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Economic Commentary on British Columbia's Climate Action Tax Credit: How Is It Creating an Equitable Environment in B.C.?

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Abstract

This paper examines the impact of British Columbia's Climate Action Tax Credit on creating a more equitable environment in the face of increasing carbon taxes. By applying economic concepts such as marginal social/private costs and consumer/producer spending by the implementation of a Pigouvian tax (carbon tax), the paper analyzes the economic equity that theoretically should be present in British Columbia as a consequence of the tax credit. It analyzes several secondary sources and applies economic theory as per the International Baccalaureate Diploma Program.

Keywords

British Columbia, Carbon Tax, Emissions, Equity, Marginal Social Cost, Marginal Private Cost, Spending

1. Introduction

Climate change is a pressing global challenge that requires concerted efforts to mitigate its adverse impacts. In this context, carbon taxes have emerged as a crucial policy tool to address the negative externalities associated with carbon emissions. The Canadian province of British Columbia has taken significant steps to tackle its carbon emissions by implementing a Carbon Action Tax Credit and gradually increasing the carbon tax. The Climate Action Tax Credit aims to alleviate the financial burden of carbon taxes on individuals and families, particularly those with lower incomes. The credit assists financially disadvantaged citizens in managing the burden of carbon taxes, contributing to a more equitable environment. The analysis underscores the significance of internalizing external costs through taxation and the role of consumers in shouldering the tax burden,

especially in inelastic markets like electricity.

This article is organized into the rationale, methodology, and implications of B.C.'s approach to fostering an equitable environment through these initiatives. While the advantages and workings of the carbon price and climate action tax credit in British Columbia are explored, it is crucial to acknowledge some limits. Firstly, the research may not properly account for the larger socioeconomic and environmental repercussions of carbon taxes, because it is mostly focused on the economic components of the policy. Additionally, it's possible that the assumptions established regarding how well the tax credit works to give lower-income households financial stability don't accurately reflect the intricate socio-economic processes at work. This paper also makes the assumption that the carbon tax and the related tax credit will continue to be effective and relevant over time without taking into account any policy changes or variations in the external environment.

2. Literature Review and Methodology

2.1. Literature Review

The official CleanBC website offers a comprehensive overview of the province's ambitious climate action plan. CBC News goes into more depth about the economic logistics of the action plan and sheds light on B.C.'s recent budget announcement in 2023, highlighting the province's commitment to enhancing the Climate Action Tax Credit. The tax credit aims to provide financial relief to low-income individuals and families burdened by carbon taxes. Additionally informing their readers about the province's commitment to enhancing the Climate Action Tax Credit is discussed in light of the upcoming increase in carbon taxes. Their articles underscore how the tax credit's expansion serves as a countermeasure to ensure that the carbon tax does not disproportionately affect financially vulnerable citizens, thereby contributing to a fairer distribution of the carbon tax burden in addition to B.C.'s recognition of the need to simultaneously tackle climate change and socio-economic disparities.

2.2. Methodology

The methodology used in this article entails examining how carbon taxes and B.C.'s climate action tax credit affect the generation and use of electricity. The analysis starts off by defining negative externalities and describing how governments use taxes to internalize these external costs. The case of carbon emissions coming from the generation and use of power then comes into emphasis. The article demonstrates how a carbon tax can result in lower electricity output and emissions by using economic concepts like marginal private costs (MPC), marginal social costs (MSC), and marginal private benefit (MPB).

The effect of the carbon tax on the supply curve of power is depicted graphically, showing the decline in production as a result of increased costs. The article also highlights the relative inelasticity of demand for goods and services linked

to carbon emissions, such as electricity, resulting in consumers bearing the majority of the tax burden. The shift in the supply curve and the resultant tax revenue generation are visually depicted in a diagram.

3. Discussions

British Columbia's Climate Action Tax Credit is now set to more than double as the province works to offset increasing carbon taxes for individuals and families. It will increase from $193.50 to $447 per year, and four-person families can claim up to $900 per year (CBC News, 2023a). The carbon tax will increase by $15 per tonne annually, until it hits $170 in 2030. B.C.'s Climate Action Tax Credit allows a more equitable environment among its populace, by endowing rebates to those financially disadvantaged citizens who bear the burden of carbon taxes. Moreover, the implementation of a Carbon Tax by B.C.'s governing authorities underpins the commitment to equity in the long term, recognizing that individuals with fewer resources tend to bear the brunt of climate crises.

In response to negative externalities of production, the government intervenes using tax to decrease how much externality is affecting society. While it is extremely unlikely for the externality to disappear completely, the effects of the externality do reduce. The negative externality in this case is the carbon being emitted into the environment due to the production and usage of electricity.

The implementation of a tax based on the amount of carbon emitted will lead to less production of electricity as companies will have the incentive of attempting to lower costs. This is shown by the marginal private costs (MPC) curve's shift to the MPC+tax as the quantity produced goes from Qe to Q1 on **Figure 1**. This new quantity is now closer to the optimal level of production (where marginal social costs [MSC] meet marginal private benefit [MPB]). While the new level of production is not the optimal and market failure is still present, the externality has decreased as shown from the smaller size of welfare loss. Less production and therefore usage of electricity results in a smaller amount of carbon being released into the atmosphere (Quintin, 2014).

If there is too much carbon emitted into the environment, natural disasters and severe effects of climate change are likely to occur. These events will harm everyone, yet those with lower income will likely suffer more as natural resources may not be as available or even suitable protection from abnormal climate may be hard to acquire for them (CBC News, 2023b).

With a Pigouvian tax, such as the Carbon tax, consumers of the goods—in this case the citizens utilizing electricity—pay the majority of the tax, compared to the producers. Especially because these goods are relatively inelastic as they do not have close substitutes. By spending money on the tax credit, the government decreases government revenue and overall the burden that falls upon the consumers to pay most of the tax, creating a more equitable environment for the citizens of B.C.

Figure 2 shows the effects of implementing the carbon tax. As tax makes

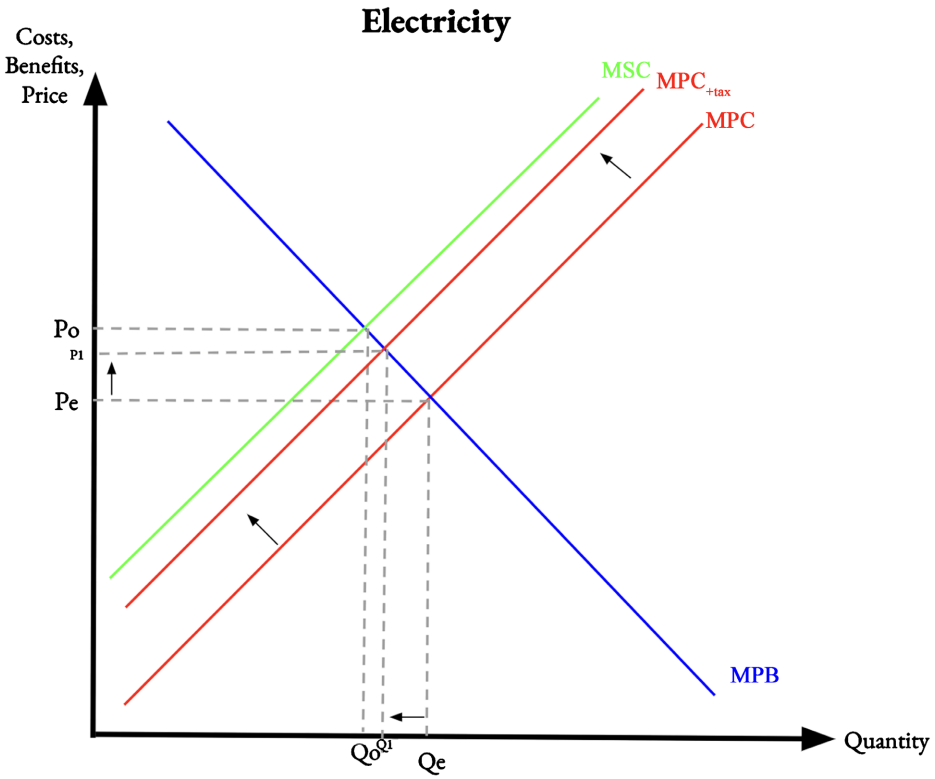

Figure 1. Positive externality of production - externality diagram.

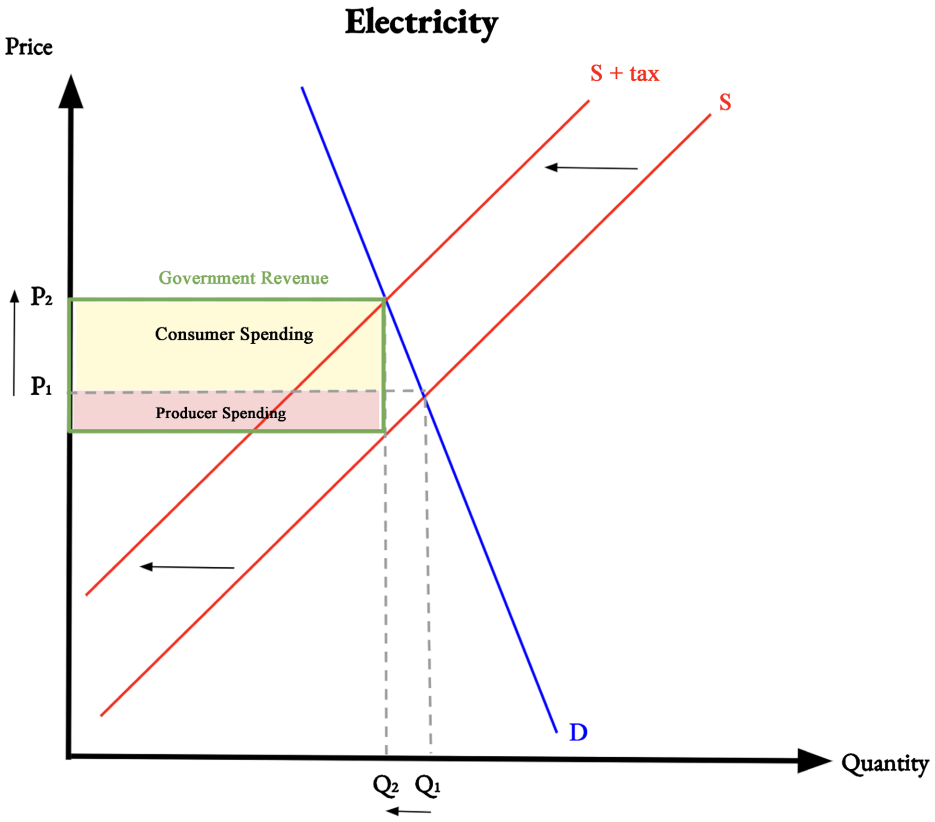

Figure 2. Carbon tax diagram.

production more costly, supply is bound to decrease shown in the supply curve shift from S1 to S2. The amount of the tax which has increased fifteen dollars per tonne is equivalent to the distance between the two supply curves. This distance is constant as the tax is based per additional unit of output, or additional tonne of carbon emitted while producing electricity. The amount of revenue the government receives is the amount of tonnes emitted in production times the amount of the tax as shown in the green box on the diagram.

Due to the relatively inelastic demand of goods and services that require the emission of carbon, such as electricity, the majority of the revenue the government receives is consumer spending. Since electricity has limited to no substitutes, the increase in price (as shown in the diagram) leads to the majority of tax paid by producers being consumer income.

Since consumers pay the majority of the producers tax then they have their own carbon tax to pay, consumers bear the heavy burden of carbon tax. This affects people with lower income more and a larger percentage of their income is going toward taxation. This creates an inequitable environment in B.C. To avoid this, the tax credit was raised so now people with lower income or families with more people to provide for receive rebates so they do not have as much financial difficulty as those with higher income.

4. Conclusion

In conclusion, the Carbon Action Tax Credit in B.C. is beneficial in creating an income equitable environment as it provides lower income households with rebates, so they do not bear as heavy of a burden of paying the carbon tax. Additionally, the carbon tax is paid and that in itself ensures long term equitability. This is based on the assumption that the rebate is in actuality enough to provide households stability, even after its increase in value. Although the government is spending a lot of money, the consumers of the electricity as well as receivers of those rebates benefit as they may not need to compromise on other aspects of their lives in order to be financially stable. Plus the producers of the electricity pay very little of the tax, so they are not burdened by the slight increase in costs. So, while in the short term the government is spending generously, in the long term B.C.'s populace will be living in a more financially equitable environment.

Considering the Carbon Action Tax Credit's beneficial effects on income equity and long-term sustainability in British Columbia, many measures can be recommended to further boost this strategy's efficacy. These include ongoing monitoring and credit value adjustments. The government should routinely examine the credit values in response to shifting economic conditions and the cost of living to ensure that the tax credit continues to be effective in giving stability to lower-income households, and additionally, promote energy-efficient practices among households, especially those with lower incomes, by providing targeted support programmes. This can entail offering financial support for energy-efficient appliances and house upgrades to cut down on energy use and

utility costs generally, and possibly even engage in international collaborations to share best practices and learn from the experiences of other jurisdictions implementing similar carbon taxation policies. This can contribute to refining and adapting B.C.'s policies for maximum impact. By implementing these policies, B.C. can not only continue to promote income equity and long-term sustainability but also create a model for other regions seeking to achieve similar goals through carbon pricing mechanisms.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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