Decision Making Procedures for Committees of Careerist Experts

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The call for "more transparency" is voiced nowadays by politicians and pundits alike, as a solution to almost any failure of the political system. Proponents of transparency emphasize its benefits such as enhanced accounability, enhanced predictability, and the provision of expert information to the economy. Both political scientists and economists noted however that, in the presence of career or reputation concerns, transparency may yield inefficient decisions as decision makers will not necessarily state their private views in public, thereby distorting the process of information aggregation.

In this paper I consider the optimality of transparency of committees.[1] I build on a model of committees composed of experts who have career concerns, provided in Levy (forthcoming). When the decision making procedure in a committee is transparent, outsiders can observe the individual votes of the experts, whereas when it is secretive, only its final decision is known to outsiders. As I emphasize in Levy (forthcoming), whether committees should be transparent or secretive cannot be analyzed while ignoring the particular voting rule the committee employes.

More specifically, I show in Levy (forthcoming) that when the voting rule is biased in favour of a particular decision (for example, when that decision is accepted unless all members vote against it), then experts vote more often for this decision under secrecy than under transparency. Intuitively, under secrecy, such a "default" decision generates more uncertainty about individual votes, as many vote configurations could have led to its acceptance. Careerist experts prefer to generate uncertainty about their votes as it allows them to shed the blame on others if the decision turns out to be wrong. Preliminary welfare analysis has suggested that in some cases, the optimal decision making procedure is secretive, but only if coupled with a particular voting rule (the one that favours the decision advocated by the prior).

In this paper I extend the welfare analysis to provide the following insights. I show that if the voting rule is biased against the decision advocated by the prior, then a transparent procedure dominates a secretive one. However, if the voting rule is biased in favour of the decision advocated by the prior, a transparent procedure dominates when the prior is sufficiently weak and a secretive procedure dominates when the prior is sufficiently strong. Finally, if one can also choose the voting rule, then due to the distortion arising from career concerns, it is never optimal to use a voting rule that is biased against the decision advocated by the prior.

Previous papers concerning the transparency question in committees did not focus on the importance of the voting rules. Among these, the most related paper is by Hans Gerbasch and Volker Hahn (2001) who consider the transparency question in a dynamic set-up.[2] On the other hand, previous papers analyzing voting rule in committees of careerist experts did not focus on the transparency question. Among these, the most related is the paper by Bauke Visser and Otto Swank (forthcoming), who consider the effect of voting rules on the deliberation process in committees.

I. A Model of A Committee of Experts

Consider a two-members committee which needs to decide between two alternatives, A and B. Each member $i \in \{1, 2\}$, receives information on a random variable $w_i \in \{a, b\}$. Each of these random variables could be interpreted as determining a dimension of the problem, for example, a different criterion according to which A and B are evaluated.

I assume that the $w_i's$ are independently distributed. This assumption allows me to isolate the different effects arising due to career concerns (see the discussion in Levy (forthcoming)). In particular, I assume that the prior probability is $\Pr(w_i = b) = q_i$. To make the model tractable, let $q_i = q > \frac{1}{2}$ for all i.

Each expert i receives a signal $s_i \in \{a, b\}$, such that $\Pr(s_i = w_i | w_i) = t_i$. Each expert i knows t_i, whereas all others know that t_i is uniformly distributed on $[.5, 1]$. The talent of an expert is therefore measured by t_i; the more talented is expert i, the more accurate is his information. Given the prior and his private signal, each expert can update his beliefs about his state of the world.

The committee members vote simultaneously either for A or for B. Votes are then aggregated: According to an A-*rule,* the committee decides for A unless both members vote for B, whereas a B-*rule* is such that the committee decides for B unless both members vote for A.

An additional agent is the evaluator, denoted by E. The evaluator updates her beliefs about t_i for each expert i, given the uniform prior on each. To simplify the analysis, I assume that E observes w_i, after the decision had been taken, for all i. In addition, E observes the committee's decision and knows the voting rule. Finally, if the committee's meeting is transparent, she also observes the votes of the individual members whereas if it is secretive, E does not observe the votes.

As usual in career concerns models, I don't attribute any utility function to the evaluator but simply assume that she rationally updates her beliefs. I assume that each expert's objective is to maximize these updated beliefs on his type.

In equilibrium, the evaluator's beliefs about the experts' strategies are correct and her updating process relies on Bayes rule whenever possible. Also, each expert chooses the vote which maximizes $E's$ beliefs on his type. I focus on informative equilibria, i.e., equilibria in which each expert's votes are sometimes responsive to their signals, and ignore 'mirror' equilibria in which the meaning of the signals is reversed. Moreover, in the secretive procedures, I focus only on the interesting equilibria in which experts vote as if they are pivotal, and on the symmetric equilibrium in which both experts use the same strategy.

II. The Equilibrium Behavior of Careerist Experts

This section borrows on the analysis in Levy (forthcoming). Obviously, in a transparent procedure, the evaluator can tell whether an expert's recommendation was right or wrong. But also in a secretive procedure, the evaluator can use her knowledge of the states of the world, the committee's decision, and the particular voting rule, to form some beliefs about whether the recommendation of each expert was right or wrong. This implies that an informative equilibrium exists in both these cases (even though each expert only cares for his reputation and not about the decision itself). In such an equilibrium, an expert is rewarded with higher reputation for making, or being perceived as making, the correct recommendation. Thus, any expert has an interest to make good use of his private signal. The informative equilibrium (which is in fact unique), is characterized by a cutoff rule; each expert recommends B if he believes that the probability that his state is b is high enough, and recommends A otherwise.

When the procedure is transparent, experts' behavior in equilibrium (i.e., the cutoff rule) has two features. First, it is not affected by the voting rule, as an expert is judged only on the basis of his own recommendation and whether it is the correct one. Second, each expert votes for A also in cases in which he believes that B is the right decision. The reason is that the expert is rewarded - in reputation terms - when he contradicts the prior and recommends for A. This increases reputation since it signals that the experts' own private information is more accurate than the prior.

In fact, under any decision making procedure, the incentive to go against the prior implies that the interval of types who vote for A does not shrink to zero measure with q (i.e., even if the prior is heavily biased towards B). In other words, it is not only the extremely able who vote for A. Such a strategy cannot be sustained in equilibrium for any decision making procedure, since in that case, the reputation from being perceived as voting for A would exceed that from being perceived as voting for B even if A turns out to be the wrong vote. But this would provide an incentive for types of lesser ability to deviate and vote for A, a contradiction.

But how do the equilibria differ under the secretive and the transparent procedures? First, experts' behavior in the secretive procedure does depend on the voting rule, as the specific rule determines the evaluator's beliefs on experts' recommendations. Second, I find that when the voting rule is the B-*rule* (A-*rule*), an expert votes more often for B (A) in the secretive procedure than in the transparent one. To see the intuition, consider a secretive committee and the B-*rule*. If the committee decides for A, the evaluator can perfectly learn that each expert had voted for A, exactly as in the transparent procedure. On the other hand, a decision for B creates uncertainty about individual votes. In that case, two conflicting effects arise compared with a transparent procedure. If the state of the world of an expert is a, the expert can gain utility by "claiming" that he actually voted for A and shedding the blame for the wrong decision on the other expert. On the other hand, if the state of the world is b, the expert loses utility compared with a transparent procedure, since the evaluator might believe that he voted wrongly for A. As the equilibrium is informative, the expert is perceived to vote for A more often when the state is a than when the state is b. This implies that the utility gain from shedding the blame on the other expert is larger than the utility loss from not being recognized as the one who made the right and decisive vote. As a result, more types of experts would vote for B in the secretive procedure compared with a transparent one.

The above discussion is summarized below:

Proposition 1 (Levy, forthcoming): *(i) When the procedure is transparent, the voting rule does not affect how experts vote, and each expert sometimes votes for A even when he believes that B is the right decision. (ii) When the procedure is the secretive B-rule (A-rule), experts vote more often for B (A) compared with a* *transparent procedure. (iii) For all q, the committee accepts each decision with a probability that is bounded away from zero.*

III. Welfare

The decision making procedures considered above differ on two aspects, the voting rule and the level of transparency. I can now use the model to analyze which procedure induces committees to make decisions in the most efficient manner.

A natural criterion for efficiency in the context of a committee of experts is that of information aggregation, i.e., the aggregate probability that the committee's decision is correct on as many dimensions as possible. In particular, suppose that society gains 1 util for any dimension on which the decision is correct (and 0 for any dimension on which it is wrong).

Welfare would therefore depend on how experts vote (which is determined in equilibrium by the voting rule as well as by the level of transparency), and how their votes are aggregated by the voting rule. I can then show the following (the proof is in the Appendix):

Proposition 2: *(i) If the voting rule is fixed on the A-rule, then a transparent procedure dominates. (ii) If the voting rule is fixed on the B-rule, then a transparent procedure dominates when the prior q is sufficiently low and a secretive procedure dominates when the prior q is sufficiently high. (iii) It is never optimal to use the A-rule.*

To understand the result, let us consider first a transparent procedure, and compare between an A-*rule* and a B-*rule*. In the transparent case, both rules induce the same voting behavior, and thus they only differ in how they aggregate the votes. In particular, they only differ when experts' opinions are divided. How to optimally aggregate these divided votes depends on the endogenous meaning of an A vote and a B vote in equilibrium. If experts would vote only rarely for A, then an expert's A vote would be a strong signal that A is the correct decision, outweighing both the prior and the other expert's vote. However, in equilibrium, experts tend to vote too often for A (against the prior) in order to enhance their reputation. This implies that a vote for A is a relatively weak signal about A. Thus, the optimal voting rule is the B$-$*rule*, which aggregates experts' divided opinions as a decision for B.

Second, consider a transparent A-*rule* versus a secretive A-*rule* . They differ not in how they aggregate votes but in the induced voting behavior. By Proposition 1, under both rules experts vote for A even when they think that B is the right decision, and even more so under the secretive A-*rule*. Thus, not only the voting rule is biased in favour of A, also the experts bias their vote in favour of A, which is inefficient given that the prior indicates that B is the right decision. The transparent A-*rule* minimizes this inefficiency and therefore dominates the secretive A-*rule*. Whereas this argument implies (i), along with the paragraph above it also implies that it is never optimal to use an A-*rule*, as stated in (iii).

We can then focus our attention on the B-*rule,* a rule that is biased in favour of B, and choose between a transparent and a secretive procedure. The secretive procedure induces experts to vote more often for B compared with the transparent one. When the prior q is weak, a procedure that induces experts to vote more often for B inefficiently exacerbates the bias of the voting rule. Thus, the transparent procedure dominates for low levels of q. On the other hand, by Proposition 1(iii), under both procedures experts vote for A with a probability that is bounded away from zero, which is inefficient when the prior q is strong. In these cases, the secretive procedure minimizes this distortion, and is therefore dominant for high levels of q.[3] This implies the result in (ii).

IV. Discussion and Further Directions

The model presented in this paper is designed to be as simple as possible in order to discuss optimality of decision making procedures in committees. Specifically, only a two-members committee was considered and thus both voting rules are biased, either in favour of A or of B. It is important to note that the qualitative results are maintained even when we consider larger committees and allow for an unbiased rule such as the simple majority rule. As the prior q serves as an alternative source of inherent bias, and due to the distortive behavior of the careerist experts, it is optimal in some cases to employ biased voting rules (as well as secretive procedures) even when unbiased rules are feasible.

To gain more insights on optimal procedures or on decisions in careerist committees in general, the model may be extended in several possible ways (see also the discussion in Levy (forthcoming)). First, I have considered here the case of *external reputation*, as committee members care about the assessment of some outside evaluator on their type. Equally so, a committee member may care about how other committee members evaluate his talents. The combination of external and internal reputation concerns may be an interesting possibility for future research.

Second, although the insights presented in this paper can be extended to consider larger committees, in that case it may be important to tackle the issue of information acquisition which I have abstracted from. Specifically, in a secretive procedure, the incentive of a committee member to free ride others' information increases with the size of the committee.[4] This effect does not arise in transparent committees.

Finally, in many committees it is a common practice that committee members themselves choose the decision making procedure which they employ. Depending on their ability, committee members may have different induced preferences on these procedures. Given such a possible conflict, it may be interesting to explore an environment in which the choice of the decision making procedure is determined internally.

V. Appendix

In this appendix I outline the proof of Proposition 2. In Levy (forthcoming) I show that if the mechanism is transparent, or if it is the secretive B-*rule*, or if it is the secretive A-*rule* and q is high enough, then an expert i votes B if $s_i = b$ or if $s_i = a$ and $t \leq t(q)$, for some cutoff $t(q)$, where $t'(q) > 0$ (the cutoff differs across procedures). In these case, given q, the welfare from the B-*rule* for some cutoff t, up to a constant, is:

$$(1) \qquad 2q^2(1 - (\int_t^1 2(1-v)dv)^2) + 2(1-q)^2(\int_t^1 2vdv)^2,$$

and the welfare from the A-*rule*, up to a constant, is:

$$(2) \qquad 2q^2(\int_{.5}^1 2vdv + \int_{.5}^t 2(1-v)dt)^2 + 2(1-q)^2(1 - (\int_{.5}^1 2(1-v)dv + \int_{.5}^t 2vdv)^2).$$

If the mechanism is the secretive A-*rule* and q is low, then the expert votes B if $s_i = b$ and $t \geq t(q)$, where $t'(q) < 0$, so that the welfare is (up to a constant):

(3) $$2q^2(\int_t^1 2v dv)^2 + 2(1-q)^2(1-(\int_t^1 2(1-v)dv)^2).$$

When the procedure is transparent, by Proposition 1(i), both rules have the same cutoff, and the B-*rule* dominates the A-*rule* if (1) minus (2) is positive. For a given q, this is satisfied for all $t \leq t'$ for some $t' \in (q, 1]$. By Proposition 1(i), $t(q) < q$ in the transparent mechanism, so that the transparent B-*rule* dominates the transparent A-*rule*.

Now consider the A-*rule*. The derivative of (2) w.r.t. the cutoff t is positive for all $t \leq t'$ for some $t' \in (q, 1]$ and the derivative of (3) w.r.t. t is negative. Thus, by Proposition 1(ii), welfare increases the more an expert votes for B for the relevant range of the cutoff rules. The transparent A-*rule* dominates therefore the secretive A-*rule* (which establishes Proposition 2(i)) and by the above, the transparent B-*rule* dominates both (which establishes Proposition 2(iii)).

Finally, as the cutoff is bounded for all mechanisms (see Proposition 1(iii)), welfare from the B-*rule* is increasing in t for high enough q (consider $q \to 1$). It is decreasing in t for low enough q (consider $q \to \frac{1}{2}$). These observations and Proposition 1(ii), establish Proposition 2(ii).

References

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Notes

[1]See Andrea Prat (2005) for analysis of such question in the context of individual decision making.

[2]Also related are the papers by Anne Sibert (2003) and David Stasavage (2004). Both provide models of experts who wish to signal their preferences, unlike here, where experts wish to prove their ability.

[3]This latter observation is also shown in Levy (forthcoming).

[4]See also Nicola Persico (2004).