When Does the American Public Care About the...Economy? Re-Examining the Relationship Between Public Opinion on the Economy and the Environment

Erin B. Fitz

Department of Political Science, Colorado State University, Fort Collins, CO, USA
erin.fitz@colostate.edu, ORCiD 0000-0002-0780-0524

Abstract

Extant literature suggests that a public more concerned with the economy will express less concern for the environment. Yet, this work largely fails to account for the potential endogeneity between environmental, economic, and other political factors; further, the economy-environment tradeoff hypothesis hinges on the assumption that the causal arrow between economic and environmental attitudes runs in a specific direction. I use vector autoregression (VAR) with Granger-causality tests to examine the potential relationships between macro level opinions on the environment, economy, and the president in the United States between 1960 and 2020. Contrary to the conventional economy-environment tradeoff hypothesis, I find that increases in public concern for the environment are associated with decreases in public confidence in the economy. These results add to evidence challenging previous assumptions surrounding economic attitudes by demonstrating that public opinion on the environment leads, rather than follows, public opinion on the economy.

Keywords:
Environmental attitudes; economic attitudes; presidential approval; public opinion; most important problem

Declaration of Interest:
The author has no competing interests to disclose.

Funding:
The author received no funding for the preparation of this manuscript.

Word Count:
4020

Introduction

Scholarship that examines the who-and-when of environmental attitudes often suggests that public opinion on the environment is conditioned by public opinion on the economy. Inglehart's (1995) assessment of mass public opinion across 43 nations, for example, found that support for environmental protections tends to coincide with nations that experience more objectively severe environmental problems or that hold lesser material values. Consistent with these findings, research specific to the United States finds that exogenous shocks like natural disasters can shift public attention to environmental issues (see, e.g., Birkland 1997) and proximity to environmental issues can affect "place-to-place" prioritization of environmental and economic concerns (Hamilton et al. 2010; see also Gasper and Reeves 2011). Personal experiences and education, as well as a wide range of other individual-level traits and states (including one's support for free-market economic principles), are also shown to be associated with certain environmental attitudes (Gifford and Nilsson 2014; see also Lewandowsky et al. 2013). Collectively, this research has gone a long way in helping to explain who might hold certain environmental attitudes and thus why people might extend or withdraw support for certain environmental policy solutions.

Yet, the focus on environmental attitudes as an *outcome* consequently places other factors, e.g., economic attitudes, on the right-hand side of the regression equation, often alongside other political factors (e.g., presidential approval ratings) shown to both lead *and* follow public opinion (MacKuen et al. 1989). Although evidence indicating environmental attitudes are associated with political, rather than economic, factors (Mildenberger and Leiserowitz 2017) helps move the ball forward in this regard, such studies have yet to assess the potential endogeneity between these factors (Enns et al. 2012) and thus the possibility that the causal arrow between environmental and economic opinion runs in the opposite direction (see, e.g., Christenson and Kriner 2019; Enns et al. 2012; Evans and Pickup 2010; Habel 2012; Reeves and Rogowski 2018; Soroka et al. 2015; Wlezien 2023). Modeling this potential endogeneity between macro level public opinions over time, as is

the primary motivation in this paper, helps to provide greater insight into these potential relationships–particularly, whether public opinion on the environment leads or follows public opinion on the economy.

I use vector autoregression (VAR) model with Granger-causality tests to examine the potential relationships between three measures of macro level public opinion over time: 1) concern for the environment as the "most important problem," 2) public confidence in the economy, and 3) presidential approval ratings. I also account for other exogenous factors shown to shift the attention of the public and elites, i.e., natural and technological disasters, foreign policy crises, and proximity to a US presidential election (e.g., Fitz 2023; Lowande and Rogowski 2023). Contrary to the conventional trade-off hypothesis (e.g., Inglehart 1995), I do not find evidence to suggest that public opinion on the economy affects public opinion on the environment. Results do suggest, however, that public opinion on the environment affects public opinion on the economy–specifically, *increases* in public concern for the environment are associated with *decreases* in public confidence in the economy. In turn, these results echo those who caution against overestimating the impact of economic perceptions on public opinion (e.g., Enns et al. 2012) by demonstrating that public opinion on the environment may lead, rather than follow, public opinion on the economy.

When Does the Public Care About the Environment?

As Ronald Inglehart (1995) described, "Policies designed to solve environmental problems are unlikely to succeed unless they have broad public support, but the motives for mass support are poorly understood," (57). Motivated by the idea that research often focuses on environmental perceptions without attempting to explain why people form those attitudes, Inglehart's analysis revealed that mass support for environmental protections tends to be associated not only with nations that experience "relatively severe objective problems," but also those with stronger "postmaterialist" values (57). In other words, nations with greater subjective value in "self-expression and quality of life," as opposed

to those with greater subjective value in "economic and physical security," (57) are more likely to prioritize environmental protections, and these subjective values can have just as much of an effect on environmental attitudes as objective problems.

As Inglehart pointed out, these findings are in line with evidence that suggest the public will express greater concern for environmental issues until it realizes the costs involved in solving the problem (e.g., Downs 1972). Inglehart's and others' findings across various units of analyses (e.g., Hamilton et al. 2010; Gasper and Reeves 2018; Gifford and Nilsson 2014; Lewandowsky et al. 2013) thus underpin what I refer to as the conventional *trade-off hypothesis*–that is, public opinion on the economy is associated with public opinion on the environment. By this view, I might expect to find that *decreased* public confidence in the economy is associated with *decreased* public concern for the environment.

As Downs (1972) emphasized, however, a necessary condition for public concern about a given issue is that a problem exists (i.e., the "pre-problem stage") such that the public can become "both aware of and alarmed about" that problem (i.e., the "alarmed discovery and euphoric enthusiasm" stage, 39). Following the "realizing the cost of significant progress" stage and the "gradual decline of intense public interest" stage is the "post-problem stage," wherein "the issue now has a different relation to public attention than that which prevailed in the 'pre-problem' stage," (39-41). This final stage in Downs's "issue-attention cycle" calls into question another possibility that remains largely unaddressed in the literature: that public opinion on the environment leads, rather than follows, public opinion on the economy.

Public opinion on the economy is endogenous to politics, varying based on the information the public receives and processes about it (Enns et al. 2012). This underpins what I refer to as the *post-problem hypothesis*–that is, public opinion on the environment is associated with public opinion on the economy. In this case, I would expect to find that *increased* public concern for the environment is associated with *decreased* in public confidence in the economy–a potential relationship that would maintain the purported link

(albeit reversed) between environmental and economic perceptions while acknowledging the serial shifts (Simon 1957) in public attention from one problem to the next.

The extent to which the public expresses concern for a given issue can also depend on its assessment of the federal government–often, its satisfaction with the president as the government's "most visible agent" (Peterson et al. 2022; see also Ferejohn 1986). By this view, those with greater satisfaction in the government and/or president will see lesser need to monitor politics and the goings-on of the government. Conversely, a less-satisfied (and potentially more attentive) public is more likely to blame the government and/or president for not doing "something about everything" (Neustadt 1990, 7), including the economy (Krause and Cohen 1997; 2000; Lowande and Rogowski 2021; Mueller 1970) and other crises (e.g., natural disasters, see Achen and Bartels 2016). The notion that "Presidents who hit the moving target of public opinion should be approved; those who veer away from it not" (Erikson et al. 2001, 31) therefore underpins what I refer to as the *approval hypothesis*–that is, *decreases* in public confidence in the economy and/or *increases* in public concern for the environment is/are associated with *decreases* in presidential approval.

Lastly, there is also the potential for a dynamic relationship between public opinion on the environment, economy, and the president, such that public opinion can affect presidential approval; in turn, presidential approval can affect public opinion (Erikson et al. 2001). Fortunately, the modeling strategy described in the following sections provides an opportunity to test for each of these possibilities simultaneously.

Data and Methods

I test these potential relationships using data spanning from the first quarter of 1960 through the fourth quarter of 2020. To test how these relationships change over time, I use a vector autoregressive (VAR) model (Sims 1980) to test for the potential endogeneity between public opinion on the environment, public opinion on the economy, and presidential approval ratings. I also account for other exogenous factors that can affect these poten-

tially endogenous relationships–for example, the occurrence of natural and technological disasters (Fitz 2023), foreign policy crises (Young 2013), and proximity to an US presidential election (Peterson et al. 2022) can affect whether, for which issues, and to what extent the public is "tuned in" to politics and matters of the environment and/or the economy.[1] I then use Granger-causality tests to determine whether the significant variable(s) revealed by the VAR model, if any, "causes" another endogenous variable beyond what the previous values of the latter "cause" alone (Freeman 1983; Granger 1969).

Environment MIP. I use quarterly data from the Comparative Agendas Project (CAP) to assess macro level public opinion on the environment. CAP codes environment-specific responses to Gallup's Most Important Problem question according to their universal coding scheme and records each value as the "normalized percentage. . . [or] actual proportion of all responses that were in a single major topic" (Jones et al. 2023). I plot the range for *Environment MIP* by quarter year from 1960 through 2020 (0.00 to 0.11; $M = 0.01$, $SD = 0.01$) in Figure 1.

Index of Consumer Sentiment (ICS). I assess public confidence in the economy using a quarterly measure of the University of Michigan Index of Consumer Sentiment (ICS). In contrast to conventional measures of the economy (e.g., inflation, unemployment, or the combined inflation/unemployment misery index), the ICS assesses Americans' views on: 1) their own financial situation, 2) the short-term general economy, and 3) the long-term general economy. As such, it is considered a more robust indicator of economic attitudes (Erikson et al. 2002). I plot the range for *ICS* by quarter year from 1960 through 2020 (54.4 to 110.1; $M = 86.80$, $SE = 11.94$) in Figure 2.[2]

---

[1]Descriptive statistics for all variables used in this analysis are included in Appendix A.

[2]The Comparative Agendas Project (CAP) also includes a category for macroeconomics as the most important problem (MIP); however, CAP notes that some Gallup MIP survey respondents were allowed to provide multiple responses in a single poll (Jones et al. 2023). Given these data are normalized and do not indicate the occurance or order of

Presidential Approval. I assess public perceptions of the president (running from quarter one, year four of President Eisenhower's second term through quarter four, year four of President Trump's term) using Gallup's quarterly measure of presidential approval ratings. I plot the range for *Presidential Approval* by quarter year from 1960 through 2020 (0.24 to 0.86; $M = 0.52$, $SE = 0.12$) in Figure 3.

I also control for the following exogenous factors:

Natural and Technological Disasters. I measure the potential impact of natural disasters (e.g., earthquakes, floods, wildfires) and technological disasters (e.g., industrial disasters like oil spills, transport accidents) using data from the International Disaster Database from the Center for Research on the Epidemiology of Disasters (EM-DAT). While I separate these crises according to EM-DAT categories, the distinction between crises type is important for two additional reasons: First, while the public often holds presidents accountable for crises beyond their control (Achen and Bartels 2016), there is some evidence to suggest that the public sees natural disasters as unavoidable "acts of God"; in turn, the public may have lesser tendency to hold the president/government responsible for these, as opposed to "man-made" crises (see, e.g., Platt 1999). Second, as Fitz (2023) described, "[a]ccounting for disasters in this way not only serves as a direct measure of these exogenous crises, but also an indirect measure of public demand for presidential action" (14). Thus, I create separate binary variables for *Natural Disaster* and *Technological Disaster* (coded as 0 = no; 1 = yes) to indicate whether each respective disaster type occurred during a given quarter year.

Foreign Policy Crises. Because foreign policy crises can affect public opinion (see, e.g., Erikson et al. 2001), I follow previous scholarship (Fitz 2023; Howell 2003; Young 2013) by including a binary measure (0 = no; 1 = yes) indicating whether a foreign policy crisis involving the United States occurred during a given quarter year. I obtained

multiple responses, I opt instead for the separate, and arguably more robust (Erikson et al. 2002) measure of *ICS*.

data for 1973 through 2017 from the International Crisis Behavior (ICB) Data Archive and data for 2018 through 2020 from the Council on Foreign Relations (CFR). Both the ICB and CFR categorize an event as crisis if it is a war, militarized dispute, or terrorist attack which 1) threatens US interests or values, 2) attracts significant attention from the executive branch and other areas of the US government; and 3) prompts a limited window of decision-making during which the US can respond (Brecher 1977; CFR 2020).

Election Year. Because the public may be more interested in the goings-on of the government and/or its most visible actor nearing a presidential election (Peterson et al. 2020), *Election Year* is a count of all quarters in a US presidential election year, with all other non-election year quarters coded as 0.

Figure 1: *Environment MIP* by Quarter Year, 1960 - 2020

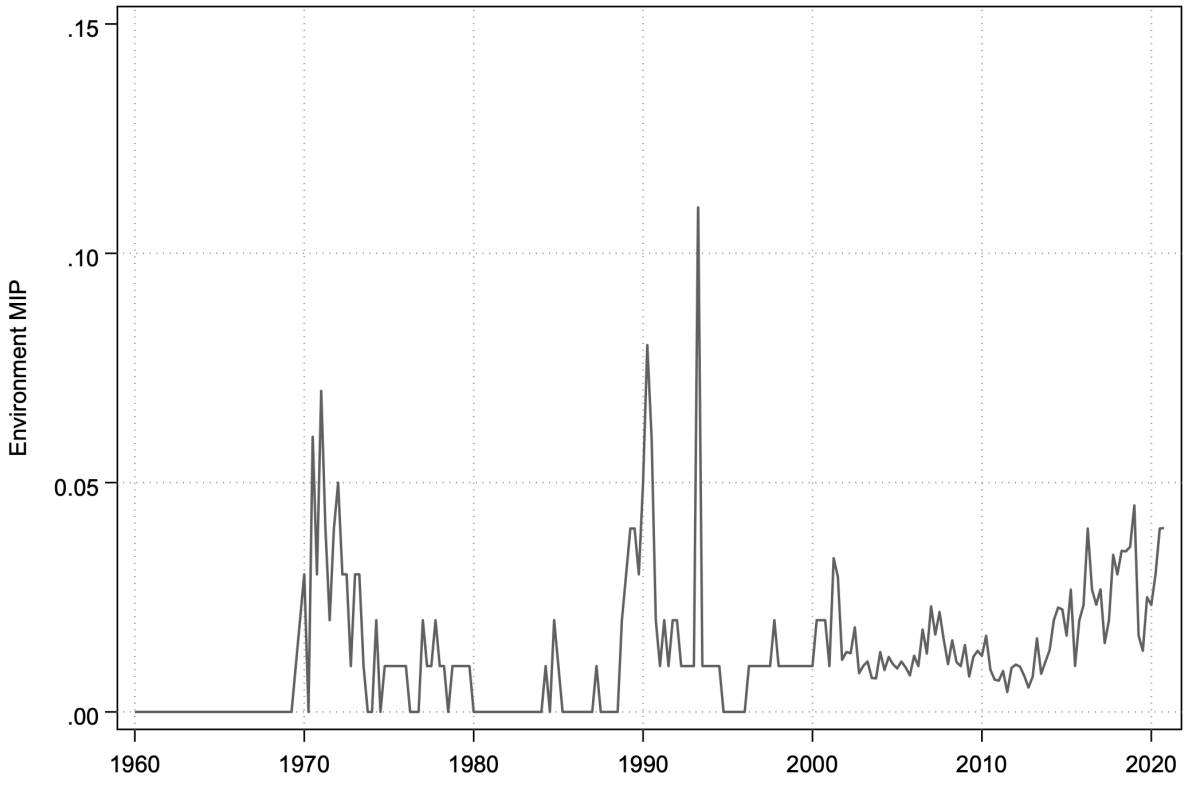


Figure 2: *ICS* by Quarter Year, 1960 - 2020

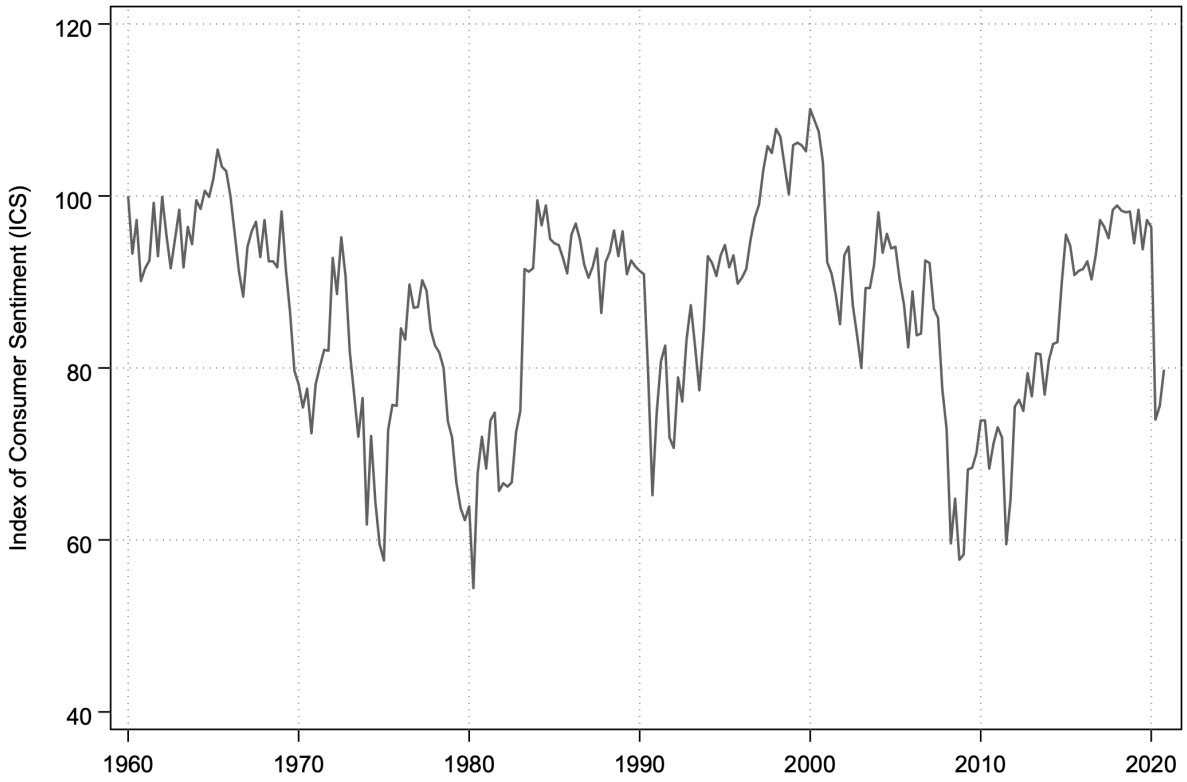
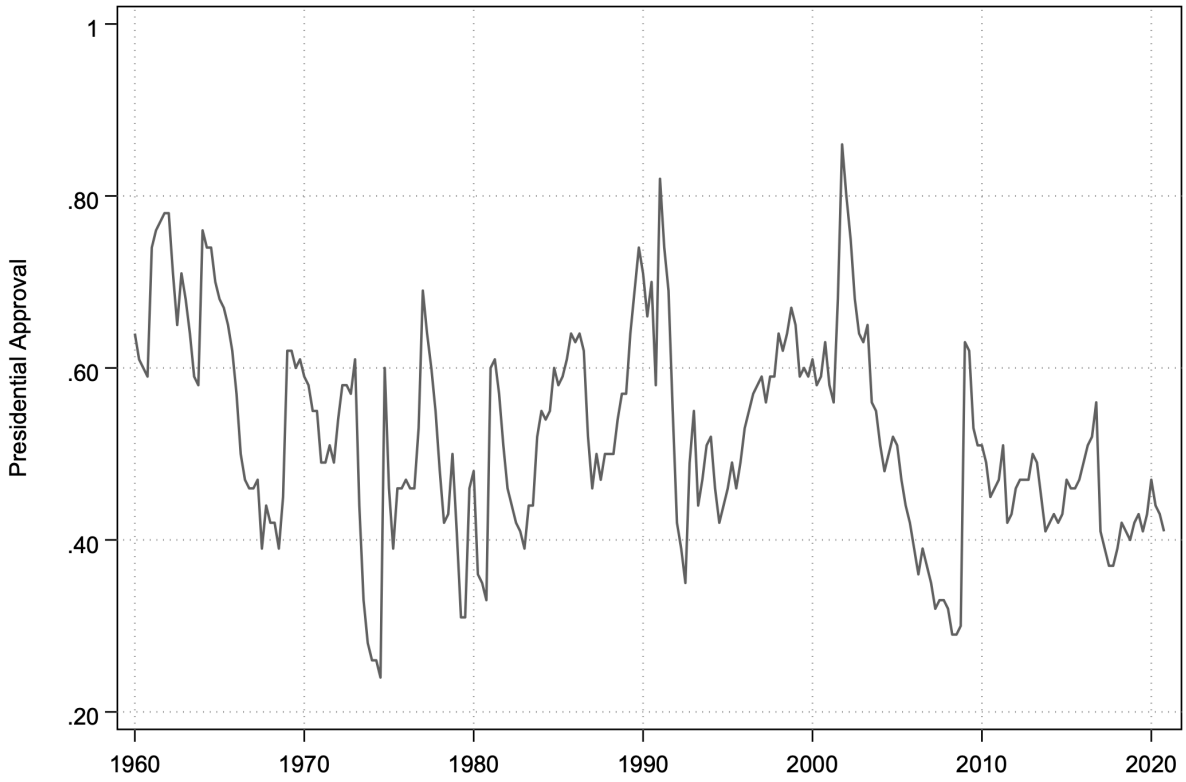


Figure 3: *Presidential Approval* by Quarter Year, 1960 - 2020



VAR Model Specification

Specifying a VAR model first requires testing for the appropriate lag length for the right-hand-side variables.[3] Given these models include quarterly economic data, I test for the optimal specification use a maximum lag length of six quarter years (see, e.g., Box-Steffensmeier et al. 2014; Brandt and Williams 2007). I present results from likelihood ratio, Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC), and the Hannan and Quinn information criterion (HQIC) in Table 1. While these criterion yield somewhat conflicting results (as is often the case), serial correlation and stability

[3]Variables in these models are ordered as follows: 1) *Environmental MIP*, 2) *ICS*, and 3) *Presidential Approval*; however, changing the ordering of these variables does not substantively change the results.

tests indicate an optimal one-lag model, resulting in a sample ranging from quarter two of 1960 through quarter four of 2020. R^2 for all equations using the one-lag model range between 0.36 and 0.83.[4]

Table 1: Lag Length Test Statistics for VAR Model

Lag	LR	FPE	AIC	HQIC	SBIC
0		0.00	0.51	0.60	0.73
1	759.04	0.00	-2.61	-2.47*	-2.26*
2	25.63	0.00	-2.64	-2.44	-2.16
3	19.51	0.00	-2.65	-2.40	-2.03
4	20.98	0.00	-2.66	-2.36	-1.91
5	22.14*	0.00*	-2.68*	-2.32	-1.80
6	9.86	0.00	-2.64	-2.24	-1.63

* Indicates optimal lag according to respective test statistic.

Results

I present results from Granger-causality tests for the three-variable (accounting for other exogenous variables), one-lag VAR model in Table 2. As shown in the second row of Table 2, these results suggest that *Environment MIP* Granger-causes *ICS*. These results further suggest that neither *ICS* or *Presidential Approval* Granger-cause *Environment*

[4]Tests for serial correlation for the residuals from the one-lag model were statistically significant ($p < 0.05$) only for the second and third lags; this specification satisfies the stability condition with all eigenvalues inside the unit circle. In the two-lag model, the first lag, as well as the third through fifth lags, of the residuals were significant. The first through fourth lags were significant in the three- and four-lag models; the first through fifth lags were significant in the five-lag model. All lags of the residuals showed signs of serial correlation in the six-lag model.

MIP. They also indicate that neither *ICS* or *Environment MIP* Granger-cause *Presidential Approval*. Thus, these findings do not provide evidence to support the *trade-off hypothesis* or *approval hypothesis*, but do provide support for the *post-problem hypothesis*–that is, that increases in *Environment MIP* are associated with decreases in *ICS*.[5]

Table 2: Granger Causality Tests for VAR Model

Equation	Excluded	x^2	df	*Prob* $>x^2$
ICS	Presidential Approval	1.24	1	0.27
ICS	Environment MIP	5.65	1	0.02
ICS	ALL	7.12	2	0.03
Presidential Approval	ICS	2.29	1	0.13
Presidential Approval	Environment MIP	0.46	1	0.50
Presidential Approval	ALL	2.79	2	0.25
Environment MIP	ICS	0.08	1	0.78
Environment MIP	Presidential Approval	0.04	1	0.85
Environment MIP	ALL	0.08	2	0.96

Note: $N = 243$

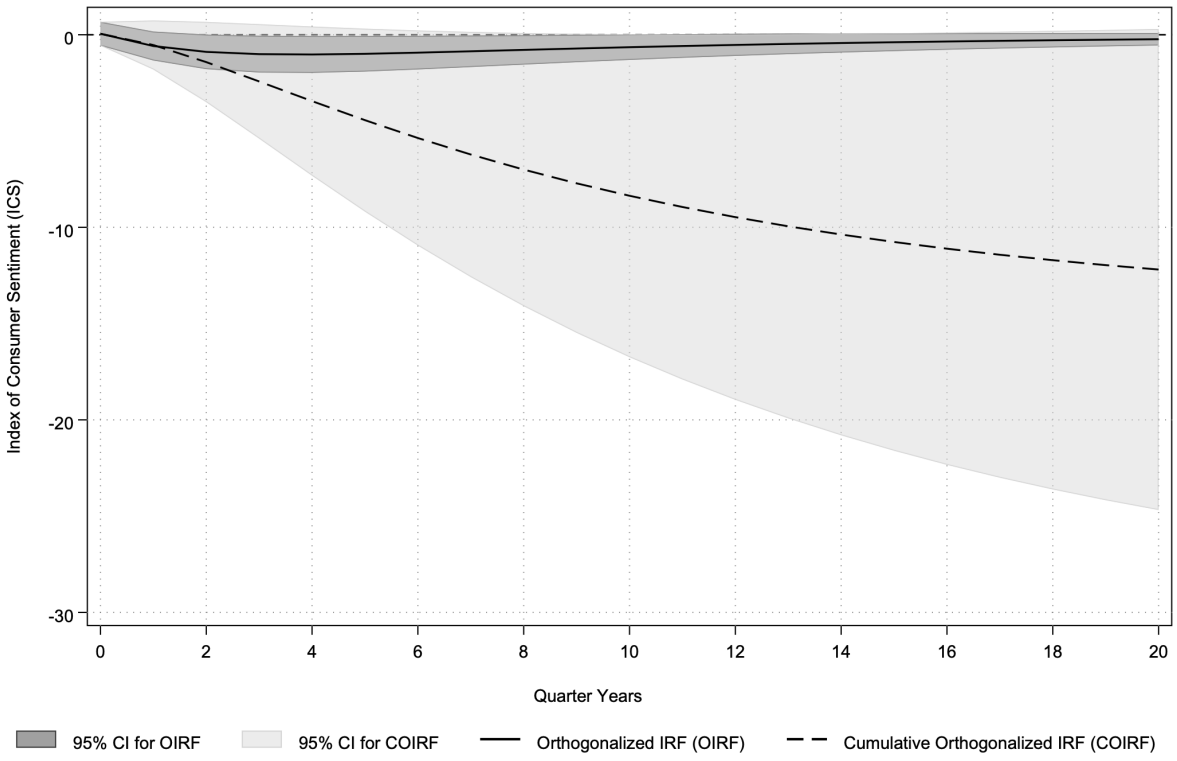
To better interpret the potential effect of *Environment MIP* on *ICS*, I calculate impulse response function to plot simulated shocks to the system of this relationship in the VAR model. I plot the calculated orthogonalized IRF (OIRF) to illustrate a simulated one-time, one standard deviation shock to the system that diminishes over time; I also plot the calculated cumulative orthogonalized IRF (COIRF) to illustrate a simulated persistent shock to the system that accumulates over time.

As shown by the solid line for the OIRF in Figure 4, a one standard deviation impulse in *Environment MIP* results in a 1.01 point decrease in *ICS* by quarter three (earlier

[5]Full results for these models are located in Appendix B.

quarters also indicate decreased *ICS* but have 95% confidence intervals overlapping zero). The effect stays largely stable in quarter four with a 1.02 point decrease in *ICS*, then diminishes from quarter five (-0.99) through quarter nine (-0.71). The effect continues to taper off through quarter 20 (with 95% confidence intervals overlapping zero). As would be expected, the persistent shock of *Environment MIP* (as indicated by the dashed line for COIRF) also results in a monotonic decrease in *ICS* (with 95% confidence intervals overlapping zero).[6]

Figure 4: OIRF and COIRF for *Environment MIP* on *ICS*



Discussion

Contrary to previous assumptions that public opinion on the economy affects public opinion on the environment, I provide some of the first systematic evidence to suggest

[6]A table with all OIRF and COIRF results is located in Appendix C.

that public opinion on the environment affects public opinion on the economy. Using quarterly data spanning from 1960 through 2020, I find that increases in the environment as Americans' "most important problem" are associated with decreases in public confidence in the economy. These results further add to extant literature by demonstrating that, at least from a macro politics perspective, neither perceptions of the economy nor perceptions of the environment are associated with public perceptions of the president. In addition, neither perceptions of the economy nor perceptions of the president are associated with public perceptions of the environment. These results are robust to other factors previously found to shift public opinion and elite attention (i.e., natural and technological disasters, foreign policy crises, and proximity to a US presidential election), therefore providing strong evidence to suggest that public opinion on the environment leads, rather than follows, public opinion on the economy.

The broader implication of these findings is that a shift in public opinion in one issue area may have downstream effects on public opinion on another issue area. Downs (1972) anticipated this process as part of the fifth and final post-problem stage of the issue-attention cycle, wherein, "Any major problem that once was elevated to national prominence may sporadically recapture public interest; or important aspects of it may become attached to some other problem that subsequently dominates center stage," (41). While the shift in focus from one problem to another may be seemingly obvious given what is currently understand about serial information processing (see, e.g., Simon 1957) and the ever-evolving political climate, results from this analysis add to evidence demonstrating the need to challenge (and moreover, test) previous assumptions of causality (e.g., Wlezien 2024), especially with regard to the purported relationships between perceptions of the economy and other areas of public opinion (Enns et al. 2012; Mildenberger and Leiserowitz 2017).

Still, the question remains–*why* would an increase in public concern for the environment spur a decrease in public confidence in the economy? I propose a few potential ex-

planations that I hope future scholars will explore. The first potential explanation is perhaps best captured by the fourth stage in Downs's (1972) issue-attention cycle:

> "As more and more people realize how difficult, and how costly to themselves, a solution to the problem would be, three reactions set in. Some people just get discouraged. Others feel positively threatened by thinking about the problem; so they suppress such thoughts. Still others become bored by the issue. Most people experience some combination of these feelings. Consequently, public desire to keep attention focused on the issue wanes. And by this time, some other issue is usually entering Stage Two; so it exerts a more novel and thus more powerful claim upon public attention," (40).

In the context of public opinion on the environment and the economy, a public that becomes aware of and concerned about the former (perhaps as a result of a natural or technological disaster) might come to realize the costliness of ameliorating that problem and subsequently associate those costs with the latter. Changes in public opinion on the environment shift could also shift attention to the goings-on of the government and/or the president, and thus the economy, more broadly. Understanding whether decreases in public confidence in the economy reflect the "spasmodic recurrences of interest" (Downs 1972) or generally increased attention in a consistently salient issue like the economy, are areas worth continued study.

Others might also examine whether macro level perceptions of the environment are a proxy for partisanship, and thus whether economic views are, as Enns et al. (2012) described, "filtered" through partisan-oriented environmental information. Work that could further identify periods in which segments of the public *agree* that an environmental problem exists but go on to *disagree* on how and/or the extent to which the government should address that problem, for example, would be consistent with Downs's (1972) issue-attention cycle and previous evidence demonstrating that partisan perceptions do

not wash out at the aggregate, potentially as a result of asymmetric partisan information processing (Enns et al. 2012).

I also look forward to research that examines whether perceptions of the economy are a "catch all" for policy and/or government concerns, not only for a public that might associate a potentially more specific environmental issue to a broader, more consistently salient issue like the economy, but also that which might perceive uncertainty in how and to what extent the government and/or president can address that issue (see, e.g., Gailmard and Patty 2019). Lastly, I encourage scholars to incorporate the role of media and elite messaging in this work. Given recent evidence to suggest that the public leads, not follows, media coverage (Wlezien 2024), I suspect future scholarship will help to further reveal the mechanisms behind the environment-economy connection.

References

Achen, Christopher H., and Larry M. Bartels. 2016. *Democracy for Realists: Why Elections Do Not Produce Responsive Government.* Princeton, NJ: Princeton University Press.

Baumgartner, Frank R., and Bryan D. Jones. 1991. "Agenda Dynamics and Policy Subsystems." *Journal of Politics* 53: 1044–1074.

Baumgartner, Frank R., and Bryan D. Jones. 1993. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press.

Jones, Bryan D., Frank R. Baumgartner, Sean M. Theriault, Derek A. Epp, Cheyenne Lee, and Miranda E. Sullivan. 2023. Policy Agendas Project: Most Important Problem. https://www.comparativeagendas.net/us.

Birkland, Thomas A. 1997. *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Washington, DC: Georgetown University Press.

Box-Steffensmeier, Janet M., John R. Freeman, Matthew P. Hitt, and Jon C.W. Pevehouse. 2014. *Time Series Analysis for the Social Sciences*. Cambridge: Cambridge University Press.

Christenson, Dino P. and Douglas L. Kriner. 2019. "Does Public Opinion Constrain Presidential Unilateralism?" *American Political Science Review* 113(4): 1071-1077.

Downs, Anthony. 1972. "Up and Down with Ecology: The 'Issue-Attention Cycle'." *Public Interest* 28(Summer): 38–50.

Erikson, RS, MacKuen, MB and Stimson, JA. 2002. *The Macro Polity*. New York: Cambridge University Press.

Ferejohn, John. 1986. "Incumbent Performance and Electoral Control." *Public Choice* 50(1): 5–25.

Fitz, Erin B. 2023. "Going Green or Making Green? The Effects of Partisanship and Inflation on Environmental Executive Orders, 1945-2020." *Presidential Studies Quarterly 53*(1): 97-110.

Gailmard, Sean and John W. Patty. 2019. "Preventing Prevention." *American Journal of Political Science* 63(2): 265-508.

Gasper, John T., and Andrew Reeves. 2011. "Make It Rain? Retrospection and the Attentive Electorate in the Context of Natural Disasters." *American Journal of Political Science* 55(2): 340–55.

Gifford, Robert and Andreas Nilsson. 2014. "Personal and Social Factors That Influence Pro-Environmental Concern and Behaviour: A Review." *International Journal of Psychology* 49(3): 141-157.

Habel, Philip D. 2012. "Following the Opinion Leaders? The Dynamics of Influence Among Media Opinion, the Public, and Politicians." *Political Communication* 29(3): 257-277.

Hamilton, Lawrence C., Chris R. Colocousis, and Cynthia M. Duncan. 2010. "Place Effects on Environmental Views." *Rural Sociology* 75(2): 326-347.

Inglehart, Ronald. 1995. "Public Support for Environmental Protection: Objective Problems and Subjective Values in 43 Societies." *PS: Political Science & Politics* 28(1): 57-72.

Keele, Luke. 2005. "Macro Measures and Mechanics of Social Capital." *Political Analysis 13*: 139–156.

Krause, George A., and David B. Cohen. 1997. "Presidential Use of Executive Orders, 1953–1994." *American Politics Quarterly* 25(4): 458–81.

Krause, George A., and Jeffrey E. Cohen. 2000. "Opportunity, Constraints, and the Development of the Institutional Presidency: The Issuance of Executive Orders." *The Journal of Politics 62*(1): 88–114.

Lewandowsky, S., Oberauer, K., & Gignac, G. E. (2013). NASA Faked the Moon Landing—Therefore, (Climate) Science Is a Hoax: An Anatomy of the Motivated Rejection of Science. *Psychological Science* 24(5), 622-633.

Lowande, Kenneth and Jon C. Rogowski. 2021. Presidential Unilateral Power. *Annual Re-*

view of Political Science: 24: 21-43.

Mildenberger, Matto and Leiserowitz, Anthony. 2017. "Public opinion on climate change: Is there an economy-environment tradeoff?" *Environmental Politics* 26(5), 801-824.

Mueller, John E. 1970. "Presidential Popularity from Truman to Johnson." *American Political Science Review* 64(1): 18–34.

Page, BI and Shapiro, RY. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago, IL: University of Chicago Press.

Peterson, David A. M., Joanne M. Miller, Kyle L. Saunders, and Scott D. McClurg. 2020. "Macrointerest." *British Journal of Political Science* 52(1), 200-220.

Simon, Herbert A. 1957. *Models of Man*. New York: Wiley.

Wlezien, Christopher. 2024. "News and Public Opinion: Which Comes First?" *The Journal of Politics*. DOI: 10.1086/726940.

Wood, Dan and Soren Jordan. 2018. "Presidents and Polarization of the American Electorate." *Presidential Studies Quarterly* 48(2): 248-270.

Supplementary Materials for: When Does the American Public Care About the...Economy? Re-Examining the Relationship Between Public Opinion on the Economy and the Environment

Appendix A: Descriptive Statistics

	Obs	Mean	Std. Dev.	Min	Max
Environment MIP	244	0.01	0.01	0	0.11
ICS	244	86.80	11.94	54.40	110.10
Presidential Approval	244	0.52	0.12	0.24	0.86
Natural Disasters	244	0.81	0.39	0	1
Technological Disasters	244	0.56	0.50	0	1
Foreign Policy Crises	244	0.29	0.46	0	1
Election Year	244	0.66	1.24	0	4

Appendix B. OIRF and COIRF for *Environment MIP* on *ICS*

Lag	OIRF	Lower	Upper	COIRF	Lower	Upper
0	0.05	-0.57	0.67	0.05	-0.57	0.67
1	-0.58	-1.34	0.17	-0.53	-1.81	0.75
2	-0.89	-1.79	0.01	-1.42	-3.50	0.67
3	-1.01	-1.96	-0.05	-2.42	-5.40	0.55
4	-1.02	-1.98	-0.07	-3.45	-7.32	0.43
5	-0.99	-1.91	-0.07	-4.43	-9.19	0.32
6	-0.93	-1.80	-0.05	-5.36	-10.95	0.23
7	-0.86	-1.68	-0.04	-6.22	-12.59	0.15
8	-0.78	-1.55	-0.02	-7.00	-14.10	0.09
9	-0.71	-1.42	-0.00	-7.71	-15.48	0.05
10	-0.65	-1.31	0.02	-8.36	-16.75	0.03
11	-0.58	-1.20	0.03	-8.94	-17.90	0.02
12	-0.53	-1.10	0.04	-9.47	-18.96	0.02
13	-0.48	-1.01	0.06	-9.95	-19.92	0.03
14	-0.43	-0.92	0.07	-10.37	-20.80	0.05
15	-0.39	-0.85	0.07	-10.76	-21.60	0.08
16	-0.35	-0.78	0.08	-11.11	-22.34	0.12
17	-0.31	-0.71	0.09	-11.42	-23.00	0.16
18	-0.28	-0.66	0.09	-11.71	-23.62	0.20
19	-0.26	-0.60	0.09	-11.96	-24.17	0.25
20	-0.23	-0.56	0.09	-12.19	-24.68	0.30