

Kurz gefasst: Treffen größere Kommissionen bessere Entscheidungen? Einerseits verfügen größere Gremien über mehr relevante Informationen als kleine, was zu besseren Entscheidungen beiträgt. Andererseits wird durch die geringere Bedeutung der einzelnen Stimme die persönliche Verantwortung verwässert. Große Kommissionen sind daher eher übervorsichtig.

Summary: Do large committees make better decisions? On one hand, a larger committee has more information regarding which decision is correct. On the other hand, a larger committee dilutes responsibility since each individual is less likely to be decisive in determining the final outcome. This tradeoff can lead to over-caution in large committees.

With shared responsibility

How committee decisions depend on procedures and size

Justin Valasek

In 1785, the French mathematician and philosopher Marquis de Condorcet penned a proof of the superiority of democratic decision making: Assuming each individual is more likely to be right than wrong, groups of individuals taking decisions by majority rule are more likely to choose the better option than any individual. Condorcet went on to become a leading figure in the French revolution and met a tragic end, dying under mysterious circumstances after having been denounced as a traitor to the revolution. His ideas, however, remain influential to this day, and the logic of his classic proof suggests a reason for why many important social decisions are made by committees rather than individuals.

Whether a drug is made available to the public, whether a defendant is convicted or walks free, whether a nation goes to war: These are all decisions made by a committee vote. But despite the ubiquitous nature of using collective choice to determine the best outcome, it is an area that has not received much attention in the 200 years since the times of Condorcet. Recently, however, the economics and political science literature has taken a more critical examination of decision-making in committees, systematically characterizing both the benefits, and the drawbacks, of collective decisions.

Together with Rune Midjord from the University of the Basque Country (Bilbao) and Tomás Rodríguez Barraquer of Hebrew University of Jerusalem, we add to this literature by studying a seemingly straightforward question: does a committee effectively utilize the information held by its members when, in addition to caring about making the right decision, committee members also care about individually voting for the right decision? Surprisingly, even though committee members still have an incentive to choose the right option, idiosyncratic payoffs can significantly bias the committee decision.

Key to this insight is the fact that decisions made by groups of individuals also dilute the responsibility for the final decision, and it is this dilution that leads to biased decisions in large committees. More specifically, imagine a committee member, Jane, voting between two options, A and B. Jane believes A to be the better option, but Jane knows that her vote will determine the final outcome only when the votes of the other committee members are evenly split. In other words, Jane's vote is responsible for the outcome only when there is a tie. The probability of a tie, however, is small if the committee is large. Therefore, knowing she is not likely to be responsible for a large committee's decision, Jane



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might vote for B if it is in her best personal interest to do so, even though she believes A to be the better option.

To make the theoretical discussion more concrete, consider the example of US Food and Drug Administration (FDA) committees: committees of medical experts are called upon to decide whether or not to approve a drug for general use. Each committee member, just like each individual in society, prefers to accept safe drugs and reject bad drugs. However, if the committee passes a drug that proves to be fatal for some individuals, committee members will receive a negative (disesteem) payoff if they personally voted to approve the drug. For example, when the drug Posicor resulted in the death of over 140 people, numerous newspaper articles (including one that won a Pulitzer Prize) singled out individual committee members based on their vote: while the committee as a whole made the wrong decision, only committee members who personally voted for the drug were blamed.

This exposes committee members who vote to approve a drug to the possibility of a negative disesteem payoff, and gives individual committee members a personal interest to vote to reject the drug, even if they believe that the drug is safe for use. Of course personal interest does not always dominate the common interest to approve good drugs for use, but this mechanism could explain claims that committees tend to be overly cautious, and our empirical finding that larger FDA committees are more likely to reject the approval of new drugs.

A main contribution of our work is to show that cautious behavior is magnified by the collective nature of the decision: the larger a committee, the more cautious it behaves. This explains the empirical observation that larger committees are more likely to reject drugs. Theoretically, we show that this result is particularly stark in the limit: no matter how small disesteem payoffs are, a very large committee will always reject the drug regardless of the information held by its members.

The intuition behind our result comes from the fact that responsibility is diluted for large committees: Since the probability of an individual's vote being decisive decreases as the size of the committee grows, the incentive to vote against approval to hedge against the disesteem payoff increases relative to the incentive to vote for the outcome which is more likely to be correct. This makes a committee of individuals less likely to approve a drug when compared to the hypothetical situation where a single individual who possess the same information as the committee makes the decision.

This research has important policy implications when it comes to the optimal design of committees. Contrary to Condorcet's classic result that a larger committee is always desirable, the following tradeoff must be considered: a larger committee has more information regarding which decision is correct, but individual responsibility over the committee's decision is diluted, making the committee more sensitive to idiosyncratic payoffs.

Another policy tool we consider is changing the committee's decision rule to adjust for the bias arising from the dilution of responsibility. The most common decision rule is majority rule, but super-majority or sub-majority rules can also be used. *Prima facie*, we might expect that if committees are overly cautious, a lower threshold should be used, for example requiring fewer votes to pass a drug.

This logic, however, is flawed. Instead of remaining constant, committee members will strategically adjust their behavior in response to a new decision rule. Therefore, instead of blindly decreasing the number of votes needed to approve a drug, effective policy will adjust the decision rule to increase individual responsibility for the committee's decision. To achieve this result, we show that a supermajority rule is optimal: counter-intuitively, to increase the probability that a drug is passed, the committee should require more votes to approve the drug. This is due to that fact that individual responsibility for the decision increases as more votes are required to pass the drug, causing committee members to behave more responsibly and vote for the option they consider best.

When committees have to come to a decision, like the jury in the trial against former Illinois governor Rod Blagojevich in 2011, much depends on the size of the group and on procedures. (Foto: picture alliance / dpa)

By providing a structured analysis of the motivations of individual committee members, we hope our research will contribute to better design of committees. Our work also naturally extends to the realm of political decision-making. Idiosyncratic payoffs are highly relevant in “committees” of elected representatives, or legislatures, since politicians know that their reelection chances are higher if they vote for the “right” options while in office. Characterizing the effects of idiosyncratic reelection payoffs on politicians’ voting behavior could lead to a better understanding of such phenomenon as status quo biases and partisan voting on common value issues.

Literature

Midjord, Rune/Barraquer, Tomás Rodríguez/Valasek, Justin: Over-Caution in Committees of Experts. Working Paper 2013.