Oil and gas companies invest in legislators that vote against the environment

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Do campaign contributions from oil and gas companies influence legislators to vote against the environment, or do these companies invest in legislators that have a proven antienvironmental voting record? Using 28 y of campaign contribution data, we find that evidence consistently supports the investment hypothesis: The more a given member of Congress votes against environmental policies, the more contributions they receive from oil and gas companies supporting their reelection.

cross-sectional data. However, some methods increase confidence in causal explanations to the extent that they can establish correlation, temporal precedence, and distinguish between competing explanations. Such a technique is cross-lagged panel analysis (e.g., ref. 10). This enables analyses of changes in congressional votes as a function of contributions to campaigns from the preceding years, and vice versa. Here, we use cross-lagged panel analysis to evaluate whether the data support the influence hypothesis, investment hypothesis, or both. To do so, we analyzed 14 pairs of consecutive election cycles (1990 to 2018). To test these hypotheses, we gathered data on campaign contributions from the Center for Responsive Politics and matched it with congressional voting records coded as being either in favor of or against environmental policies, according to the League of Conservation Voters (LCV). We collected all possible records on both variables from 1990 to 2018. Results consistently support the investment hypothesis. In 13 out of 14 analyses, lower LCV scores (i.e., more antienvironmental votes) in one election cycle predicted significantly increased contributions in the following election cycle (Fig. 1, Left). For example, the strongest result was observed for the 2016 election: For every additional 10% of congressional votes against the environment in 2014, a legislator would receive an additional $5,400 in campaign contributions from oil and gas companies in 2016 ($b = −0.54, SE = 0.12; P < 0.001; 95% CI [−0.77, −0.31]). This is an especially strong relationship considering that many elected officials vote against environmental policies nearly 100% of the time, thereby compounding the cycle of antienvironmentalism and increasing rewards in the form of contributions.

There were 2 of 14 analyses that were significant in support of the influence hypothesis, but the magnitude of the effects was small (Fig. 1, Right). For example, the strongest relationship in favor of the influence hypothesis shows that, for every $10,000 received in contributions in 2004, a legislator would be expected to vote against environmental policies an additional 1% of the time in 2006 ($b = −0.11, SE = 0.04; P = 0.009; 95% CI [−0.21, −0.02]).

To compute a more precise estimate of the support for the investment versus the influence hypothesis, we conducted two random-effects metaanalyses. Results show strong metaanalytic support for the investment hypothesis such that, on average, every 10% decrease in LCV score in one election cycle predicted an additional $1,700 in campaign contributions from oil and gas companies in the following election cycle ($b = −0.17; 95% CI [−0.22, −0.13]).

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Data deposition: The data reported in this paper have been deposited at the Open Science Framework, https://osf.io/m6rcg/.

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they have voted against legislation to protect the environment. As revelations in voting on environmental issues.

This provides strong and consistent support for the investment hypothesis and weak and inconsistent support for the influence hypothesis. That is, instead of attempting to sway undecided or opposing legislators' votes, oil and gas companies seem to provide financial rewards to members of Congress after they have voted against legislation to protect the environment. The current findings provide stronger evidence for the existence of this reward system compared to past cross-sectional research, which has heavily relied on single time points (3). In contrast, our models use time series to demonstrate temporal precedence and allow for robustness tests across 14 pairs of election years.

Although results from this analysis indicate that money is used by oil and gas companies to systemically support anti-environmental politicians, these insights likely generalize to other areas of monied interests, such as those in the technological, financial, and pharmaceutical industries. The current findings provide an important step toward better understanding the role of campaign contributions in voting on environmental issues.

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Method

Data Collection. Data on campaign contributions were collected from the Center for Responsive Politics (CRP) via OpenSecrets.org (9). We downloaded all contributions data for each year and selected contributions from oil and gas companies based on the CRP industry codes. We then downloaded scores from the LCV, which provide scores (0 to 100%) on how members of Congress vote on environmental issues (11). We then matched campaign contributions to LCV scores for each member of Congress. The data are available on our Open Science Framework project page at https://osf.io/m6r/ (12).

Data Cleaning and Analysis. After gathering contributions data from CRP, we assigned the value of zero to any member of Congress that had no record of receiving a contribution from an oil or gas company that year. For ease of interpretation, contribution values were rescaled to increments of $10,000 by dividing values by 10,000. Likewise, LCV scores were rescaled to increments of 10 by dividing values by 10.

Cross-lagged panel analyses were run in STATA 15’s SEM module for each consecutive pair of election years from 1990 to 2018 (i.e., 1990 to 1992 … 2016 to 2018). That is, contributions and LCV scores from one election year were modeled to predict the same variables, as well as each other, in the following election year. Hence, analyses were restricted to members of Congress that remained in office for more than one term so that changes in contributions and voting behavior were possible to observe. All models were estimated using maximum likelihood with bootstrap SEs and 1,000 bootstrap samples.