Critical Analysis of the Efficacy of a Carbon Tax in the US

a. Is imposing a carbon tax actually an effective way to combat climate change?

b. In general, ⅘ of the articles I found supported the idea of a carbon tax because of its reported and hypothesized effectiveness in reducing carbon in the atmosphere. Overall, many of the articles had overlapping information, which was a positive sign as I narrowed those findings down to the truth of the matter. However, the one article I discovered that disagreed with the implementation of a carbon tax did waver my confidence in the other four's conclusions. This analysis will examine the effectiveness of a carbon tax by how it has reduced carbon in the atmosphere, as well as the economic and political effectiveness and probability of being implemented.

To begin, I first read the article, "Putting a Price on Carbon" from the International Monetary Fund. Overall, this article portrayed a carbon tax to be a very beneficial policy for both the environment and the economy. This article was primarily focused on the idea of using that revenue to fund clean energy resources to further positive environmental action. Something I will note now is that every source included in this analysis agrees that a carbon tax is regressive. This article suggests the implementation of a "feebate" or rebates for emitting carbon below average emissions and extra fees for going above the average. It recognizes that current efforts to enforce a carbon tax are not yet on par with many nations' climate goals, with tax prices still being too low to enact significant change. Though, if many industrialized countries were able to raise a carbon tax to $75/ton, the frequency of carbon in the atmosphere has a high likelihood of rapidly decreasing.

https://www.imf.org/en/Publications/fandd/issues/2019/12/the-case-for-carbon-taxation-a

nd-putting-a-price-on-pollution-parry#:~:text=Innovative%20mechanisms%20are%20therefore%20needed,efforts%20at%20the%20international%20level.&text=Carbon%20taxes%20are%20charges%20on,meeting%20domestic%20emission%20mitigation%20commitments

The second article I analyzed is published in *The American Economic Review,* a scientific journal, and the article is titled "Tax Policy Issues in Designing a Carbon Tax". In short, my findings from this article concluded that they acknowledged the potential for a carbon tax to be a substantially effective policy in combating climate change, though it examined the many issues in successfully implementing one. Explicitly stating they were, "emphasizing three tax policy design issues: setting the tax rate, collecting the tax, and using the resulting revenue. The benefits of a carbon tax will depend on how policymakers address those issues" (Maron & Toder). Similarly to the first article, this one also makes note of the political difficulties in raising the carbon tax high enough to see substantial environmental change. In essence, this article paints a carbon tax to be the prime definition of "easier said than done" because, in theory, it is a wildly successful method of combating climate change, while in practice, it has proven to be a more complicated matter on social, economic and political levels. https://www.jstor.org/stable/42920999?saml_data=eyJzYW1sVG9rZW4iOiI5ZjJiMzBmOC1jMzg1LTQxNmEtOGI5OC02OWEwZWEzODk5NWQiLCJpbnN0aXR1dGlvbklkcyI6WyJjZjUyZWI0OS0zNWU3LTQ4NWYtYTNkNS0xZTgyZGQ5NDE3ZWYiXX0#metadata_info_tab_contents

The third article I read was titled "Canada's Carbon Tax Hike and Strategic Implications for Oil and Gas Firms" published by the *Oxford Institute for Energy Studies.*

This article also concluded the high efficacy of a carbon tax based on Canada's numbers after implementing one across its providences. It found that after implementing a carbon tax, many of Canada's largest oil producers switched to more environmentally sustainable energy resources to avoid paying the tax.

https://www.jstor.org/stable/resrep33937#metadata_info_tab_contents

The fourth article, "Does Carbon Pricing Reduce Emissions?" published by IOP, is the only source that found the carbon tax to be ineffective. This article claims that the carbon tax's effectiveness is only seen in perfect hypotheticals, and does not perform the same in the real world. When a carbon tax is implemented, its reductions are very small, or reports can't be found at all. It brings up the point about leakage issues, claiming that many companies will move to areas without a carbon tax, which defeats its purpose. Instances of this have been seen in Canada and California.

https://iopscience.iop.org/article/10.1088/1748-9326/abdae9/meta#sidr-main

The final article, the Wikipedia page on Carbon Tax, concludes that a carbon tax is beneficial in reducing carbon emissions. This article also recognizes how regressive the tax can be, and provides a list of options that would aid lower-income homes if implemented. Something interesting was that this article and the last article, published by IOP, both cited the same finding that British Columbia experienced a reduction in carbon emissions by 5-15%. However, the article in IOP painted this negatively, claiming that was not a substantial number, while the Wikipedia article seemed to celebrate it.

https://en.wikipedia.org/wiki/Carbon_tax

c. I was very compelled by the fourth article's point that almost all data about carbon tax has been produced from hypothetical, perfect-scenario situations. This made me reread

the other articles and I found that most data suggested was presented as the *expectation* of a carbon tax's effects. However, I do believe the fourth article exhibited confirmation bias in all of its analyses' because every piece of data that showed the effectiveness of a carbon tax in a real-world setting, was immediately followed up with an excuse for why that was an anomaly. This behavior was not present for data against a carbon tax. https://iopscience.iop.org/article/10.1088/1748-9326/abdae9/meta#sidr-main I also found a flaw in the third article, as they claimed that, "by 2030, Canadians will be paying an extra C$0.40/liter at the pump. For reference, that price represents about 40 percent of the average gasoline price in December 2020 across much of Canada". However, in 2020, gas prices were substantially lower than in other recent periods of time because of the COVID-19 pandemic. Therefore, I do not think this is a fair or balanced comparison. https://www.jstor.org/stable/resrep33937#metadata_info_tab_contents All articles used data provided by government environmental agencies from nations that have already imposed a carbon tax. There was some data included about projections from the Paris Agreement as well. Ultimately, most of the data were perfectly simulated in an ideal world with no social, economic, or political obstacles, which is not how it would translate when implemented. While every article acknowledged the regression of the carbon tax, most were quick to offer several solutions such as feebates or tax dividends.

d. After my research, I have concluded that a carbon tax is effective if it is paired with other policies, or if renewable energy becomes widely available. On its own, it is too difficult to implement a carbon tax that is able to enact enough change to see the environmental change needed, because people do not want to pass high tax bills. In a utopia, a carbon tax would be perfect, because, in theory, it works wonders. However, our societies

present too many social, political, and economic complications to allow them to be so effective. Therefore, it would need to be paired with other government policies (ie. cap-and-trade) or sustainable resources need to be more accessible to the average person.

Works Cited

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