Online Appendix to
Special Interests and the Media

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Proposition. *Suppose that the strategic journalist's payoff is a strictly increasing function of* $\mu \hat{\eta}_h(m, \omega) + (1 - \mu)(1 - \hat{\eta}_c(m, \omega))$ *where* $\mu \in (0, 1)$. *Then* $\lim_{\eta_h \to 0} \lim_{\eta_c \to 0} \lim_{\mu \to 1} \Phi = 0$ *for all* $\frac{k}{v}$, $\lim_{\eta_h \to 0} \lim_{\eta_c \to 0} \lim_{\mu \to 0} \Phi = \frac{1}{4}\gamma$ *for* $\frac{k}{v} < \frac{1}{2}$ *and* $\lim_{\eta_h \to 0} \lim_{\eta_c \to 0} \lim_{\mu \to 0} \Phi = 0$ *for* $\frac{k}{v} \geq \frac{1}{2}$.

Towards a proof, write the payoff after the first period as $\pi(\hat{\eta}_c(r, r), \hat{\eta}_h(r, r))$, which is strictly decreasing in its first argument and strictly increasing in its second. It follows that:

Claim 1. For any σ the strategic journalist reports either $m = \sigma$ or $m = \{l, r\}$.

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†The numbering of tables and figures corresponds to subsections in the paper.

Proof. The strategic journalist never reports singleton m such that $m \notin \sigma$. This follows because $\hat{\eta}_c(\{l,r\},\omega) = 0$ and $\hat{\eta}_h(\{l,r\},\omega) > 0$ whereas $\hat{\eta}_c(m,\omega) > 0$ and $\hat{\eta}_h(m,\omega) = 0$ when $m = l \neq \omega$ or $m = r \neq \omega$.

The strategic journalist always reports $m = \sigma$ when $\sigma = \{l,r\}$. Suppose toward contradiction that the strategic journalist sometimes reports $m = r$ when $\sigma = \{l,r\}$. Then her incentives require that

$$\left(\begin{array}{c} \frac{1}{2}\pi\left(\hat{\eta}_c(r,r),\hat{\eta}_h(r,r)\right) + \\ \frac{1}{2}\pi\left(\hat{\eta}_c(r,l),\hat{\eta}_h(r,l)\right) \end{array} \right) \geq \left(\begin{array}{c} \frac{1}{2}\pi\left(\hat{\eta}_c(\{l,r\},r),\hat{\eta}_h(\{l,r\},r)\right) + \\ \frac{1}{2}\pi\left(\hat{\eta}_c(\{l,r\},l),\hat{\eta}_h(\{l,r\},l)\right) \end{array} \right)$$

or equivalently that

$$\pi\left(\hat{\eta}_c(r,r),\hat{\eta}_h(r,r)\right) - \pi\left(0,\hat{\eta}_h(\{l,r\},r)\right) \geq \pi\left(0,\hat{\eta}_h(\{l,r\},l)\right) - \pi\left(\hat{\eta}_c(r,l),0\right).$$

As the right-hand-side expression is strictly positive, it must be that $\pi\left(\hat{\eta}_c(r,r),\hat{\eta}_h(r,r)\right) > \pi\left(0,\hat{\eta}_h(\{l,r\},r)\right)$, so the strategic journalist will always report $m = r$ when $\sigma = r$. But then by Bayes' Rule $\hat{\eta}_h(\{l,r\},r) > \hat{\eta}_h(r,r)$, implying a contradiction.[1] $\qquad\square$

Next we establish some properties of the journalist's incentives. From claim 1, we can fully characterize the distribution of m given σ by the probabilities $\tilde{\rho}_l$ and $\tilde{\rho}_r$ that the strategic journalist reports $m = \{l,r\}$ given $\sigma = r$ or $\sigma = l$, respectively. These probabilities depend on the strategies of the journalist and those of the parties. The journalist's incentives imply the following structure:

Claim 2. There exists a value $\overline{\rho} \in [0,1]$ such that, for any $j \in \{l,r\}$,

$$\pi\left(0,\hat{\eta}_h(\{l,r\},j)\right) \geq \pi\left(\hat{\eta}_c(j,j),\hat{\eta}_h(j,j)\right) \iff \tilde{\rho}_{\sim j} \leq \overline{\rho}.$$

The value $\overline{\rho}$ has $\lim_{\mu \to 1} \overline{\rho} = 0$ and $\lim_{\mu \to 0} \overline{\rho} = 1$.

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[1] Let $P > 0$ be the probability that the strategic type reports $m = r$ when $\sigma = \{l,r\}$ and let $Q < 1$ be the probability that the strategic type reports $m = \{l,r\}$ when $\sigma = \{l,r\}$. Then:

$$\hat{\eta}_h(\{l,r\},r) = \frac{(1-\gamma)\eta_h}{(1-\gamma)\eta_h + (1-\gamma)\eta_s Q}$$

$$\hat{\eta}_h(r,r) = \frac{\gamma\eta_h}{\gamma\eta_h + \gamma\eta_s + \eta_c\frac{1}{2} + (1-\gamma)\eta_s P},$$

from which it follows that

$$\hat{\eta}_h(\{l,r\},r) > \frac{\eta_h}{\eta_h + \eta_s} > \hat{\eta}_h(r,r).$$

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Proof. Without loss of generality suppose that $j = r$. From Bayes' Rule

$$\hat{\eta}_h\left(\{l,r\},r\right) = \frac{\eta_h(1-\gamma)}{\eta_h(1-\gamma)+\eta_s(1-\gamma)+\eta_s\gamma\tilde{\rho}_l}$$

$$\hat{\eta}_h\left(r,r\right) = \frac{\gamma\eta_h}{\gamma\eta_h+\gamma\eta_s(1-\tilde{\rho}_l)+\eta_c\frac{1}{2}}$$

$$\hat{\eta}_c\left(r,r\right) = \frac{\frac{1}{2}\eta_c}{\gamma\eta_h+\gamma\eta_s(1-\tilde{\rho}_l)+\eta_c\frac{1}{2}}.$$

Applying claim 1 and the structure of the payoff function gives that the incentive condition $\pi\left(0,\hat{\eta}_h\left(\{l,r\},j\right)\right) \geq \pi\left(\hat{\eta}_c\left(j,j\right),\hat{\eta}_h\left(j,j\right)\right)$ is equivalent to

$$\frac{\eta_h(1-\gamma)}{\eta_h(1-\gamma)+\eta_s(1-\gamma)+\eta_s\gamma\tilde{\rho}_l} \geq \frac{-\frac{1}{\mu}\frac{1}{2}\eta_c+\left(\gamma\eta_h+\frac{1}{2}\eta_c\right)}{\gamma\eta_h+\gamma\eta_s(1-\tilde{\rho}_l)+\eta_c\frac{1}{2}}.$$

The left-hand-side expression is decreasing in $\tilde{\rho}_l$ and the right-hand-side expression is either negative or increasing in $\tilde{\rho}_l$. The inequality therefore implies an upper bound on $\tilde{\rho}_l$. The limit properties follow from analysis of the right-hand-side expression. $\square$

Claim 2 establishes an upper limit on the values of $\tilde{\rho}_l$ and $\tilde{\rho}_r$ that can be supported in equilibrium. It follows from the proof of proposition 1 that in equilibrium $\tilde{\rho}_l^* = \tilde{\rho}_r^* = \min\{\rho^*,\overline{\rho}\}$. This means that equilibrium is governed by the characterization in proposition 1 if $\rho^* \leq \overline{\rho}$ and by $\overline{\rho}$ otherwise. (Note that equilibrium existence when $\overline{\rho} \leq \rho^*$ requires dropping the refinement that the journalist reports $m = \sigma$ when indifferent in the first period.) The desired result then follows from the properties of ρ^* established in proposition 3 and the properties of $\overline{\rho}$ established in claim 2.

Online Appendix Table 8.1.1: Belief and political knowledge of news consumers by political affiliation

|	Difference between daily newspaper readers and non-readers		
	Democrats	Independents	Republicans
Solid evidence of global warming	0.0393	-0.0011	0.0633
	(0.0353)	(0.0426)	(0.0469)
Share of political questions correct	0.1393	0.1868	0.1326
	(0.0203)	(0.0230)	(0.0220)
p-value of equality of differences	0.0142	0.0001	0.1818

Note: Data are from the Pew Research Center for the People and the Press (2013). Data for the solid evidence of global warming row come from the June News Interest/Believability Survey (June 2006). Daily newspaper readers are identified as those who answer yes to the question "Some people are so busy that they don't get to read a newspaper every day. How about you do you get a chance to read a newspaper just about every day, or not?" The "solid evidence of global warming" row reports the fraction of respondents who answered "yes" to the question "From what you've read and heard, is there solid evidence that the average temperature on earth has been getting warmer over the past few decades, or not?" Data for the "share of political questions correct" row come from the Biennial Media Consumption Survey (April 2008). The "reads newspaper daily" column consists of those who answer "yes" to the question "Do you happen to read any daily newspapers regularly, or not?" The "share of political questions correct" row is the share correct across the following three political knowledge questions answered: (i) "Yes, Democrat" to the question Do you happen to know which political party has a majority in the US House of Representatives?", (ii) "Yes, Condoleezza Rice/Condi/Rice" to the question "Can you tell me the name of the current US Secretary of State?", and (iii) "Gordon Brown" to the question "Who is the current prime minister of Great Britain?". The last row reports the *p*-value of the test that the difference in the "solid evidence of global warming" row is equal to the difference in the "share of political questions correct" row. All calculations use recommended sample weights. Standard errors are reported in parentheses.

Online Appendix Table 8.1.2: Belief and scientific knowledge of news consumers by political affiliation

|	Difference between daily newspaper readers/news followers and non-readers/non-followers		
	Democrats	Independents	Republicans
Solid evidence of global warming	0.0393	-0.0011	0.0633
	(0.0353)	(0.0426)	(0.0469)
Share of scientific questions correct	0.1374	0.1918	0.0670
	(0.0318)	(0.0294)	(0.0354)
p-value of equality of differences	0.0392	0.0002	0.9503

Note: Data are from the Pew Research Center for the People and the Press (2013). News followers are identified as those who answer "very closely" or "fairly closely" to at least three of the following five questions: "Did you follow (i) reports about the condition of the US economy, (ii) automatic government spending cuts that began on March 1st, (iii) reports about the US stock market, (iv) the death of Hugo Chavez, the President of Venezuela, (v) Catholic cardinals meeting in Rome to select a new pope very closely, fairly closely, not too closely, or not at all closely?" Data for the solid evidence of global warming row come from the June News Interest/Believability Survey (June 2006). Daily newspaper readers are identified as those who answer yes to the question Some people are so busy that they dont get to read a newspaper every day. How about you – do you get a chance to read a newspaper just about every day, or not? The "solid evidence of global warming" row reports the fraction of respondents who answered "yes" to the question "From what you've read and heard, is there solid evidence that the average temperature on earth has been getting warmer over the past few decades, or not?" Data for the "share of scientific questions correct" come from the 2013 Omnibus Survey (March 2013). The "share of scientific questions correct" row is the share correct across the following five questions answered: (i) "ultraviolet" to the question "Which one of the following types of solar radiation does sunscreen protect the skin from?", (ii) "small" to the question "Does nanotechnology deal with things that are extremely...?", (iii) "it can lead to antibiotic-resistant bacteria" to the question "Which of these is a major concern about the overuse of antibiotics?", (iv) "carbon dioxide" to the question "What gas do most scientists believe causes temperatures in the atmosphere to rise?", and (v) "natural gas" to the question "Which natural resource is extracted in a process known as 'fracking'?". The last row reports the *p*-value of the test that the difference in the "solid evidence of global warming" row is equal to the difference in the "share of scientific questions correct" row. All calculations use recommended sample weights. Standard errors are reported in parentheses.

Online Appendix Figure 8.1.1: Preferences for redistribution and climate-change beliefs across countries
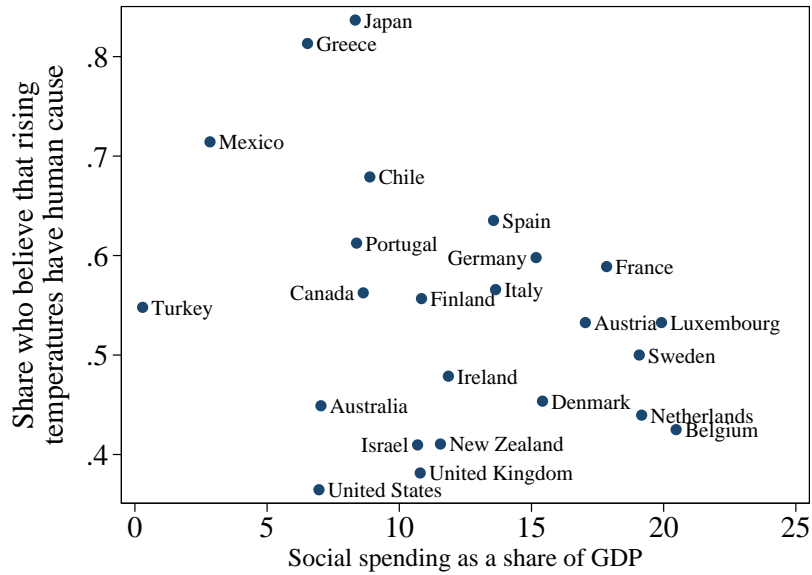
Note: Data for the y-axis are from a 2010 Gallup survey (Ray and Pugliese 2011) that asked: "Temperature rise is a part of global warming or climate change. Do you think rising temperatures are (i) a result of human activities, (ii) a result of natural causes, (iii) both [if volunteered], (iv) don't know/refused, or (v) not aware of global warming." The y-axis is the share who answered (i) out of those who answered (i) to (iv). Data for the x-axis are from Alesina and Angeletos (2005) and show the share of GDP going to social spending, averaged from 1960-1998. Sample is restricted to OECD countries.

Online Appendix Figure 8.1.2: Belief in human evolution and climate-change beliefs across countries
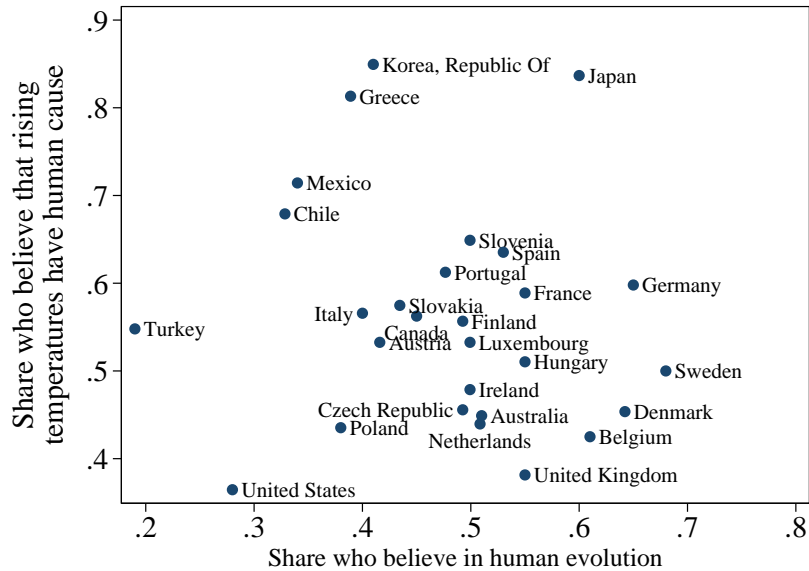
Note: Data for the y-axis are from a 2010 Gallup survey (Ray and Pugliese 2011) that asked: "Temperature rise is a part of global warming or climate change. Do you think rising temperatures are (i) a result of human activities, (ii) a result of natural causes, (iii) both [if volunteered], (iv) don't know/refused, or (v) not aware of global warming." The y-axis is the share who answered (i) out of those who answered (i) to (iv). Data for the x-axis are aggregated from three surveys. The first survey is a 2010 Ipsos survey (Ipsos 2011) that asked the following: "There has been some debate recently about the origins of human beings. Please tell me which of the following is closer to your own point of view: (i) Some people are referred to as 'creationist's' [sic] and believe that human beings were in fact created by a spiritual force such as the God they believe in and do not believe that the origin of man came from evolving from other species such as apes. (ii) Some people are referred to as 'evolutionist's' [sic] and believe that human beings were in fact created over a long period of time of evolution growing into fully formed human beings they are today from lower species such as apes. (iii) Some people simply don't know what to believe and sometimes agree or disagree with theories and ideas put forward by both creationist's and evolutionist's [sic]." The measure of belief in evolution is the share who identified them as "evolutionists." The second survey is a 2005 survey reported in *Science* (Miller et al. 2006) that asked the following "Human beings, as we know them, developed from earlier species of animals: True/False/Not sure." The measure of belief in evolution is the share who answered "true." The third survey is a 2013-14 Pew survey (Pew Research Center on Religion and Public Life 2014) that asked the following: "Thinking about evolution, which comes closer to your view? (i) Humans and other living things have evolved over time, (ii) Humans and other living things have existed in their present form since the beginning of time, (iii) DK/Refused." The measure of belief in evolution is the share who chose the first option. To produce the series on the x-axis of the plot, I use the Ipsos number where possible. When the Ipsos number is not available, I impute it using the predicted value of an OLS regression of the Ipsos series on the *Science* series. When neither the Ipsos nor *Science* series is available, I impute the Ipsos series using the predicted value of an OLS regression of the Ipsos series on the Pew series.

Online Appendix Figure 8.1.3: Carbon intensity and climate-change beliefs across countries
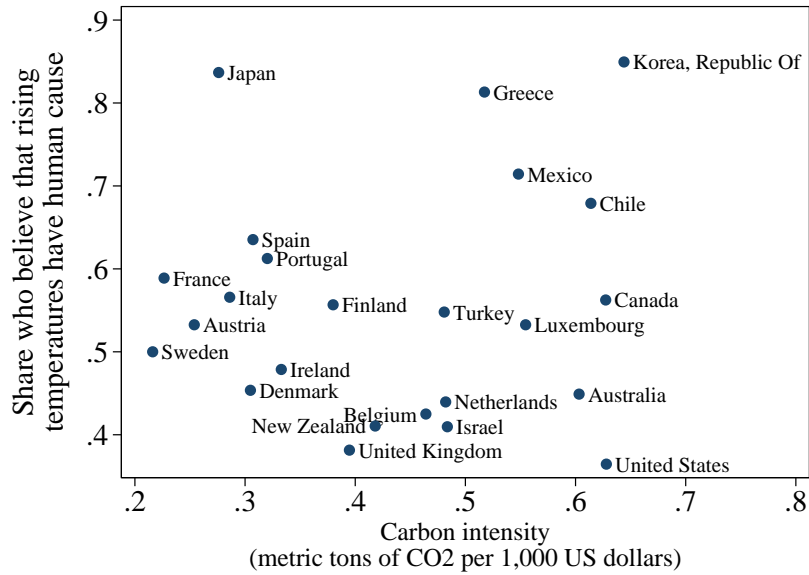
Note: Data for the y-axis are from a 2010 Gallup survey (Ray and Pugliese 2011) that asked: "Temperature rise is a part of global warming or climate change. Do you think rising temperatures are (i) a result of human activities, (ii) a result of natural causes, (iii) both [if volunteered], (iv) don't know/refused, or (v) not aware of global warming." The y-axis is the share who answered (i) out of those who answered (i) to (iv). Data for the x-axis are from the United States Energy Information Administration (2015). The x-axis is the number of metric tons of carbon dioxide emissions per GDP in 1990, where GDP is measured in thousands of 2005 US dollars.

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