

Media Bias and the Climate Issue

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The international mass media play an important role in forming people's perception of the climate problem. Our research paper [1] published in *American Journal of Agricultural Economics* analyzes one direction of media bias, a tendency of the media to accentuate or even exaggerate climate damage, which was documented in a few articles in mainstream media and academic literature. Motivated by this, we abstract from other directions of media bias on the climate issue, and focus on why this type of media bias emerges, and how it influences nations' negotiating an International Environmental Agreement (IEA). Townhall magazine published an article [2] entitled "Academics 'Prove' It's Okay To Lie About Climate Change" right after our accepted paper was made available online. The phenomenon of publishing the article in Townhall exactly fills in the gap in our paper and showcases one other (opposite) direction of media bias which we only tangentially mentioned in our analysis (see footnote 3 in [1]). Right after our paper was officially published, further more attacks from media that are skeptical of anthropogenic climate changes came in, but the main tones remained the same: They claimed that our paper advocated lying about climate change, and they used this claim to attack the low carbon movement.

In order to prevent further mis-interpretation of the scientific result, we invite the media interested in research progresses to distinguish between positive statement (what is) and normative statement (what ought to be). Our

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economic model consists of two parts: one positive (why and how media are biased), while the other normative (what is the welfare implication of the media bias on the climate issue).

In economics, analyzing how individuals would manipulate the information they privately have in strategic interactions is a classic topic called economics of information. There are already many research papers using this approach to analyze media behavior as one can see in the references of our paper. For the positive part of our paper, media bias emerges and is sustained as an equilibrium outcome in our game theoretic model. Technically, we set up a model which involves an international mass medium with information advantage, many homogenous countries, and an IEA as players in the game. We then solve for the equilibrium of this game, which, in plain English, means that every player in the game is maximizing his/her payoff given what others do, and the players update their beliefs in a reasonable way (by Bayes' rule in our jargon) if they are uncertain about the true state of nature on the climate issue. In our model, media bias is embodied as the mass medium suppressing information it privately has in the equilibrium. Our abstract thus states that "This article provides a rationale for this tendency by using a modified International Environmental Agreement model with asymmetric information." According to the Longman Dictionary of Contemporary English, "rationale" means "the reasons and principles on which a decision, plan, belief etc is based." Our "rationale" provides only a **value-free explanation** of the phenomenon (i.e., why certain media have incentives to engage in biased coverage), but does not mean "justifying lying about climate change".

Then we did have a normative analysis on the media bias. The climate problem is important because it involves possibilities of catastrophes and long-lasting systemic effects. The main difficulty of the climate problem is that it is a global public problem and we lack an international government to regulate it. The strong free riding incentives lead to a serious underparticipation in an IEA, and the insufficient participation further makes the IEA mechanism unlikely to provide enough public goods (abatements in Greenhouse Gas pollutions here) to resolve the climate problem (see, e.g.

[3] for a survey). The current impasse of climate negotiations showcases this difficulty. We showed that the media bias we focused on might have an ex post “instrumental” value as the over-pessimism from the media bias may alleviate the under-participation problem to some extent. Meanwhile, we addressed the issue of trust/credibility as people can update their beliefs by the Bayes’ rule in our model. It is shown that the media bias could be beneficial or DETRIMENTAL, due to the issue of credibility; as a result, the welfare implication is ambiguous, as clearly stated in our abstract. Thus, even from the normative point of view, we did not “Prove It’s Okay To Lie About Climate Change”.

Our conjecture is that most of these media reporting our paper did not actually read through our paper. For instance, very often they misinterpret the notions “ex ante” and “ex post”. Motl [4] explains our distinction between “ex ante” and “ex post” in the following way, cited by several media like Climate Depot.

More precisely, they say that the lies are only calculably effective once a sufficient number of countries has already joined the climate hysterical treaties. For the initial countries, the effect cannot be distinguished from zero at this moment. These two different predictions are described by the Latin phrases “ex ante” and “ex post” for the authors to sound smarter.

If they bothered to take a look at our model, they would find that the countries simultaneously decide on whether to participate in the IEA in our model. Then obviously, there are no so-called “initial countries” or subsequent countries in our paper. Even if they are too busy to look at the model, the Introduction of the paper explains that the “ex ante” and “ex post” distinction is based on the timing in which we assess the information manipulation.

Thanks to the articles in Townhall and other follow-up media. The articles themselves are vivid examples of the prevalence and variety of media bias in reporting scientific results. While our analysis investigates the media tendency of accentuating or even exaggerating scientific findings of climate

damage, the articles misinterpret our results, accentuate and exaggerate one side of our research and completely omit the other side. Neglecting the fact that our analysis focuses on media bias, a few articles (e.g. [5]) even fabricate that we support scientific frauds. For another example, Motl [4] quotes the words “the information manipulation has an instrumental value” in our paper. However, in his quote, the sentence becomes “manipulation of information has a great instrumental value” with quotation marks! (Both underlines are added by us.) If they think that we advocate lying about climate change, and they hate it so much, why do they themselves engage in lying?

When we were really disappointed about the dissemination of misunderstandings about our paper, we came across a webpage in which a blogger [6] conducted a content analysis on how a famous climate skeptic editor of social media misrepresented our results [7]. Humorously, she wrote “In an irony heaped on an irony, Anthony Watts is lying and exaggerating about a research paper on exaggeration and information manipulation - to stoke the conspiracy theory that climate science is a hoax.”

Finally, our reading of the abovementioned media and responses to our paper points to an interesting phenomenon. The economics profession has the common sense that the global public nature and its associated free-riding incentives are the main difficulty of the climate problem. However, we did not find any of these media mention this issue. The free-riding problem seems completely out of their mind.

Although our simple game-theoretic model, as the first economic model on climate and media to our knowledge, cannot capture all directions and aspects of media bias on the climate issue, our analysis, as well as the media coverage of our analysis, calls for further scientific research on the media bias in reporting scientific results. In the end of an article in the Economist magazine [8], the author concludes that “In some cases, scientists who work on climate-change issues, and those who put together the IPCC report, must be truly exasperated to have watched the media first exaggerate aspects of their report, and then accuse the IPCC of responsibility for the media’s exaggerations.”

References

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