as a ‘voluntary’ norm

- CSR standards is an explicit social norms, not merely discretional decisions
- Agreed by both firms and stakeholders through different (voluntary) form of multi-stakeholder social dialog initiatives
- BUT self-imposed by the firms themselves without external enforcement (voluntariness)
- They can be monitored and verified by independent civil society social bodies
- These standard plays a gap filling role with respect to incomplete contracts

The normative content of CSR

- CSR settles a corporate strategy as mean to induce the stakeholders' cooperation
- An agreement on principles of fair balancing of stakeholders' interests (= CSR) is needed
- The principle is based on the (hypothetical / impartial = "behind a veil of ignorance") social contract agreed by stakeholders
- By considering all relations between the firm's stakeholders as a unique **symmetrical bargaining game involving all the corporate stakeholders**, the agreement amounts to maximizing the **Nash bargaining product**
  - **Symmetric NBS is the objective function to be maximized by a CSR strategy**

Motivations for compliance with CSR norms and standards : conformist preference

- **Basic idea**: the (impartial) social contract **elicits** conformist preferences
- conformist preference define **psychological payoffs** that supplement material payoffs and settle a **psychological game** (Geanakoplos et al. 1989 , Rabin 1993)
- In the resulting psychological game there are psychological **equilibria** whereby players
  - **endogenously comply** with the CSR principle
  - or **decide to sanction** any **deviation** from courses of action that would represent compliance with the CSR principle

Conformist preferences: elements of the formal model

(Grimalda and Sacconi 2005, 2007, Sacconi and Faillo 2010)

- ***First***, a principle T(=Nash Bargaining Solution) is chosen , which is a distributive criterion of material utilities.

  - Players **adopt T** (the norm) by **agreement** in a pre-play phase, *under veil of ignorance*, and employ it in the settlement of a "**consistency with the principle"- ordering** over the set of possible states σ (=strategy combination)
  - The highest value of T is reached in states σ where material utilities are **distributed** according to **maximal value of** the principle T (max NBS)

Conformist preferences: elements…(2)

- ***Second,*** an index of conditional **conformity**: the extent to which - *given the other agents' expected action* - the first player by his choice is directly responsible for a deviation from the maximum value of T.
- ***Third***, an index of **reciprocal conformity**: the extent to which the *other* player is expected by his choice to be personally responsible for *a deviation* from the maximum value of T, given what he (is expected to) expect(s) from the first player's behaviour.

Conformist preferences: elements… (3)

- ***Fourth***, steps two and three **coalesce** in defining an **overall index** F of conditional and expected reciprocal conformity for each player in each state of the game..
- **Five**, an exogenous parameter $\lambda(> 0)$ representing the motivational force of the agent's psychological disposition to act on the motive of reciprocal conformity with an agreed norm
  - Index $F(T(\sigma))$ operates as a weight (between 0 and 1) on the exogenous parameter λ, deciding whether λ will actually affect or not (and, if so, to what extent) the player's payoffs.

The overall utility function V_i in explicit form

It is the linear combination of the two components (material and ideal)

Material component

Psychological component

$$V_i\left(\sigma_i, b_i^1, b_i^2\right) = U_i\left(\sigma_i, b_i^1\right) + \lambda_i\left[1 + f_i\left(\sigma_i, b_i^1\right)\right]\left[1 + \tilde{f}_j\left(b_i^2, b_i^1\right)\right]$$

Weight of the psychological component

$\in$ [-1,0]. Player *i's* index of conformity. Given *i*'s beliefs (b_i^1) about *j*'s *strategy*

$\in$ [-1,0]. Player *j's* index of conformity (from the point of view of *i*). Given *i*'s beliefs about *j*'s beliefs (b_i^2) about *i'* s strategy.

- **NOTICE**: The appropriate notion of equilibrium is Psychological Nash Equilibrium (Geanakoplos et al. 1989): beliefs on how the game is played enter the player's utility payoff

The relation between SC and CSR

- Cognitive social capital consists of dispositions and beliefs
- The term $F(T(\sigma))$ is a disposition to conform conditional on mutual beliefs about reciprocity
  - ➢ it depends on the ex ante agreement on the principle T
- The weight λ_i is the motivational force of the disposition to comply
  - ➢ it is an exogenous parameter deriving form the stakeholders' environment
- Thus
  - Cognitive SC is an **input** for CSR (fosters the disposition to comply)
  - Cognitive SC is also **an output** of CSR (the agreement elicits preferences and affects belief on principle compliance)

Relational networks

(Lippert and Spagnolo (2011))

- L&S explore how sanctioning power and equilibrium conditions change under different network configurations.
- The question is: **under what condition a network of relations is sustainable**?

Definitions

- *N={1…n}* set of *n* infinitely lived agents $i \in N$ who interact in pairs according to a connection structure Γ linking the elements of the set *N*
- Γ_i are the two persons games connecting agent *i with other agent*

Games connecting pairs of agents are repeated PDs

		Player j: $C^{j,i}$	Player j: $D^{j,i}$
Player i	$C^{i,j}$	$c^{i,j}, c^{j,i}$	$l^{i,j}, w^{j,i}$
	$D^{i,j}$	$w^{i,j}, l^{j,i}$	$d^{i,j}, d^{j,i}$

- $l^{i,j} < d^{i,j} < c^{i,j}$ *and* $l^{i,j} + w^{i,j} < 2c^{i,j} \quad \forall i, j \in N, \; i \neq j$
- The **PD is repeated** for an indefinite number of periods
- Agents share the discount factor $\delta < 1$

Relations are "cooperation" in repeated PDs connecting agents in a network

- Relation: Two agents *i* and *j* **share a relation** if they repeatedly play $C^{i,j}$, $C^{j,i}$.
- Let $g^{i,j}$ be player *i* **net discounted payoff** for the relation with *j*,
  - $g^{i,j}$. is the **difference** between (i) the discounted payoff from playing **cooperative** $(C^{i,j}, C^{j,i})$ forever and (ii) the discounted payoff from **defecting** and playing the stage game NE thereafter.

$$g^{ij} \equiv c^{i,j} - (1 - \delta)w^{i,j} - \delta d^{i,j} \quad (1)$$

- A player i has incentive to **maintain a relation** with j only if g^{ij} *is* ***positive***

Relations can be deficient and non mutual

- **Cooperative relations**:
  - player i relation with player j
    - is **deficient** for i if $g^{ij} < 0$
    - and **non-deficient** if $g^{ij} \geq 0$.
  - The relation ij is **mutually non deficient** *iff* $g^{ij} \geq 0$ and $g^{ji} \geq 0$.
  - The relation ij is **unilaterally deficient** *iff* either $g^{ij} < 0$ and $g^{ji} \geq 0$ or $g^{ij} \geq 0$ and $g^{ji} < 0$
  - The relation *ij* is **bilaterally deficient** *iff* $g^{ij} < 0$ and $g^{ji} < 0$.

- **Sustainability of a set of relations** :

  Relations between any pairs of agents are **sustainable** if the strategy profile prescribing **the cooperative relations** R to each player is a **sequential equilibrium**

Relational Networks

- A relational network $N^S = (N; R)$ is a **graph** representing the set of **agents** N and the set of their **pair-wise relations** R.

Graphical representation

- $i \longrightarrow j$ ***unilaterally*** **deficient relation** for i : $g^{ij} < 0$ and $g^{ji} \geq 0$.
- $i \longleftrightarrow j$ **mutual** (non deficient) **relation** : $g^{ij} \geq 0$ and $g^{ji} \geq 0$
- i —— j **bilaterally deficient** relation: $g^{ij} < 0$ and $g^{ji} < 0$

Multilateral strategies at the network level may help sustainability of bilateral cooperative relations

- A network doesn't improve what agents can sustain bilaterally.
- **BUT** relational network plays a role when it **contributes** to the **sustainability** of **unilateral** or **bilateral deficient** relations between its agents.

- **SUSTAINABILITY:**

  A relational network is **sustainable** if the **multilateral strategy profile** prescribing the cooperative relations R between each pair of agents is a **sequential equilibrium.**

Multilateral Grim (MG) strategy

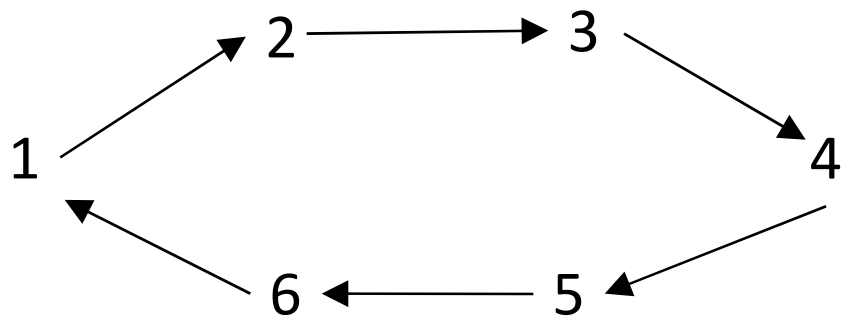
- Under full information MG is a multilateral punishment mechanism such that :
  - Agent $i \in N^S$ starts playing $C^{i,j} \quad \forall i \in N^S \ , \ \forall j \in R_i$
  - Agent i plays $C^{i,j}$ as long as **no deviation** by any player in the network is observed.
  - Agent i reverts to $D^{i,j}$ forever otherwise.

- The MG **is an equilibrium itself** iff the gain each player obtains for cooperating **in at least one** of her relations **more than compensates** the costs of cooperating in her remaining relations:

$$\forall i \in N^S \ , \ \sum_{j \in Ri} g^{ij} \geq 0$$

An example of **sustainable** network not containing mutual relations

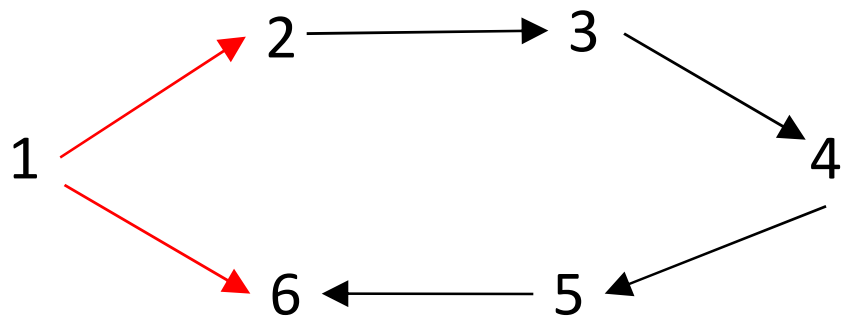
- The relational network is sustainable if agents adopt the MG strategy (admitted that $\forall i \in N^S$, $\sum_{j \in Ri} g^{ij} \geq 0$)



▪ even though player 1 doesn't' get a net gain from repeated cooperation with 2, nevertheless he is induced to stay cooperating by the threat that player 6 would stop cooperating in case 1 is observed defecting, since the gain from cooperation with 6 repays the cost of cooperating with 2

An example of **non-**sustainable network not containing mutual relations

• Player 1 cannot compensate the negative net gain accrued from one repeated relation with the positive net gain deriving form another repeated relation (1 has only deficient relations with 2 and 6)

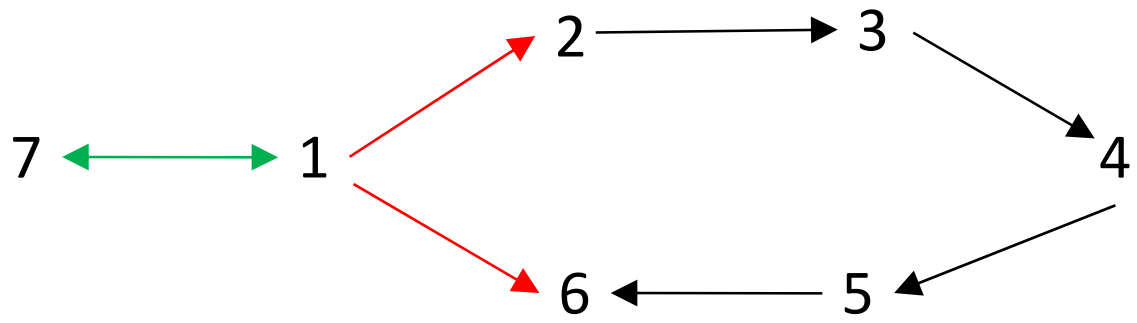


• There is no threat of punishment against 1 for not cooperating

• There is no incentive fro 1 to adopt the MG strategy in this case

Sustainability **regained** by adding a player with a **mutually non deficient relation**

- Since 7 is playing according to MG, he will stop cooperating with 1 whenever a defection occurs in the network



• Thus player 1 cooperates with both 2 and 6 only because of the threat of interruption of cooperation with 7, with whom she has a mutual relation

•(i.e. 1 has positive net gain from cooperating with 7 that repays giving up defection with 2 and 6)

Credibility of threats

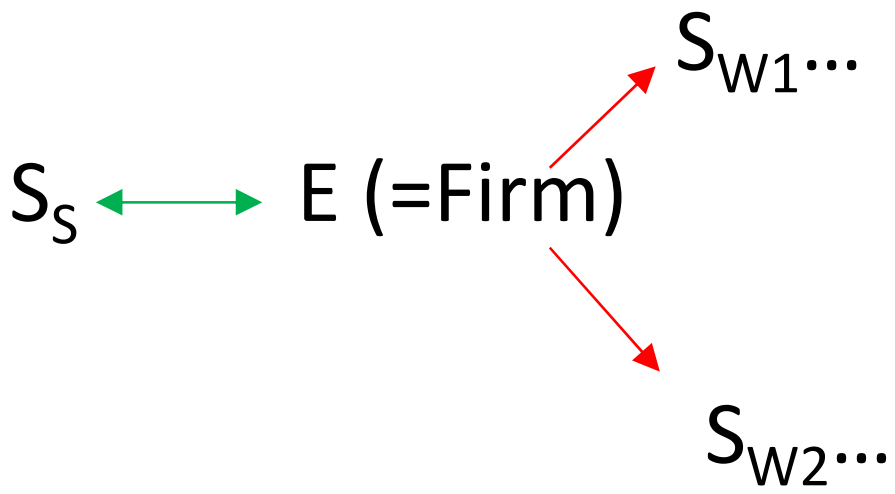
- Why should player 7 carry out his threat?
- His cooperative relation to 1 is **mutual**.
  - He **cannot suppose** that 1 looses his interest in cooperating with her just because a punishment phase of MG has been started
- In fact player 1 doesn't depend on cooperation with neighbours, but just on player 7's non deficient mutual relation.
- And player **7 is still interested** in cooperating with 1
- Thus player 1 will **expect** that player 7 will **not** carry out the threat and hence **he will not carry out it on his own**, still **continuing** a mutually beneficial relation during the MG punishing phase
- This completely destroys the effectiveness of MG

Out-of-the-equilibrium-path behaviour

- When player 7 is to carry out his threat he finds himself out-of-the equilibrium-path.
- In order to be a **sub-game perfect** equilibrium, MG must provide for incentive compatibility at **every decision point** of each player (*even in branches of the game tree that would have not been reached but for the mistake of at least one player*).
- But to carry out the punishment against payer 1 for 7 amounts to **abandoning his local best reply log**ic

➢ **punishment** become the execution of a binding commitment that **must** carried out **by *fiat***.

Reinterpretation as a network relating the firm with its strong and weak stakeholders

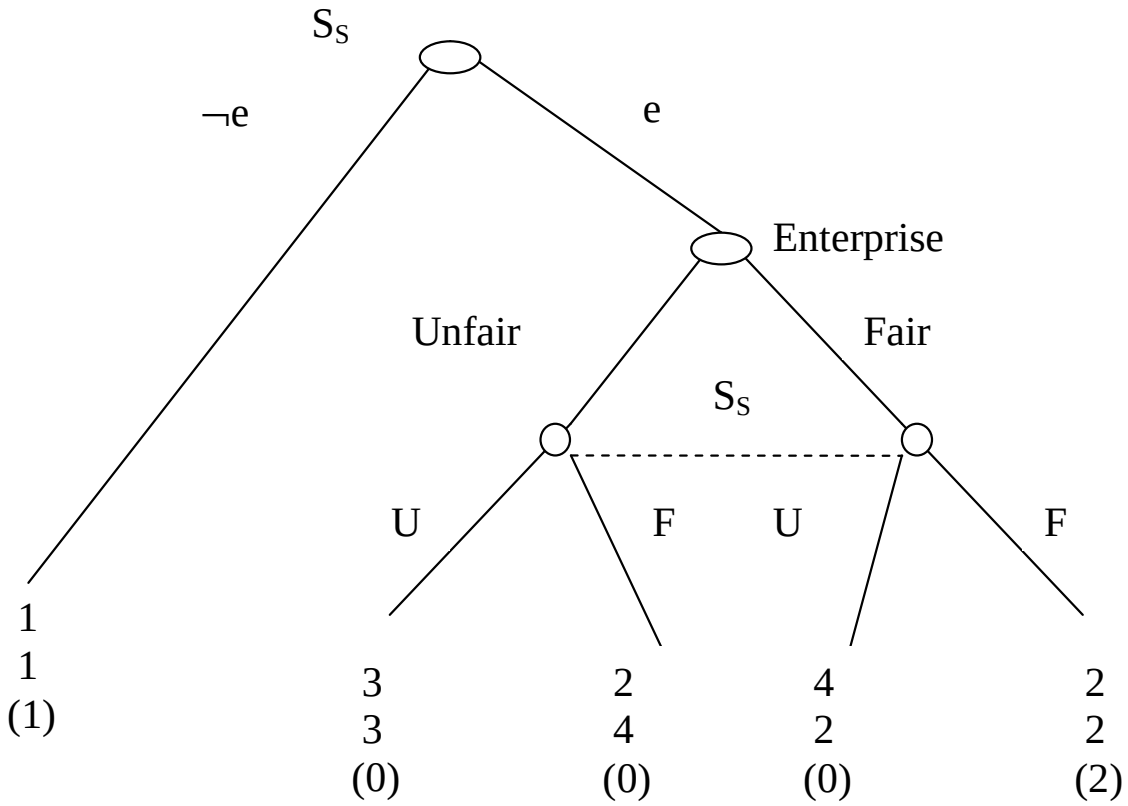


The relational network connecting the firm and its stakeholders (weak and strong)

- **S_W** : the discount rate δ_E that allows E appreciating long run cooperation with them is not high enough in order to counterbalance the short term incentive to defect and taking all the surplus
- (example: the strategic possibility to keep very low salaries and prices paid to the developing country's workers and supply-chain firms).
- **S_S :** relation between E and S_S is mutual
- Expl: high skilled core employees, endowed with some threat power, core consumers, pension fund holding a significant share in E.
- Quite naturally **S_S may want to collude with the enterprise E in order to capture all the surplus , disregarding the firm's defection toward Weak stakeholders**

Explicitly Modeling the Game Strong Stakeholder VS. Enterprise

The proper interaction **between S_S and E** is modelled as a game with ***two active players***, **S_S** and **E,** and a **dummy player** who ideally represent all the category of weak stakeholder (**S_W**).



Meaning of strategies (1)

- Entering for S_S means **trusting** E and making a specific investment.
- When S_S enters, he has **two** possible strategies available.
  - It may implement a ***collusive*** strategy (U) that allows itself and E to appropriate all the surplus (if E plays U as well)
  - or it may implement **a fair division rule**, F_{SS}, that allocates a **fair share** to the dummy player only if E plays F as well.
- *This means "**taking care**" of S_w and **saving a** share of the surplus (equal to 2) to which the weak stakeholders are entitled*

Meaning of strategies (2)

- **One-sided opportunistic behaviour** against S_S occurs when
  - S_S enters and plays 'fair' by restraining his/her claim,
  - but E cheats and appropriates all the residual so that nothing is left for the dummy player.
- In this case we say that E is abusing S_S's trust,
  - S_S's entrance expresses his/her intention to take care of the weak stakeholders.
- However, one-sided opportunistic behaviour may also occur the other way round:
  - S_S may claim the larger portion of the surplus while E moderates its pretensions.

Meaning of strategies (3)

- A peculiarity of this game: by entering a collusive agreement (e,U;U_E), S_S puts the dummy player in a situation **even worse** than when S_S **refuses to enter** by ¬e.
- Collusion involving both S_S and E, or at least S_S's acquiescence with E's opportunism, is strictly necessary for the **complete expropriation** of the dummy player.
- Hence a S_S **who "cares"** also for the dummy's welfare has an alternative:
  - **boycotting** E on behalf of the dummy's (second-best) stakes in the transaction.

Normal form

E Stk_S	F	U
e,F	**2, 2, (2)**	**2, 4, (0)**
e,U	**4, 2 , (0)**	**3, 3, (0)**
¬ e	**1, 1, (1)**	**1, 1, (1)**

- By staying out , S_S **boycotts** E, and allows S_W to get a payoff (1) **higher** than the payoff obtained by S_W when E and S_S collude or when S_S plays (e,F) and E plays U.
- the **only Nash equilibrium** solution of this game is (e,U; U), which moreover is in **dominant** strategies
- It is the basis for a collusive equilibrium of the **repeated game**.
- Thus S_S has **no incentive** to carry out a punishment strategy against E as required by **her part in MG**

A psychological game based on the agreed CSR principle

- The forgoing game is **just the basis** in term of material payoff for a **psychological game** played by active agents
- before the game is played there is **pre-play communication** stage ("cheap talk")
- players (the firm and its stakeholders) put themselves "**under a veil of ignorance**" such that they are able to agree impartially over a principle of fairness
- They agree on the CSR principle T (= NBS)
- By means of T they give an impartial assessment of the division problem they are to solve in the basic game

Psychological payoffs

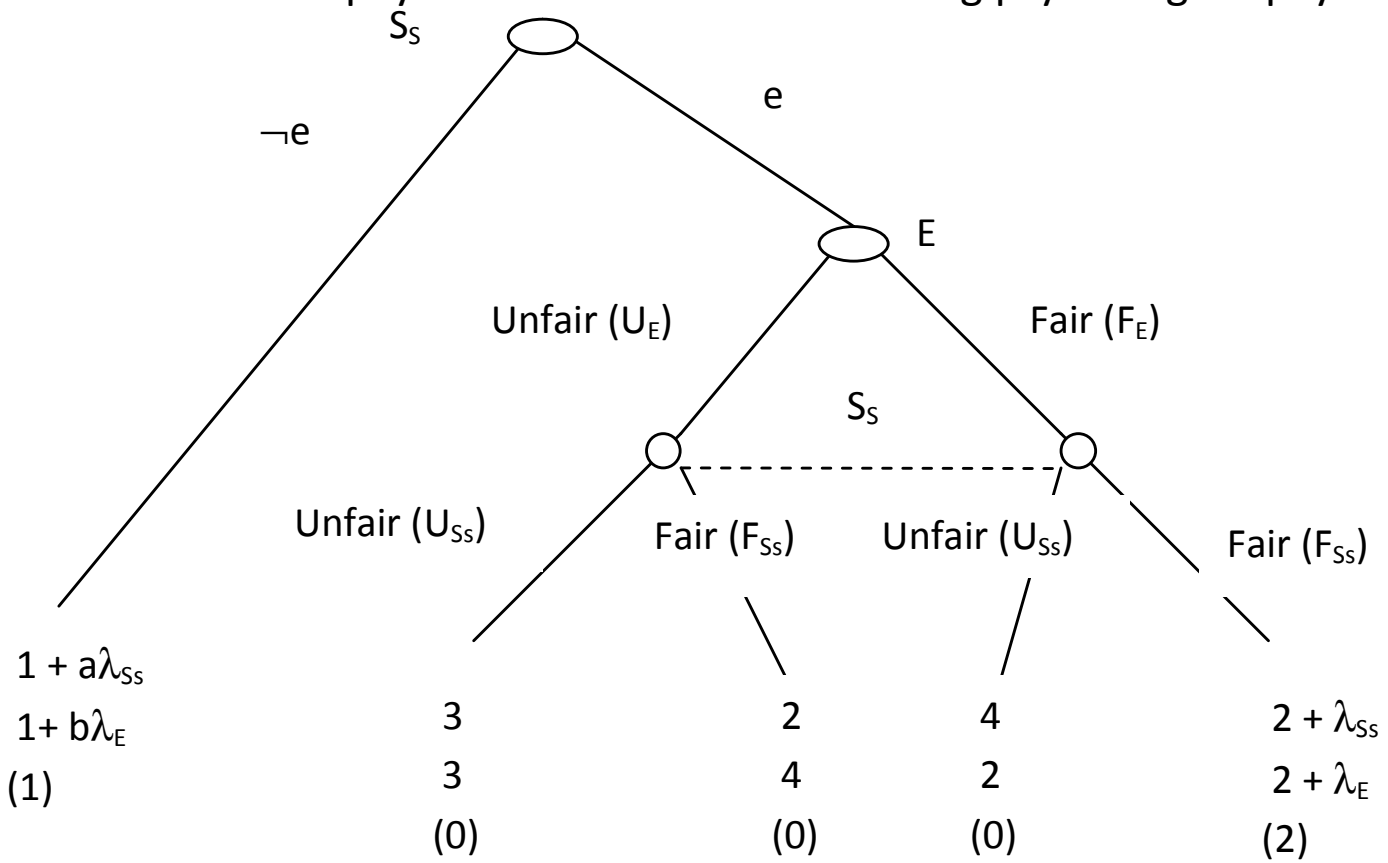
- Active players assess strategy combinations in terms of the principle T they have agreed upon
- Their payoffs at each state are derived by considering also conformist preferences
- These payoffs depend on **how much** each strategy **maximizes** T **given** any **expected** choice by the **other** party, as seen through first order and second order beliefs
- Players' payoffs are assigned according to the following overall utility function

$$V_i(\sigma) = U_i(\sigma) + \lambda_i F\left[T(\sigma)\right]$$

- Psychological payoffs are positive only when, given beliefs over the other player's choice, a strategy doesn't minimizes T

A psychological game involving the firm and its strong stk (1)

Given the conformity index of each choice for each player, given any other expected choice, overall payoffs are introduced including psychological payoffs



with $0 \leq a \leq 1$ and $0 \leq b \leq 1$ varying in function of the reciprocal players' prediction.

Whilst in the game with solely material payoffs only a Nash equilibrium arises – i.e. $(e,U_{Ss};U_E)$ – it is now evident that **when psychological payoffs are considered there are two more possible psychological Nash equilibria.**

A psychological game involving the firm and its strong stakeholder (2)

E S_S	F	U
e,F	**2+λ , 2+λ, (2)**	**2, 4, (0)**
e,U	**4, 2 , (0)**	**3, 3, (0)**
¬ e	**1+aλ , 1+bλ, (1)**	**1+λ, 1+λ, (1)**

- When: λ_{Ss} and λ_E are larger than 2 (given the payoff structure in our numerical exemplification of the game), S_s believes that E plays "fair", E believes that S_s plays (e,F_{Ss}), and each of them has second (and higher) order beliefs that the other has exactly these beliefs, then $(e,F_{Ss};F_E)$ (fair cooperation) is a psychological equilibrium.
- Alternatively, when E believes that S_S "stays out" and S_S believes that E plays U_E, and each of them has second (and higher) order beliefs consistent with these predictions, if λ_{Ss} is larger than 2, the strong stakeholder will prefer to "stay out" rather than enter and play whatever second move (note that in this case a=1, since both conditional conformity and reciprocal expected conformity indexes are 1). Then $(\neg e;U_E)$ is also a psychological equilibrium.

Psychological equilibria (1)

- Each equilibrium must be understood as contingent on the respectively appropriate system of mutually consistent beliefs of first and higher orders
- **For existence of the equilibrium (e,F;F) :**
  - player S_S must be believed to play (e,F)
  - player E must be believed to play F,
  - both of them must believe that the other has exactly these beliefs (and the consistent beliefs over beliefs).
- When these conditions are satisfied conformist payoffs are effective
- Provided that λ_E and λ_{Stks} are both > d – b , the players' mutual best responses are (e,F) and F.

➢ **The first equilibrium says that mutual cooperation between S_S ad E entails fair treatment of S_W**

Psychological equilibria (2)

- For existence of the **equilibrium (¬ e; U):**
  - S_S must be believed to "stay out"
  - E must be believed to play U,
  - both of them must believe that these beliefs are held also by the counterparty as first and second order beliefs.
- When these beliefs are satisfied, the psychological conformist payoffs reported in the bottom right cell are effective,
  - (¬ e, U) are then a pair of mutually best responses

➢ **This psychological equilibrium is essential to understand whether the endogenous sanction required by MG to S^S against E is sustainable**

Psychological equilibria (3)

- **Also the old Nash equilibrium** (e,U; U), is a psychological equilibrium
- it materialises when the previous conditions over beliefs systems are not true - even if conditions on λ_E and λ_{Ss} are satisfied.
- not withstanding the absolute potential of dispositions, this equilibrium emerges when mutual confidence about reciprocal effective conformity breakdown.

Beliefs naturally relate S_S to how player E treats S_W

- At the **first** stage, beliefs are activated by the agreement on the ethical principle (the CSR principle)
- However this **tells nothing** about how player E plays the PDs relating itself with the S_ws
- **But after** the first stage S_S may learn about the previous E's behavior in relation with S_w throughout the network
- When the firm is **observed** to defect with S_W , player S_S **comes to believe** that he is **also** playing U in the ongoing psychological game
- This make possible to render player S_S's choice **contingent** on **how** E **treats** weak S_W in repeated PDs

How S_S's beliefs change in function of how E plays its repeated DPs with S_W

- *If S_S learns that player E defects at time t in a PD_{Ej}, she **understands** that E is **not 'really' playing** the strategy F in the PG from that stage onwards.*

- Defection means that what has been *saved* and entitled to S_{Wj} in the solution of the psychological component game, has not been used by E to remunerate players S_{Wj} equitably by cooperating with them.

- Thus, at stage *t+1*, S_S will belive that **player E is not playing 'fair'** in the current repetition of the psychological game.

➢ Thus the **first** condition (fist order belief) for emergence of the 'no entry' **psychological equilibrium** is satisfied .

The MG strategy that S_S plays in the psychological game

- *S_S at first plays (e,F), but after some stage t* ***she plays*** $\neg$***e*** *if learns from a defection occurring at stage t-1 in a* PD_{Ej} *that E is not going to play Fair in the current Psychological game*
- The strategy adopted by S_S as a function of E's past behaviour is **common knowledge (S_S knows that E knows it)** .
- Thus, at whatever stage *t* in a repeated game PD_{Ej}, a defecting player E also **knows** that player S_S will play $\neg$e in the following stage *t+1*.
- But this allows player S_S's **second-order belief** that E believes that she will stay out

➢ the **second condition** for emergence of the 'no entry' psychological equilibrium **is satisfied**

Credible threats

- As a consequence, we are **not** assuming that S_S implements the MG trigger strategy as a rule follower , without having the proper psychological incentive to do so
- On the contrary, the sanctioning strategy adopted at the *t+1* stage has a **perfectly endogenous explanation**
- It is part of the **psychological equilibrium** that **emerges** when beliefs are consistent with the player S_S being playing its component in the MG strategy after a player E's defection

Evidence from Case Studies

- Three Italian organizations operating in the large-scale distribution sector (in different Italian Regions).

- Two of them are consumer's cooperatives (we will name them "A" and "B") while the third one is a joint-stock company (we will name it "C").

Case studies

- The two consumer's cooperatives own supermarkets and hypermarkets in various Italian regions (A operates in four Italian regions and B in two Italian regions), even though their headquarters are in the same North Italian region.
- The joint-stock company operates mainly through supermarkets in a north-eastern Italian region, where also its headquarters are located

Observational Units - I

- **3 hypermarkets**

  1 owned by organization A and 2 by B

- **2 supermarkets**

  both owned by C

Observational Units - II

The hypermarket of **A** is located near A's headquarters (we will name it **A1**).

The two hypermarkets owned by **B** are located in two very different places. One is located near the headquarters of organization **B** (we will name it **B1**), and one in a southern Italian region (we will name it **B2**).

Observational Units - III

The two supermarkets owned by **C** are located in two nearby cities in the same region where the joint-stock company's headquarters are located.

Because of the size of the two supermarkets and of the homogeneity of the context in which they operate, we will consider them in the analysis as a single observational unit (named **C1**).

The questionnaires

- We administered 366 anonymous questionnaires to different organizations' stakeholders.
- We will focus our empirical analysis by considering evidence from surveys filled in by:
- **212 consumers** (randomly contacted)**,**
- **151 workers** (randomly contacted)
- **and the person in charge of the CSR matters** in each of the three organizations.

TABLE 2

Number of questionnaires across organizations and stakeholders

	Consumers	Strong workers	Weak workers	"CSR manager"
A1	64	5	36	1
B1	48	1	42	1
B2	60	5	33	
C1	40	14	15	1
Total	212	25	126	3

In each hyper/supermarket we spent two days at the checkouts giving all the consumers who agreed to take part in the research project the opportunity to fill in a questionnaire. In regard to the workers, we collected replies from those who, after having been randomly contacted, agreed to participate in the project.

Hypothesis 1

H1. Disposition of stakeholders fosters the adoption of CSR practices.

Organizations in contact with stakeholders (both strong and weak) endowed with high disposition to cooperate (λ) with agents conforming with ethical principle of fairness and cooperation will have more incentives to adopt CSR practices than organizations operating in contact with stakeholders who are less endowed with λ.

- Reputation requires a long time to be accumulated, and cooperation between the firm and its stakeholders may prevail because of reputation only if the impact of future payoffs on the actualized utility of stakeholders is high.

- Conformist preferences (and the ideal utility connected with conformist preferences whose level strictly depends on λ) induce stakeholders to cooperate sooner with a “cooperative firm”, and this may be a key factor in fostering the adoption of CSR practices by firms.

Hypothesis 2

H2. We expect organizations in contact with

- strong stakeholders endowed with high level of λ
- and with the belief that the organization will respect CSR principles (both belief and disposition are needed in order to ideal utility to arise),

not to behave in a opportunistic way against the weak stakeholders:

otherwise strong stakeholders would punish the organizations by stopping their cooperation with them.

The empirical strategy

- In order to verify if data support our hypotheses we compared:

1. the degree of the adoption of CSR good practices on the part of the organizations A1,B1, B2 and C1 (in terms of the adoption of CSR formal instruments);
2. the belief and dispositions of stakeholders belonging to the different organizations
3. structural social capital between the organizations and their (weak) stakeholders

The Measurement of CSR Practices Adoption

In order to measure the implementation of CSR practices by the organizations, we considered the adoption of the following formal CSR instruments (also by specifying some characteristics of the formal instruments such as the degree of involvement of different stakeholders in the creation of the ethical code or the specific activities concerning the ethical formation):

- An explicitly declared mission of the organization
- A ethical code (specifying if the code has been created by involving the different stakeholders' categories in order to: present the code, discuss its contents and approve it)
- Ethical training (specifying also what the ethical training includes)
- A Social report (specifying if it is organized by stakeholders' categories)
- A system of internal auditing

The Measurement of Disposition - I

We considered questions aimed at capturing the agents' attention and sensitivity to a general idea of social welfare and also their disposition to pay attention to behavior of others which may affect it.

- 3 types of variables:

  some questions regard the concern in some collective problems or issues (such as: How worried are you in respect to the climate change, lack of safety in workplaces, lack of information on consumption goods; a variable measuring how often the respondent followed the events concerning Italian politics; number of times the respondent had voted in referendums since s/he came of age)

The Measurement of Disposition - II

other questions regard the personal engagement in activities which may positively affect other's welfare (in particular the participation in voluntary associations)

or the opinion on free-riding behavior (Generally speaking, do you think that the following behaviour may be justified? Do not pay the ticket for public transport; evading taxes; appropriating money found accidentally; running away after damaging a parked car)

The Measurement of Belief

- Generally speaking, how much do you believe that "organization A (or B or C depending on the questionnaire)" in carrying out its activity (from 1 – Not at all to 10 – Completely):

  pays attention to respect the rights of its employees and of the employees of its suppliers (***Employeeright***)

  respects the environment (***Environment***)

  gives correct information on goods sold in its shops (***Correctinf***)

  avoid favoritism and discrimination among workers (***Discrimination***)

  favor the involvement of its employees in the organization's activity (***Involvement***)

  select its suppliers by considering their attention to CSR practices (***Csrsuppliers***)

- Generally speaking, how much do you believe that "organization A (or B or C)" in dealing with the following categories of subjects behave in a fair way (from 1 – Not at all to 10 – Completely):

  member (in the case of the consumer's cooperatives) or shareholders (in the case of the joint-stock company) (***Member/shareholder***)

  skilled workers such as heads of departments etc. (***Strongworkers***)

  unskilled workers such as not specialized employees (***Weakworkers***)

  suppliers (***Suppliers***)

  consumers (***Consumers***)

  the local community (***Localcommunity***)

The Measurement of Structural Social Capital

- Finally, in order to have a proxy of the behavior of organizations towards their weak stakeholders, we focused on an objective information:

  the kind of contract (permanent or non permanent position) proposed to the employee (weak workers) when s/he entered into the organization.

  According to our intuition it may be a good proxy for the attempt of organizations to try to exploit all the surplus from the relation with their weak stakeholders and to the willingness of create cooperative relationship with them.

Strong and weak stakeholders - I

- Consumers are considered as strong stakeholders (they are obviously valuable to organizations and the organizations prefer to cooperate with consumers instead of behaving opportunistically and lose their cooperation)

Strong and weak stakeholders - II

- Workers are classified in two groups according to their position within the company. Workers who are employed in the first, second or third level are considered strong stakeholders. (they are essentially heads of department or people who have been employed in the organization for a long time). They are considered strong stakeholders because they have positions or may have acquired skills by staying in the organization which mean that they cannot be replaced at low switching costs.

Evidence

- By comparing the answers given by strong stakeholders, weak stakeholders and CSR managers of the different organizations, in relation to the previous questions

  we find that:

  [To evaluate the statistical significance of the differences in the variables we used nonparametric tests and applied the 5% significance threshold - we performed the Two-sample Wilcoxon rank-sum (Mann-Whitney)]

First results

1. In respect to CSR implementation we may essentially rank the three organizations as: A better than B and B better than C (that is A>B>C).

2. **It is coherent with the level of stakeholders' disposition (our previous H1)**

- A1' stakeholders (in particular consumers) have higher disposition than B1's stakeholders.
- B1' stakeholders (in particular strong workers) have higher disposition (even though only in respect to a few variables) than C1's stakeholders.
- B2's stakeholders (in particular consumers and weak workers) have higher disposition than C1's stakeholders.

<u>It seems not to confute our first hypotesis: higher dispositions implies higher implementation of CSR</u>

Second result

If we consider the kind of contract (permanent or non permanent position) proposed to employees when they entered into the organization as a proxy for the willingness to start a long-term cooperative relationship with weak workers (structural social capital), we notice that only two significant differences emerge:

- **A1 is strictly better than C1.** Considering our sample, 10 out of 36 weak workers of A1 have been hired with a permanent position while none of the 15 weak workers has been hired by C1 with a permanent position. This represents a statistically significant difference: Fisher's exact 0.024.
- **B2 is better than C1.** 9 out of 42 weak workers of B2 have been hired with a permanent position while none of the 15 weak workers has been hired by C1 with a permanent position. This represents a statistically significant difference (even though at 10%): Fisher's exact 0.094.

Are these results coherent with the level of belief and dispositions observed across organizations?

(Our previous second hypothesis)

Yes:

Strong stakeholders of A1 and of B2 have both higher dispositions and higher beliefs than C1's strong stakeholders. Therefore, ideal utility of A1's and B2's strong stakeholders should be higher than ideal utility of C1' strong stakeholders. This implies a greater probability that A1's and B2's strong stakeholders may punish A1 and B2 if they observe that they behave opportunistically against weak stakeholders. It explains the higher structural social capital (in terms of cooperative relationship between the organization and its weak stakeholders) of A1 and B2 in respect to C1.

Summing up

1. The stakeholders' conformist dispositions can induce the firm to agree on CSR principles and standard of conduct.
2. Beliefs and dispositions (i.e. cognitive social capital) induce strong stakeholders to cooperate with the firm if and only if it cooperates also with weak stakeholders.
3. Not entering cooperation with the firm is a reliable threat by a strong stakeholder. Hence the firm may decide to cooperate with weak stakeholders in order to avoid the sanction from strong stakeholders.
4. This produces structural SC (a sustainable network of cooperative relations involving the firm, the strong and the weak stakeholders), otherwise unfeasible
5. Sanctions are determined by endogenous incentives that we explain considering the role of cognitive social capital on stakeholders' behaviour.

Conclusion

Cognitive social capital, as we understand it in terms of conformist preferences and the related systems of beliefs, and CSR practices are at the very root of the possibility to make sustainable a relational network, which is what we typically mean by the term "structural social capital"