Making Friends to Influence Others: The Effect of Corruption on the Creation, Allocation and Impacts of Social Capital

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Research Question

How does the allocation of resources by an association and government corruption affect social capital formation and use?
Related Literature – Social Capital

• Coleman (1988, 1990) individual expectations that serve as a “credit slip” for future assistance.

• Putman (1993, 2000) focus on the “embeddedness” of the individual in a social environment.

• Lin (2001) resources embedded in social networks and used by individuals.

• Glaeser et al (2002) individual investment creates social capital but used by the group.
Definition of Social Capital

Social capital is a function of the individual efforts + the relational dynamics that result. The sum is greater than the individual parts.
Social Capital Used to Produce 2 Goods

• Club goods – production inputs available to association members only.

• Public goods – regulatory influence that affects all members of the industry (tax rate on environmental damage).
Three Stage Theoretical Model

• Stage 1: Individual allocates labor between producing output and activities that create social capital for the association.

• Stage 2: Government selects regulation and association allocates social capital.

• Stage 3: Individual combines inputs to maximize profit.
Model Assumptions

• Individual has labor endowment can split between production of output or social capital formation
  \[ L = L_w + L_s \]

• Social capital function of individual investment
  \[ S = S(\int B1 \uparrow B2 \Downarrow Ls (x)dx) \]

• Firm output depends on productivity and inputs
  \[ Q = xf(L_w, K) \]
Stage 3 – Individual Maximizes Profit

\[ \pi^*(p, t, r; L_w, x, \mu, S) = \max_{K_p} \{ (p - t) x f(L_w, K_p + K_s(\mu S)) - rK_p \} \]

- \( p \): Output price
- \( t \): Tax
- \( r \): Input price of capital
- \( x \): Productivity draw
- \( K_p \): Private capital
- \( K_s(\mu S) \): Social capital used in production
- \( \mu \): Amount of social capital used for club good
Stage 2 – Tax and Association Allocation

Total welfare function

\[ G = V + \alpha(1- \mu)Sv \]

- \( V = \) Sum profits for members + sum profits for non-members
- \( \alpha = \) Weight given to political support (corruption)
- \( (1- \mu) = \) Amount of social capital used to influence policy
- \( S = \) Social capital
- \( v = \) Shadow value of social capital
Stage 2 – Tax and Association Allocation

• Bernheim Whinston 1986; Grossman Helpman 1994
• \( t^* = \arg\max_{t} V + \alpha (1-\mu)Sv \)
• \( t^* = \arg\max_{t} \Pi^j (x) - (1-\mu)Sv + V + \alpha (1-\mu)Sv \)
Stage 2 – Tax and Association Allocation

• Government sets the tax such that the marginal damages are equal to the weighted marginal cost of implementing the tax on the association and non-members in the industry.

• Association devotes social capital to political influence to point where marginal cost of influence equals marginal profit from reducing tax regulation.
Result: Impact of More Corruption on Taxes and Social Capital Allocation

• More corruption results in lower taxes.

• More corruption has an ambiguous effect on social capital allocation.
  ▪ Large marginal damages from externality a high tax will exist. When corruption increases association allocate more to influencing tax rate.
  ▪ Small marginal damages from externality an increase in influence efforts only when corruption is high.
Stage 1 – Individual Allocates Labor

$$\text{Max } \pi = \pi^*(p, t, r ; L-L_s , x, \mu, S) - w(L-L_s) - c$$

$$w = \text{Opportunity cost of labor}$$
$$c = \text{fixed cost of joining association}$$

Two types of associations:
Most productive firms join the association
Least productive firms join the association
Result: Association Allocation Impacts

• High productivity firms allocate more labor to social capital if the association uses more social capital to the public good of regulatory influence.

• Low productivity firms allocate more labor to social capital if the association allocates more social capital to club goods for members.
Result: Effects of Corruption on Intensive Margin of Social Capital

• High level of corruption or large marginal damages leads the association to shift to more regulatory influence so low (high) productivity firms provide less (more) social capital.
Result: Effects of Corruption on Extensive Margin of Social Capital for High Productivity

• Often increased corruption causes the lower productivity firms to leave the association and social capital decreases.

• If corruption is relatively low, the association will allocate more social capital to the club good and attract more of the less productive firms.
Association Membership with Most Productive Firms

Social Capital Labor

![](image)
Result: Effects of Corruption on Extensive Margin for Low Productivity

• Number of firms contributing to social capital may increase or decrease.

• Most productive will leave the association, but more low productivity firms may remain in the industry and join the association.
Association Membership with Least Productive Firms

Social Capital Labor

Productivity

x

Xsc
Welfare Implications of Social Capital

• Increased allocation to the club good will increase total welfare.
• Increased social capital has an ambiguous effect on total welfare.
Conclusions

• Most (least)productive firms most likely to join association if association focuses on regulatory influence (production assistance).

• Corruption influences association social capital allocation decision which influences intensive and extensive margin of social capital provision.

• Social capital can increase or decrease total welfare
Implications

• Associations may lead to sub-optimal pollution levels.

• May be able to predict association actions by considering which firms join.