Voters prefer to be represented by extortioners

March 7 2016

Political conferences can be the scene of fierce negotations. Agreements are often reached at the last minute. A strategy, which extorts cooperation from others, has proven especially successful. Voters prefer representatives that pursue such a extortion strategy. Credit: © Oliver Berg/dpa

A climate game and a game theory model show that people prefer

representatives who adopt an extortionate strategy in negotiations.

Participants in major political conferences could write a book about it: negotiations constantly fail due to the uncooperative and selfish behaviour of individual negotiators. This can be observed in the often fruitless attempts to reach a climate agreement over the years and the current difficulties in getting the EU states to agree on quotas for the acceptance of refugees. According to scientists from the Max Planck Society and Harvard University, this is due to the fact that people are more likely to choose representatives who use extortion as a negotiating strategy. Such extortioners keep their own contribution to a collective target to a minimum, thereby forcing others to compensate for any deficits that arise. In this way, extortioners derive the greatest benefit from the attainment of the collective target. Based on a sophisticated behavioural experiment and a game theory model, the researchers have found that forty percent of the experiment's participants resorted to extortion. The results give grounds for cautious optimism, however: extortion ultimately leads to a successful outcome in negotiations. Thanks to this Machiavellian strategy, all of the parties involved benefit when the objective of the negotiations is reached - the extortioners a lot and their victims a little. Such a strategy could even help in the avoidance of dangerous climate change.

In repeated social interactions, extortionate behaviour can pay off. This conclusion was reached by US scientists a few years ago. According to their calculations, strategies based on extortion can be more successful than the 'win stay - lose shift' strategy, which was previously considered as the best approach to adopt. With the extortionate strategy, a player cooperates occasionally and in this way entices his co-players to cooperate more often as this is the only way that the co-player can increase his modest gains. In effect, extortioners force the co-player to cooperate and then repeatedly act selfishly to their own greater advantage.

In 2015, Manfred Milinski from the Max Planck Institute for Evolutionary Biology, and Christian Hilbe, who has since moved from Harvard University to the Institute of Science and Technology Austria (IST Austria), tested this theory using a 'prisoner's dilemma' experiment. They concluded that the extortionate strategy is not very successful in the long term. With the progression of the game, the co-players adapt to an extortioner and are even willing to tolerate personal losses to punish the unfair player. Hence, in the long term, extortioners also harm themselves - but, as has now been demonstrated, only in the context of the 'prisoner's dilemma' two-player game.

Students play at 'big politics'

With their new experiment and model, the researchers for the first time applied the theory of extortion to large groups. The effort involved was on a correspondingly large scale: the scientists recruited 630 students from the Universities of Bonn, Hamburg, Göttingen, Kiel and Münster and had them play a climate game three times. Each participant was given 40 euros which could be invested toward global climate protection. Each participant was allowed to keep any money leftover when the aim of preventing dangerous climate change had been attained by the respective group.

The scientists divided the students into groups and studied their behaviour under different conditions. On the one hand, they created groups consisting of 18 and six students each who directly and without elected representatives could invest their money in the symbolic prevention of dangerous climate change. On the other hand, the scientists created groups comprising 18 students each, in which every three students represented a 'country' and, after the first game, could elect one of the three as the representative of their country. The selected negotiator could then prevent climate change over ten rounds of the game by using the money provided by his 'eclectorate' - just like a

politician. The aim was for each country to make half of the money at its disposal available for the process. More generous donors could compensate for shortfalls in the contributions from other countries. If the countries in a group did not reach the 50 percent target on average, all of the players had to return their leftover funds.

Each player was able to campaign for the role of the negotiator in the second and third games. The campaigns involved both selfish promises - to contribute less to the climate fund than the other groups - and cooperative ones - promising to make a fair contribution. A representative could be voted out by two compatriots based on the behaviour in the previous game and be replaced by another citizen of the 'country' in the following game.

Extortioners wanted

The results of the experiment show that the selected representatives persisted with their fair or unfair strategies over the course of all three games and fulfilled the promises they made prior to being selected. The groups in which six players made direct payments to save the climate reached the climate target more often than the groups in which six elected representatives paid contributions on behalf of their countries. But in groups involving 18 players, the groups with representatives in the negotiations performed better. The reason: individuals lose the sense of being able to achieve something in big groups, and a tendency arises to hide behind other group members. Thus, in the context of big groups it is easier to achieve collective targets with the help of representatives. "And this only applies if the number of representatives is not too high. So G8 is better than G20," says Milinski.

The kind of people who are favoured as the players' representatives provide a sobering message: in most cases the players elected the candidates who promised to contribute less than their fair share to the

climate fund. The 'fair' representatives were more likely to be voted out by their electorate after a game even if the lack of contributions by others was responsible for the failure of the entire group to reach its target and nobody was paid the leftover funds. "As a result, there were more unfair players among the representatives than among the six independent decision-makers. This was what the electorate wanted," explains Milinski.

Many of the groups with representatives actually attained the climate target - but only because the fair representatives increasingly compensated for the deficit arising from the intransigent behaviour of the unfair representatives from one game to the next. "In this way, they were all winners: the fair representatives and their 'compatriots' who elected them to a lesser extent, and the unfair representatives and their compatriots to a much greater extent," says Jochem Marotzke from the Max Planck Institute for Meteorology in Hamburg.

Machiavelli sends his regards

For Milinski, this is a typical example of extortion: "The unfair representatives forced the others to compensate for their behaviour - if the others had not made up for the deficit, nobody would have got anything. Therefore, the fair players had to choose between little or nothing."

The results of the game are also confirmed by a model developed by game theorist Christian Hilbe. "Based on our calculations, extortion can also work in bigger groups. Extortion reigns supreme, particularly when there is a lot at stake," says Hilbe.

With their climate game, the scientists reconstructed the many rounds of negotiation involved in the establishment of a climate protection treaty, which finally culminated in an agreement in December 2015. "Here too,

some countries stonewalled and got away with promising less than others. Otherwise there would have been no agreement at all," says Marotzke.

The current negotiations between the EU Member States on refugee quotas are another example of how people show a preference for extortioners when choosing their representatives. "Some countries are unwavering in their desire to accept only a small number of refugees and, as a result, they force the others to accept more. This is the same kind of extortion that we observed in our experiment," explains Milinski.

Extortion is widespread

Forty percent of the players engaged in extortionate behaviour during the climate game. "It is possible that this reflects the corresponding proportion in the general population. However, it is probably the upper limit, because if too many extortioners were to come into contact with each other, they would block all agreement on a collective target and ultimately also lose out themselves. As our experiment shows, they stick rigidly to their strategy," explains Milinski.

Conversely, this also means that the majority refrains from engaging in extortion - and this despite being aware that extortion was an option. "We repeatedly observed that players consciously decided not to resort to extortion," says Milinski. The opposite applies, however, to the representatives: "Psychologists believe representatives behave differently when they have to represent other people. It would appear that they unconsciously avail of this latent potential so that they can fulfil the expectations of their clientele."

Thus, it appears that people want to be represented by extortioners and this does not initially serve the collective target. In the end, however, a kind of Machiavellian cooperation arises: one that is unfair but benefits

everyone when the collective target is reached - some, however, far more than others.

More information: Manfred Milinski et al. Humans choose representatives who enforce cooperation in social dilemmas through extortion, *Nature Communications* (2016). DOI: 10.1038/ncomms10915

Provided by Max Planck Society