The Transportation & Climate Initiative: COVID-19 Economic Impacts on Massachusetts

Executive Summary December 18, 2020

From the first shutdowns in March, the COVID-19 pandemic wreaked havoc on the Massachusetts economy. In the second quarter of 2020, Massachusetts real gross domestic product (GDP), a key measure of the state's economic vitality, declined at the fastest pace in state history.[1] The impact of the mass closures and restrictions on businesses within the state will be felt for years to come.

Even with the development and distribution of vaccines nearing, in addition to the potential for further economic stimulus from the federal government, BHI projects that the state economy will not return to pre-pandemic levels for multiple years.

Although the state economy is currently mired in one of the worst economic contractions in state history, Massachusetts legislators are keen on the state's participation in the Transportation and Climate Initiative (TCI).

TCI is "a regional collaboration of 12 Northeast and Mid-Atlantic states and the District of Columbia that seeks to improve transportation, develop the clean energy economy and reduce carbon emissions from the transportation sector." [2] The purpose of the TCI is "to reduce greenhouse gas emissions, minimize our transportation system's

[1] Bureau of Economic Analsysis, Real GDP by State, https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1

[2] Transportation Climate Initiative Declaration, (February 3, 2020) https://www.transportationandclimate.org/sites/default/files/TCI-declaration.pdf.

reliance on high-carbon fuels, promote sustainable growth, address the challenges of vehicle-miles traveled and help build the green energy economy."

In an analysis of the economic impacts of TCI on Massachusetts in March of this year, the Beacon Hill Institute (BHI) found that the program would carry harmful economic effects while providing negligible environmental benefits.[3] This analysis assumed that the state would have fully recovered from the pandemic by the time of the TCI's implementation in 2022. Another independent analysis of TCI, by the Center for State Policy Analysis, found that the program could considerably impact the prices of on-road gasoline and diesel.[4] In our analysis here, BHI estimates the costs imposed if Massachusetts participates in TCI while the state undergoes a delayed recovery, lasting beyond 2022, from the coronavirus pandemic.

We find that, particularly in the first two years, TCI would bring more severe effects as the state economy slowly recovers. We report our results for three emissions cap scenarios from 2022 through 2026 to capture the short-term economic impacts on the Massachusetts economy. The scenarios are caps set at 20, 22.5, and 25 percent of baseline emissions. Table 1 displays the results of a cap set at 22.5 percent.

Revenue resulting from auction allowance proceeds under a 22.5 percent emissions cap scenario has been estimated to be $450 million in Massachusetts. However, if the usage of gasoline and diesel fuel for on-road vehicles continues to trend lower than it did pre-pandemic, TCI auction allowance revenues could plummet (as seen in California.)

In our earlier analysis, which took place at the start of the pandemic, we found that TCI would reduce business investment by $229 million, disposable income by $1,524 million, and private employment by 7,629 jobs in 2022. The cost per average

[3] The Transportation Climate Initiative: Its Economic Impacts on Massachusetts, http://beaconhill.org/BHIStudies/2020/3-10-2020_BHI_and_FAF_Study_on_TCI.pdf.
[4] Assessing the Impact of TCI, The Center for State Policy Analysis, https://tischcollege.tufts.edu/research/assessing-impact-tci.

Massachusetts household would be $585. State real GDP would fall by $788 million. That was before we could know that the pandemic would severely impact the state economy this year.

Assuming that on-road gasoline and diesel emissions return to their pre-pandemic levels, the emissions cap would reduce investment by $305 million, disposable income by $1,649 million, and private employment by 9,993 jobs in 2022. On average, Massachusetts households would incur a cost of $630. State real GDP would fall by $1,001 million. The emissions cap would reduce other tax revenues, resulting in a net rise of $428 million in state tax revenues.

By 2026, a 22.5 percent emissions cap would reduce investment by $325 million, disposable income by $1,762 million, and private employment by 7,677. The average Massachusetts household would incur a cost of $673. State real GDP would fall by $865 million. The emissions cap would reduce other tax revenues, resulting in a net rise of $430 million in state tax revenues.

Table 1: The Costs and Benefits of a 22.5% Emissions Cap on Massachusetts

Variable	2022	2023	2024	2025	2026
Dynamic TCI revenue ($, mil.)	450	450	450	450	450
Revenue changes other state taxes ($, mil.)	-22	-22	-20	-20	-20
Total dynamic revenue change ($, mil.)	428	428	430	430	430
Private employment (jobs)	-9,993	-9,290	-8,821	-8,072	-7,677
Investment ($, mil.)	-305	-283	-290	-313	-325
Disposable income, real ($, mil.)	-1,649	-1,666	-1,701	-1,723	-1,762
Cost per household ($)	630	636	650	658	673
State real GDP ($, mil.)	-1,001	-974	-941	-906	-865

Massachusetts households with lower incomes and small businesses who are currently struggling with the current COVID-induced economic conditions would largely carry the burdens imposed under TCI.