Strategic Information Revelation, Coordination and Certification by Committees

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29 September 2011

Abstract

The paper analyzes strategic information revelation by committees, in the context of an underlying coordination games between two firms for choice of a technological standard. In order to study the interplay of revelation of hard evidence, cheap talk on intent for coordination and coordination probabilities, the first model assumes that the firms do not know their exact types. They can approach the committee to find out their exact types at no cost. If both the firms approach the committee, it allows for a single round of cheap talk on intent prior to the coordination game.

The committee's benefits depend solely on the formation of a single standard.Therefore, the committee reveals information strategically to maximize the probability of coordination through the cheap talk round on intent. Depending on the skewness of the underlying distribution, full, partial or no information revelation is supported in equilibrium.

In contrast, the second model assumes that the firms know their exact types. However, without certification by the committee, a firm's type is not hard evidence. Here, the unique equilibrium involves no information revelation, as long firms have skeptical beliefs.

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To what extent can a committee reveal information strategically in order to improve coordination on a single standard? We would like to study the interplay of revelation of hard evidence, cheap talk on intent and coordination probabilities in order to understand strategic revelation of hard evidence. To this end, the first model assumes that the firms do not know their exact types at the beginning of a coordination game of choice of a single technology standard. All that is common knowledge is the independent and identical distribution of types over the compact type space.

The firms have the choice of approaching the committee to find out their exact types at no cost at the beginning of the coordination game. The committee has a costless technology of testing the type of the firm's technology and does not charge anything for revealing information. The reason is that the benefit to the committee is driven by the evolution of a successful standard.

In this model, a committee (which is only interested in coordination on a standard) will reveal hard evidence about a rms type when rms do not know their exact type strategically, such that the cheap talk mechanism of the committee increases the probability of coordination. The cheap talk mechanism of the committee helps to resolve the uncertainty in coordination to some extent. The extent to which the committee reveals hard evidence in order to use the cheap talk mechanism for coordination depends upon the underlying distribution of types.

Full information revelation by the committee requires a restriction on the distribution of types. For symmetric or mildly skewed distributions, it is observed that there is either full or no revelation in equilibrium. Partial information revelation requires a highly skewed a priori distribution of types.

We now remove the possibility of revelation of hard evidence by the committee, and focus only a certification role of the committee and the cheap talk on intent prior to the coordination game. To underscore this, we assume that the rms know their own types. However, without certication by the committee, their types are not credible information for their opponents. In sharp contrast to the result of the earlier model, the equilibrium disclosure rule involves no information revelation in the case of pure certication. In this case, the committee extracts and retains all the information rent.

1 Literature Review

Farrell (1987) analyzes the extent to which cheap talk can achieve coordination among potential entrants into a natural-monopoly industry, where payoffs are qualitatively like the "battle-of-the-sexes". The same analysis applies a variety of situations, as pointed out by Farrell (1987), such as bargaining under complete information or choosing compatibility standards.

Farrell (1987) observes that cheap talk helps achieve asymmetric coordination in a symmetric mixed-strategy equilibrium. However, the extent of success of cheap talk in achieving coordination depends on the amount of conflict in the game. With even a small amount of conflict, complete coordination cannot be achieved.

This chapter integrates cheap talk on intent in the coordination game of choosing a standard, but not in an environment of complete information. We assume that, at the beginning of the coordination game, the firms do not know the precise quality (or type) of their technologies. They have the option of approaching a technical committee, which has a costless device to test their quality and report it to them.

A complication lies in the fact that the committee is strategic (as opposed to the committee in chapter 1) and reveals information suited to its own interests. The committee is modeled as an institution that is interested in getting the firms to agree to a standard (either of the firms' technologies on which it can later carry out certification activities). For this purpose, it allows a round of cheap talk on intent before the coordination game. This incorporation of the cheap talk on intent is along the lines of Farrell (1987).

The strategic revelation of information by intermediaries like the technical committee in this chapter has been studied in other contexts. For instance, Lizzieri (1999) analyzes strategic information revelation by intermediaries in the context of one seller and two buyers. The role of the certification intermediary, in this case, is to test the quality of the good of the seller about which the latter has private information. The intermediary moves first by setting a price for certification and committing to a disclosure rule that specifies how much information is going to be revealed to buyers.

With a monopoly intermediary and an assumption about the distribution of quality t distributed over the compact type space $[a, b]$ (that $L(x) = E(t|t \geq x) - E(t|t \leq x) \geq E(t) - a \; \forall x \in [a, b]$), the unique equilibrium outcome involves no information revelation and the intermediary extracting all the informational surplus in the market. Without allocative distortion, this result shows purely redistributive distortion, with high-quality sellers getting less profits than they would in perfect information environments.

The intermediary, in this instance, is parasitic in nature and provides no informational role in the market. It merely extracts all the informational rents. However, in markets where information asymmetries cause allocative distortions, the intermediary solves the distortion by revealing the minimum amount of information. In the process, all the surplus goes to the intermediary. The intermediary might also use the certifying ability to enhance sellers' market power and reduce that of the buyer. This is because the intermediary is paid by the seller and the part of the overall surplus going to the buyer in a trade cannot be captured by the intermediary.

With competition among intermediaries, information revelation becomes a possibility. Lizzieri (1999) finds that with oligopolistic intermediaries, there is always an equilibrium where the latter makes no profits and reveals all information. In the limit, as the number of intermediaries go to infinity, this is the only equilibrium.

In contrast to Lizzieri (1999), the committee in our model uses the strategic revelation of information to achieve coordination, in which the firms themselves have significant interest (as the benefit of coordination is higher than private benefits from individual technologies). Nonetheless, we also find that non-revelation can be the unique equilibrium if there is a condition on the distribution function of types.

2 Model

Two firms do not know the exact type θ of their own technologies at the beginning of a coordination game. They, however, know the exact distribution of types of each firm, that the firms are independently and identically distributed following a continuous distribution function $\mathrm{F}(\theta)$ over a compact type space $\mathbb{T} = [\theta_l, \theta_h] \subset \mathbb{R}_+$. The coordination game is the same in chapters 1 and 2, where the firms are trying to coordinate on a single technology, but each firm wants its own technology to be chosen as the standard.

The firms know that the benefit of coordination c is greater than their private benefit from the technology θ. The firms can approach a technical committee to find out their type before playing the coordination game.

The committee is interested in the formation of a standard, as it can sell certification services once the standard is established. Its revenues depend only on the emergence of a successful standard. Therefore, not only does it not charge any fees for verification of type for the firms, it also allows mediated communication of cheap talk messages on intent if both the firms approach the committee in order to facilitate coordination.

The firms are ex ante similar. However, the committee can observe that them to be ex post dissimilar. For the purpose of earning revenues from an established standard, it does not matter to the committee that the standard forms on the more efficient technology. The achievement of coordination on any one standard is the motivation for the committee.

Ex ante, the only piece of shared information among the firms and the committee is the continuous distribution function $F(\theta)$.

3 Timing of the game

The committee observes the firms' private benefit and decides a disclosure rule and number of periods of cheap talk communication before the coordination game. The firms decide whether or not to approach the committee.

If both the firms go to the committee, then the engage in a single round of simultaneous cheap talk communication about intent in the coordination stage. Else, if only one firm approaches the committee, then it alone gets to know its type and the committee signals its type to the other firm before the coordination stage. If none of the firms approach the committee, then they directly play the coordination game, on the basis of their knowledge of $F(\theta)$.

For sequential cheap talk communication,

4 Actions, Strategies and Payoffs

The committee announces a disclosure rule $D \in \Psi$ and n, which indicate the number of rounds of cheap talk on intent in the committee. We first analyse the case where the committee announces $n = 1$.

The class of disclosure rules Ψ rules out untruthful reporting. The committee either reveals the true type for all types within the entire type space or for some types. This allows for complete non-revelation as well. Therefore, a disclosure rule D maps from the type space to the message space, $D : \mathbb{T} \rightarrow M$.

A full disclosure rule, D^F, is defined as follows:$D : \mathbb{T} \rightarrow \mathbb{T}$. The message space under the full disclosure rule, M^F, is:

$$M^F = \{\Delta : \Delta \equiv \mathbb{T}\} \tag{1}$$

A partial disclosure rule D^p is one in which the committee reveals only a part of the type space. Hence, $D : \mathbb{T} \rightarrow M^p$, where the message space M^p is given by:

$$M^p = \{\Delta : \Delta \subset \mathbb{T}\} \tag{2}$$

A no disclosure rule is one where the set of types for which information revealed is null. Here the message space M^n corresponds to:

$$M^n = \{\Delta : \Delta \equiv \Phi\} \tag{3}$$

where Φ is the null set.

The firm i's strategy is the triple $r_i = \{d_i, q_i, p_i\} \in R_i$, where $d_i = 1$ if firm i goes to the committee and $d_i = 0$ if the firm does not go to the committee. q_i is the probability with which firm i insists on its own technology in the cheap talk round of the committee and p_i is the probability with which firm i adopts its own technology in the coordination stage of the game. Note that $R = R_i \times R_j$ and $r = r_i \times r_j \in R$ is the strategy profile for the two firms.

The payoff matrix of firm i in the coordination round is given in the Table below:

	Wait	Insist
Insist	$\theta_i + c$, c	θ_i,θ_j
Wait	0,0	c, $\theta_j + c$

For a given disclosure rule D, the payoff of the committee $U_c(D, (d_i = d_j = 1)) = \lambda c$, where $\lambda = q_i(1-q_j) + (1-q_i)q_j + (q_i q_j + (1-q_i)(1-q_j))(p_i(1-p_j) + p_j(1-p_i))$ is the probability of coordination on either A or B. If none of the firms go to the committee, then $U_c(D, \{(d_i = 1, d_j = 0), (d_i = 0, d_j = 1), (d_i = 0, d_j = 0)\}) = 0$.

It is obvious that the interests of the committee and the firms are perfectly aligned if $\theta_i = \theta_j = 0$. For all other positive values of θ_i and θ_j, the preferences of the committee and the firms are partially aligned. Since the preference of the committee is known to both the firms, this is a model of an expert (committee) with a known bias and multiple decision makers with unknown types.

5 Perfect Bayesian Equilibria of the game

In order to focus on the mechanism of coordination, we restrict attention to mixed strategy equilibria of the coordination and cheap talk subgames.

An equilibrium strategy profile $\sigma^* = \{D^*, r^*\}$ satisfies:

- $U_c(\sigma^*) > U_c(D', r^*)$ for all $D' \in \Psi$

- $\pi_i(\sigma^*) > \pi_i(D^*, r')$ for all $r' \in R$, for all i

- firm i updates its belief about θ_i depending on the disclosure rule of the committee in a Bayesian manner.

Let $\bar{\theta} = \int_{\theta_i} \theta_i f(\theta_i) d(\theta_i)$ and let $L_i(\bar{\theta}) = Pr(\theta_i \geq \bar{\theta}) - Pr(\theta_i < \bar{\theta})$ $\forall i$. Let π_i(go|go) denote the payoff to firm i from going to the committee conditional on firm j also going to the committee. Let π_i(go|not go) denote the payoff to firm i from going to the committee conditional on firm j not going to the committee.

We first report the results of the subgames following any particular disclosure rule of the committee (assuming only one round of cheap talk by the committee). Suppose that the committee discloses all information.

Corollary 1. *If both the firms go to the committee, the payoff to firm i is $\pi_i(go|go) = \frac{(\theta_i+c)(3c-\theta_i)}{4c}$, when the committee discloses all information. Expected payoff of firm i is $\frac{3c}{4} + 2c\bar{\theta} - \frac{\theta_h^3-\theta_l^3}{3}$.*

Proof. If both the firms go to the committee, then mixed strategy payoff from the cheap talk stage is:

$$\pi_i(\text{go}|\text{go}) = q_j v + (1-q_j)(\theta_i + c) = q_j c + (1-q_j)v \tag{4}$$

where v is the continuation payoff from the last coordination stage and is given by $v = \frac{\theta_i+c}{2}$ when both firms go to the committee.

Therefore, $\pi_i(\text{go}|\text{go}) = \frac{(\theta_i+c)(3c-\theta_i)}{4c}$, where $q_j = p_j = \frac{\theta_i+c}{2c}, j \neq i$. The same analysis holds for firm j.

Expected payoff of firm i, in this case, is: $\int_{\theta_i} \frac{(\theta_i+c)(3c-\theta_i)}{4c} f(\theta_i) d(\theta_i) = \frac{3c}{4} + 2c\bar{\theta} - \frac{\theta_h^3-\theta_l^3}{3}$. $\square$

Suppose now that only one of the firms go to the committee. Suppose that this firm approaching the committee not only gets to know its exact type but also gets to announce its intent about choice of technology to the other firm. The other firm not approaching the committee is deprived of both these benefits.

One-sided communication of intent in this Battle-of-the-Sexes coordination game has no impact on the impact on the decision of the rm which does not go to the committee. In this case, the announcement of intent is not linked to the rms type. In fact, all types of rms which approach the committee can announce that they will adopt their own technology. This one-sided announcement of type does not resolve the uncertainty over equilibrium selection in this game.

It is only when both the rms go to the committee and simultaneously announce their intentions, the committee acts as a mechanism to resolve the uncertainty in equilibrium selection. This is the reason why coordination improves through cheap talk in the committee. As pointed out by Aumann and Hart(2003) in his contention that cheap talk helps restrict equilibrium outcomes, the compromise/ coordination equilibrium in the Battle-of-the-Sexes game (example 2.3 in the paper) is achieved with cheap talk on intent only if the lottery controlling payos in the talk phase is jointly controlled:"both players must be convinced that the probablilities are indeed $\frac{1}{2}$ -$\frac{1}{2}$ and both must observe its outcome.

Corollary 2. *If only firm i goes to the committee, the payoff to firm i is $\pi_i(go|not\ go) = \frac{\theta_i+c}{2}$ $\forall\theta_i < c$, when the committee discloses all information. Expected payoff of firm i is $\frac{\bar{\theta}+c}{2}$.*

Proof. If firm i goes to the committee alone, then its equilibrium mixed strategy payoff is:

$$\pi_i(\text{go}|\text{go}) = q_j\theta_i + (1-q_j)(\theta_i + c) = q_j c + (1-q_j)0 = \frac{\theta_i + c}{2} \tag{5}$$

where, $q_j = \frac{\theta_i+c}{2c}$ □

Corollary 3. *If firm i does not go to the committee and max $\theta_i < c$, the payoff to firm i is $\pi_i(not\ go|.) = \frac{\bar{\theta}+c}{2}$, when the committee discloses all information.*

Expected payoff of firm i is $\frac{\bar{\theta}+c}{2}$ irrespective of whether the other firm goes to the committee or not.

Proof. If a firm does not go to the committee, it does not know its own type. It assumes that its type is the average of the distribution of types. Irrespective of whether the other firm goes to the committee, in the mixed strategy equilibrium of the coordination game, it has to make the average type of the firm which has not gone to the committee indifferent between insisting and switching.

Therefore, the equilibrium payoff of the firm not going to the committee is: $\frac{\bar{\theta}+c}{2}$ given that the opponent's strategy is $p = \frac{\bar{\theta}+c}{2c}$. □

5.1 Results

Proposition 1. *Suppose the committee discloses all information. Then, a firm will go to the committee ($d_i = 1\ \forall i$) irrespective of the other firm's strategy of going to the committee if and only if $L(\theta_i) \geq 0$.*

Proof. If the committee discloses all information, then corollary 1 says that:

$$\pi_i(\text{go}|\text{not go}) = \frac{\theta_i + c}{2} \tag{6}$$

This is the mixed strategy payoff from the coordination stage if only one firm goes to the committee. Only this firm's type is signalled to the other firm and there is no cheap talk communication. Therefore, if a firm does not go the committee, irrespective of whether the other firm goes to the committee, its type does not get signalled to the other firm. Its payoff is a function of the average of the entire distribution of types.

$$\pi_i(\text{not go}|\text{go}) = \pi_i(\text{not go}|\text{not go}) = \frac{\bar{\theta} + c}{2} \tag{7}$$

Due to the conditional independence of payoffs, firm j's type does not enter firm i's payoff. The same analysis goes through for firm j as the firms are symmetric ex-ante.

If both the firms go to the committee, then mixed strategy payoff from the cheap talk stage is:

$$\pi_i(\text{go}|\text{go}) = q_j v + (1 - q_j)(\theta_i + c) = q_j c + (1 - q_j)v \tag{8}$$

where v is the continuation payoff from the last coordination stage and is given by $v = \frac{\theta_i + c}{2}$ when both firms go to the committee.

Therefore, $\pi_i(\text{go}|\text{go}) = \frac{(\theta_i+c)(3c-\theta_i)}{4c}$, where $q_j = p_j = \frac{\theta_i+c}{2c}, j \neq i$. The same analysis holds for firm j.

It is easy to verify that $\mathrm{E}\pi_i(\text{go}|\text{go}) - E\pi_i(\text{not go}|\text{go}) > 0$ for all $\theta < c$. Further, if $L(\theta_i) > 0$, then $\mathrm{E}\pi_i(\text{go}|\text{not go}) - E\pi_i(\text{not go}|\text{not go}) > 0$. If $L(\theta_i) = 0$, then $\mathrm{E}\pi_i(\text{go}|\text{not go}) - E\pi_i(\text{not go}|\text{not go}) = 0$. Therefore, firm i will want to go to the committee if $L(\theta_i) \geq 0$. Going to the committee is a dominant strategy if $L(\theta_i) > 0$ and a weakly dominant strategy if $L(\theta_i) = 0$.

One can easily check that if a firm is interested in going to the committee, irrespective of the other firm's strategy, then $L_i(\bar{\theta}) \geq 0 \ \forall i$. □

Proposition 2. *With full disclosure, there are two pure strategy equilibria (both firms going to the committee and neither firm going to the committee) if* $L_i(\bar{\theta}) < 0 \ \forall i$

Proof. Suppose the committee discloses all information. Then, if both firms go to the committee or if neither go to the committee, the payoff to the firms is the same as in Proposition 1. However the payoff of going to the committee if only one firm goes to the committee while the other firm does not changes if $L_i(\bar{\theta}) < 0 \ \forall i$.

Now the difference in expected payoff of going to the committee if the other firm does not go to the committee from not going to the committee given that the other firm does not go to the committee is negative: $L_i(\bar{\theta})(\pi_i(\text{go}|\text{not go}) - \pi_i(\text{not go}|\text{not go})) < 0$.

Therefore, there is no weakly dominant strategy equilibria now. A firm's best response to go the committee arises only if the other firm goes to the committee. If the other firm decided not to go to the committee, the best response of the firm would be to not go to the committee as well. Presumably firms settle on playing mixed strategies in this case. $\square$

Proposition 3. *Suppose the committee discloses no information.Then, a firm will go to the committee ($d_i = 1\ \forall i$) irrespective of the strategy of the other firm.*

Proof. The only advantage of going to the committee now is the cheap talk mediation that is not available without the committee.

$$\pi_i(\text{not go}|\text{go}) = \pi_i(\text{not go}|\text{not go}) = \pi_i(\text{go}|\text{not go}) = \frac{\bar{\theta} + c}{2} \tag{9}$$

whereas,

$$\pi_i(\text{go}|(\text{go}) = \frac{(\bar{\theta} + c)(3c - \bar{\theta})}{4c} \tag{10}$$

Therefore, going to the committee is a weakly dominant strategy for either firm. $\square$

With $L_i(\bar{\theta}) \geq 0$ and full disclosure, the unique equilibrium with $n = 1$ is to go to the committee. The committee might be able to increase the number of cheap talk periods beyond $n = 1$ when $L_i(\bar{\theta}) \geq 0$ depending on the spread of the type space and the value of θ_h/c.

In equilibrium, the committee will set the number of cheap talk rounds such that a firm is indifferent between going and not going to the committee. This will maximize the probability of coordination as the higher the number of cheap talk rounds, the higher is the probability of coordination (Farrell, 1987)

For $n = 1$, we now compare the coordination probabilities on a technology with the full disclosure policy and the no disclosure policy when $L_i(\bar{\theta}) \geq 0 \forall i$.

We first note that if both firms go to the committee, the probability of coordination is lower than if either or none of them go to the committee. The cheap talk round of communication reduces the probability of coordination failure to some extent. The effectiveness of cheap talk depends on the extent to which the interests of the firms are aligned, which is strategically manipulated by the committee by its information disclosure rule.

With full disclosure or with no disclosure, the probability of coordination failure is:

$$\psi = [p_i p_j + (1-p_i)(1-p_j)][q_i q_j + (1-q_i)(1-q_j)] \tag{11}$$

In the mixed strategy equilibrium of the full disclosure policy with $L_i(\bar{\theta}) \geq 0$, $q_i = p_i = \frac{\theta_j + c}{2c}$ and $q_j = p_j = \frac{\theta_i + c}{2c}$. Therefore, $\psi_{\text{reveal}} = [\frac{\theta_i+c}{2c}\frac{\theta_j+c}{2c} + \frac{c-\theta_i}{2c}\frac{c-\theta_j}{2c}]^2$. In the mixed strategy equilibrium of the no disclosure policy, $q_i = p_i = q_j = p_j = p = \frac{\bar{\theta}+c}{2c}$. Therefore, $\psi_{\text{not reveal}} = [(\frac{\bar{\theta}+c}{2c})^2 + (\frac{c-\bar{\theta}}{2c})^2]^2$.

Comparing $E(\psi_{\text{reveal}})$ with $E(\psi_{\text{not reveal}})$, we get:

$$4c^4(E(\psi_{\text{reveal}}) - E(\psi_{\text{not reveal}})) = \int_{\theta_i}\int_{\theta_j}((c^2+\theta_i\theta_j)^2 - (c^2+\bar{\theta}^2)^2)f(\theta_i)f(\theta_j)d(\theta_i)d(\theta_j) \tag{12}$$

Therefore, ex-ante revealing is preferable to not revealing if $4c^4(E(\psi_{\text{reveal}}) - E(\psi_{\text{not reveal}})) = \frac{(\theta_h^3-\theta_l^3)^2}{9} - \bar{\theta}^4 < 0$.

Proposition 4. *If $\frac{(\theta_h^3-\theta_l^3)^2}{9} - \bar{\theta}^4 < 0$, the optimal disclosure policy of the committee is to reveal all information. In equilibrium, if $L_i(\bar{\theta}) \geq 0$, both firms go to the committee to find out their exact types and the probability of coordination on either technology is $(1-\psi_{reveal}) = 1 - \frac{\theta_i+c}{2c}\frac{\theta_j+c}{2c} - \frac{c-\theta_i}{2c}\frac{c-\theta_j}{2c}]^2$.*

If, on the other hand, $L_i(\bar{\theta}) < 0$, then it is not certain whether the firms will go to the committee or not. If firms play a mixed strategy for choosing whether or not to go to the committee, then the probability of going to the committee for firm i is $m_i = \frac{(\bar{\theta}-\theta_j)2c}{(c^2-\theta_j^2)}$.

In equilibrium, either there is full disclosure or no disclosure. Partial disclosure is not incentive compatible for symmetric and mildly skewed distributions where $L(\theta_i) > 0$. For partial disclosure to be an equilibrium, the distribution of types must be much more skewed to the right.

For instance, a partial disclosure rule D^P with a message space $M^P = := [\theta_l, \bar{\theta}]T$ yields a lower probability of coordination failure relative to full revelation if the distribution is skewed to the right such that $\tilde{L}(\theta_i) = Pr(\theta_i > \tilde{\theta})Pr(\theta_i < \tilde{\theta}) > 0$, where $\tilde{\theta} = \int_{\tilde{\theta}}^{\theta_h} \theta_i f(\theta_i) d(\theta_i)\ \forall i$.

If, on the other hand, $L(\theta_i) < 0\ \forall i$, full or partial revelation does not ensure that both the rms will go to the committee. Any disclosure rule is consistent with either both the rms going or not going to the committee.

For this analysis, we assumed that the number of periods of cheap talk was xed at n = 1. For any disclosure rule, we can nd the optimum rounds of cheap talk individually also. The optimum is attained at that particular round of cheap talk such that either rm is indierent between going and not going to the committee.

If we discount the payos to take into account cost of delay, the permissible rounds of cheap talk decrease. What is of greater interest is to decide, for a given distribution of types, what would be an optimum combination of both cheap talk and disclosure rule.

The higher is the information revealed to the rms, the higher is the vested interests of the rms and the lower is the ability of cheap talk to achieve coordination (Farrell, 1987). The higher is the rounds of cheap talk, the higher is the probability of coordination. With cost of delay in payo, however, lower is the possibility of a rm at all approaching the committee.

It is interesting to note how much the committee is able to strategically reveal its information is a function of whether the rms do not know their types or whether rms know their types privately but is not believed unless it is certied by the committee. In the former case, it depends largely on the ex-ante distribution of types $F(\theta_i)$ $\forall i$. In the latter case, the extent of manipulative disclosure depends on what the opponent believes if a rm does not go to the committee.

6 Purely certification role of the committee

We now assume that the firms know their types, but without being certified by the committee, the opponent does not believe a firm's type. Even in this case the firm will go to the committee, even if it announces a disclosure rule of no information revelation, in order to avail of the higher benefit of coordination provided by the cheap talk on intent.

Proposition 5. *If the committee observes that θ_i and θ_j are both greater than $\bar{\theta}$, it announces a disclosure rule of no information revelation. In equilibrium, the firms go to the committee as long as out-of-equilibrium belief is that the firm is of the lowest type.*

This is an interesting result along the lines of Lizzieri (2002), which shows similar strategic information revelation by certification intermediaries. In this case, the committee is not merely parasitic, extracting all the rent arising out of asymmetric information. It is revealing information strategically in order to minimize the probability of coordination failure in which the firms also have a stake.

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