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Economics Where You Might Not Expect

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The public perception of economics is that it concerns stock markets and banking. The more open-minded might allow that it is at play whenever money changes hands. Dr. Bryan McCannon (‘98), assistant professor of economics at Wake Forest University, is working to change these perceptions by showing how economic theory can help explain a vast array of situations outside the scope of what is normally considered to be economics.

Voting is an area generally relegated to the field of political science, yet Dr. McCannon argues that voting behavior can be analyzed using an economics framework. In any given vote, individuals have fixed resources (generally one vote). Each person chooses to allocate his vote to whichever choice will maximize his wellbeing. Since economics is the study of the allocation of scarce resources, voting behavior is clearly an example of an economic problem.

One particular type of voting behavior that Dr. McCannon has analyzed is jury decisions. He provides the jury trial of the philosopher Socrates as an example. The way the court system of ancient Athens worked is as follows. First, a citizen brought charges against the defendant and proposed a punishment for the defendant to the jury. The jury listened to the arguments of both sides and then voted to either convict or acquit the defendant with a simple majority vote. If the defendant was convicted, he would then make a counterproposal to the plaintiff’s recommended punishment. The jury would then vote to decide which of the two punishments should be imposed.

Dr. McCannon examines this final vote through the lens of game theory. Once the jury votes to convict, the defendant wants to receive as little punishment as possible. The defendant thus needs to select the lowest punishment that will receive the support of a majority of the jurors. The possible punishments that the defendant can suggest will lie on a continuum with no punishment at one end and the punishment suggested by the plaintiff at the other. Somewhere between these two points lies the median punishment that jurors desire to impose.

Since the defendant needs a majority of the jury to support his proposal in order to minimize his punishment, his optimal proposal should be on the opposite side of the mean as the plaintiff’s proposal such that its distance from the mean is just barely less than the distance of the plaintiff’s proposal from the mean. If the defendant instead offers an even lesser punishment, the majority of the jurors will impose the plaintiff’s more stringent suggestion. For instance, Dr. McCannon says Socrates proposed that his “punishment” should consist of being served the finest food in Athens at every meal. Unsurprisingly, the jury decided to impose the plaintiff’s proposed sentence: death. If he offers a greater punishment, the jurors will vote for his proposal, but he receives more punishment than absolutely necessary. Thus the proposal described above is the optimum.

This example provides only a glimpse of the relevance of economics outside its traditional realm. Dr. McCannon uses economic theory to explain such varied topics as the optimization of plant root architecture, supermajority voting rules, and the outcome of a game of rock paper scissors. With the range of economic research continuing to expand, it seems increasingly relevant to ask what economics cannot explain rather than to ask what it can.