

Andy Lin, Veronica Vargas

ENGRD 302W

Dr. Miller

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PROJECT STATEMENT:

Environmental degradation and waste management are two prevailing issues faced by urban centers globally. The concept of environmental tax has been introduced in numerous regions to mitigate the adverse impacts on the environment, primarily aiming at reducing waste generation and encouraging recycling. This project seeks to explore the relationship between environmental tax and municipal waste management, and understand how the former influences waste generation and management practices at the municipal level across different countries.

SOURCES & METHODS:

The preliminary data from the Organisation for Economic Co-operation and Development (OECD) showcases a potential avenue for examining the correlation between environmental taxes and municipal waste metrics across various countries from 2018 to 2021. From the original data source, we will select over 30 countries, encompassing both developing and developed nations, to carry out correlation analysis for discerning the relationship between environmental taxes and municipal waste variables. Furthermore, regression analysis will be conducted to evaluate the impact of environmental taxes on municipal waste management metrics.

GOALS:

In this study, we aim to delineate the correlation between environmental taxes and municipal waste generation and management across selected countries, employing data spanning from 2018 to 2021 to elucidate temporal trends in environmental taxes and municipal waste metrics. By dissecting these trends, we aspire to understand the tangible impact of environmental tax policies on waste management practices at a municipal level. Furthermore, this investigation will serve as a cornerstone for offering policy recommendations. Drawing from empirical findings, these recommendations will strive to augment waste management effectiveness and propel environmental sustainability forward. Through a coherent synthesis of data analysis and policy evaluation, we intend to foster a comprehensive understanding of how fiscal policy tools such as environmental taxes can be leveraged to promote sustainable municipal waste management practices.

DATA DESCRIPTION:

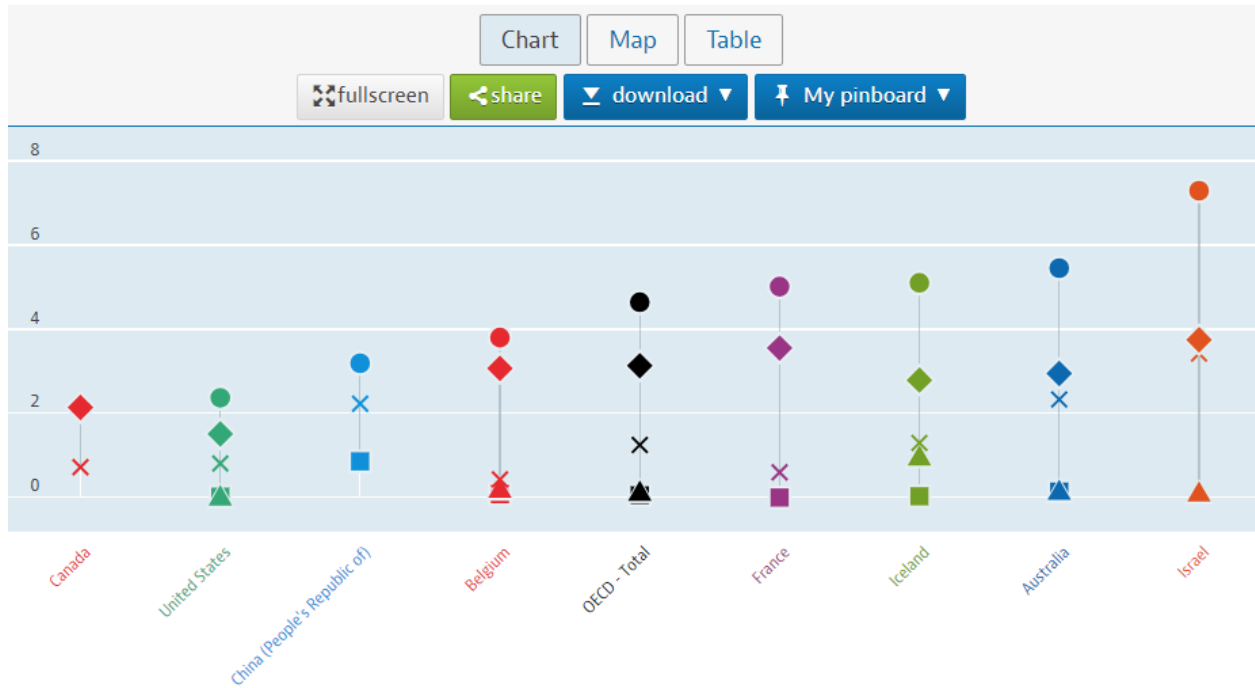
In our study's dataset for environmental taxes, the OECD provides a variety of visualizations to clarify the different facets of environmental taxation policy across different countries. The dataset features a chart, a map, and a table. Each of these visualizations can be filtered through three categories: perspectives, countries, and time. The perspectives section provides information from environmental taxation in relation to energy, transport, resources, and pollution. Moreover, the user can select between viewing the percentage of the GDP or percentage of taxation. Finally, the dataset can be customized further by selecting data from a list of available countries and selecting a time frame. The chart visualization consists of a bar plot where the user can compare statistical quantities side-by-side. The map visualization includes differently sized bubbles corresponding to the percentage of each statistic and provides another

form of visual comparison. Lastly, the table presents a numerical comparison rather than a visual one - emphasizing the raw statistics.

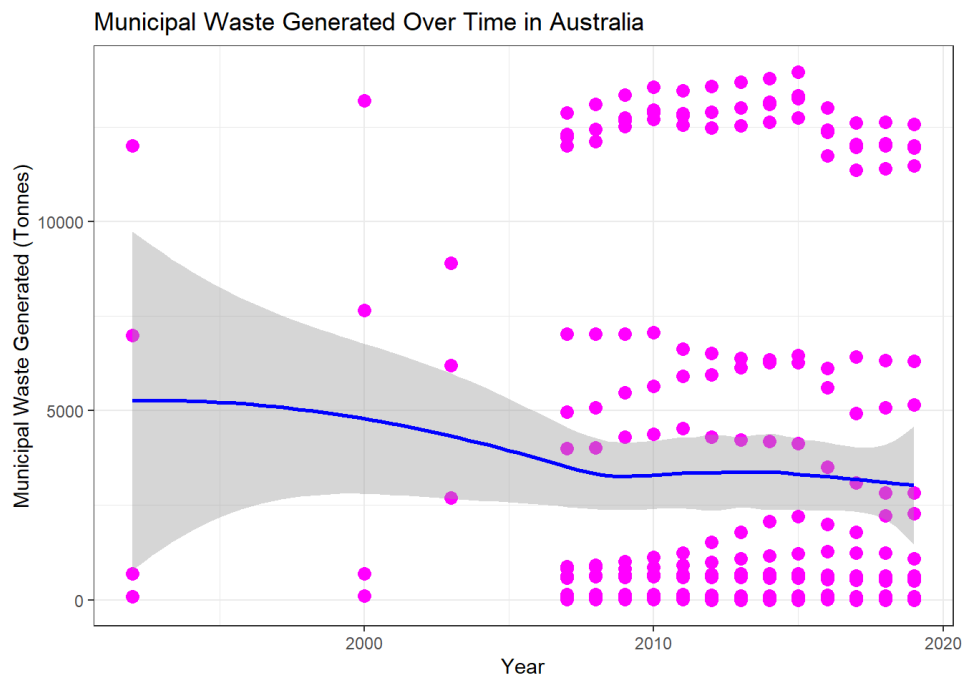
Likewise, the second dataset provided by the OECD highlights municipal waste, generation, and treatment by displaying the raw statistics in a table format. This dataset features data from a variety of selected countries from 1990-2021, and can be customized into displaying multiple categories. Each category is assorted into one of four groups: municipal waste generated, municipal waste treated, intensity of municipal waste generated, and the % total treatment of waste. Some countries do not include statistics and any assumptions there might be inconclusive. For the purposes of this study, we will simply be looking at a few select developed and developing countries and compare total municipal waste generated with the severity of environmental tax policy.

STATISTICAL SUMMARY:

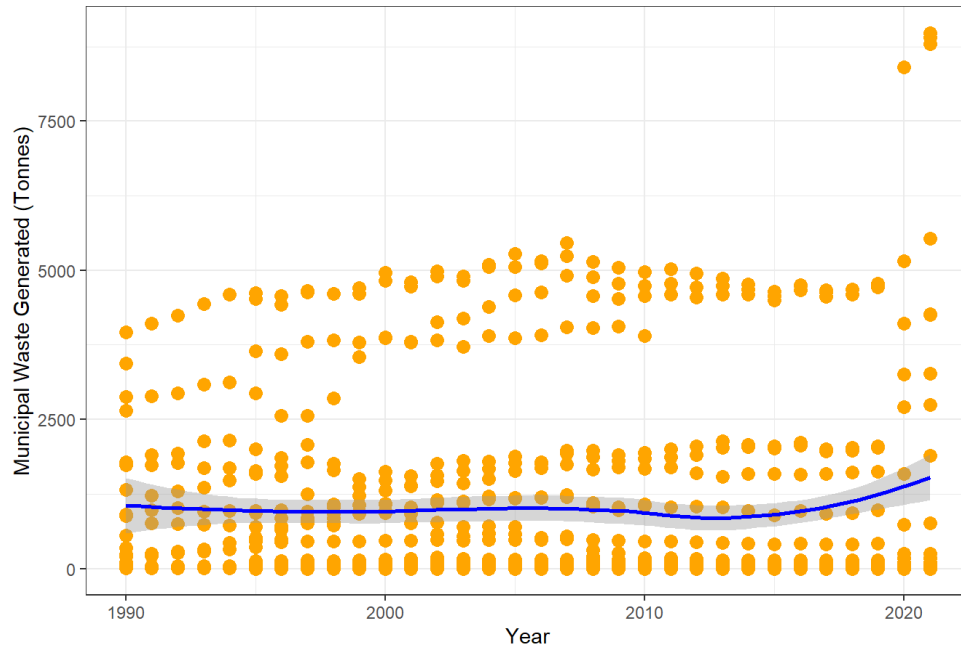
This is a graph showing the percent of taxation that goes towards environmental taxes in Canada, the United States, China, Belgium, France, Iceland, Australia, and Israel according to the OECD.



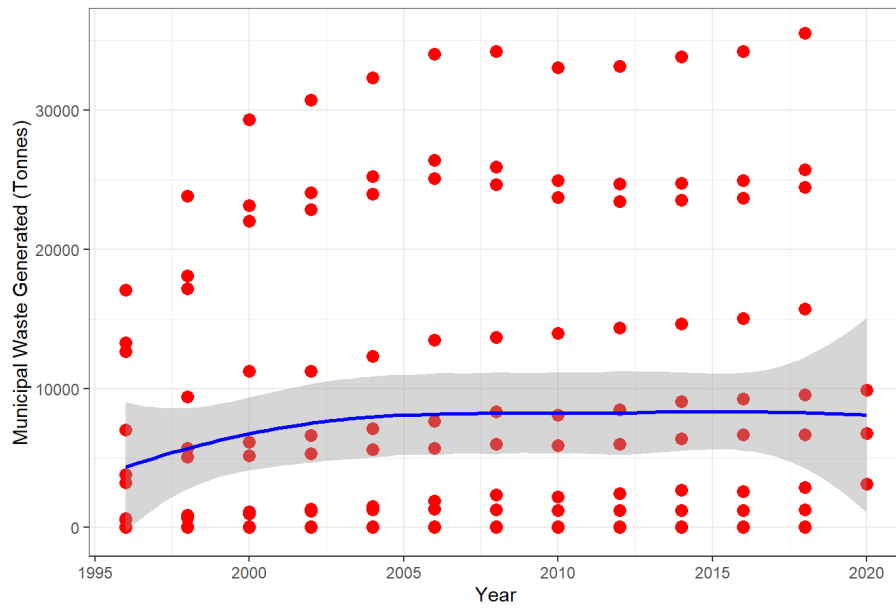
The following are tables show the municipal waste generated over time in a selected country with the overall trend highlighted in blue according to data from the OECD:

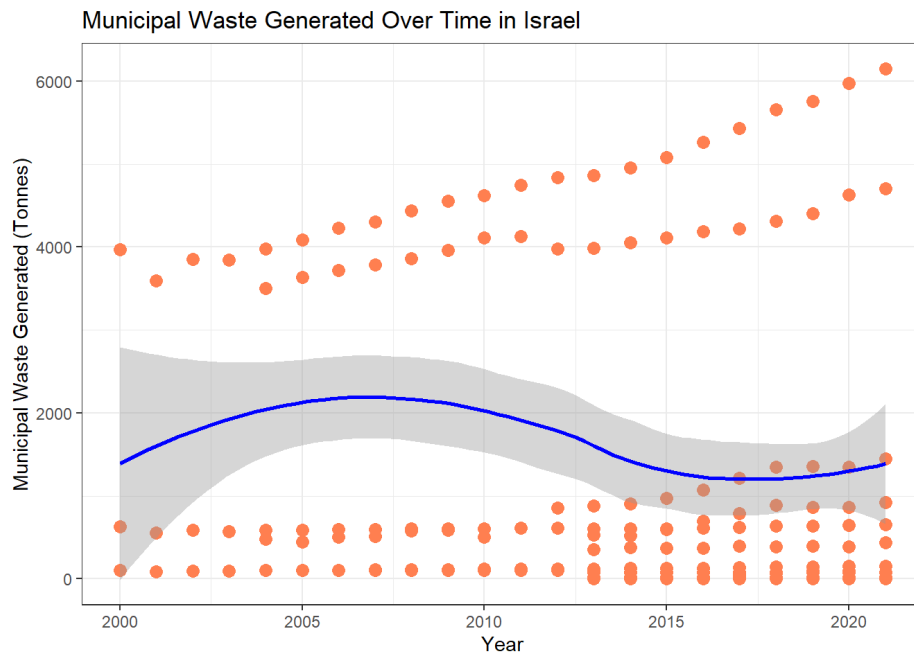
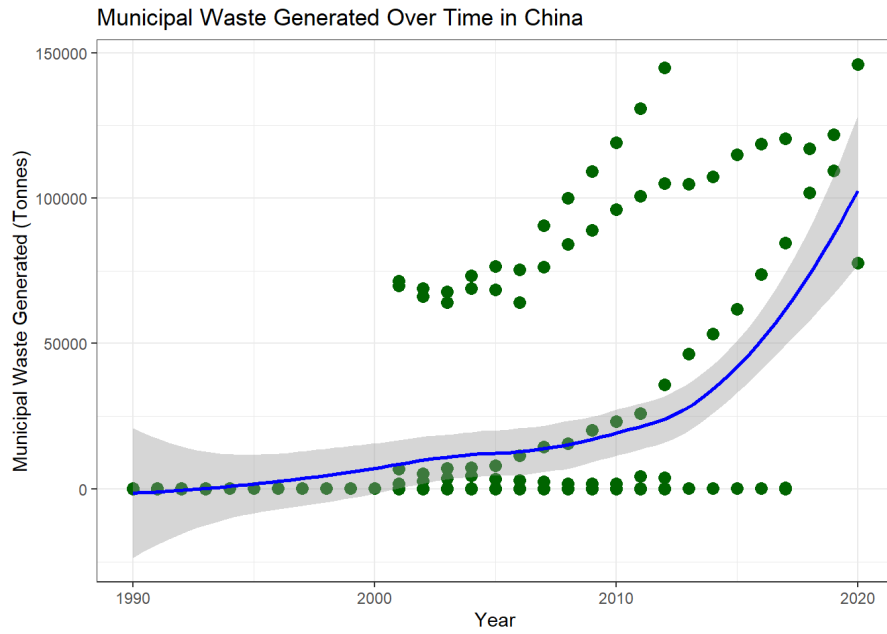


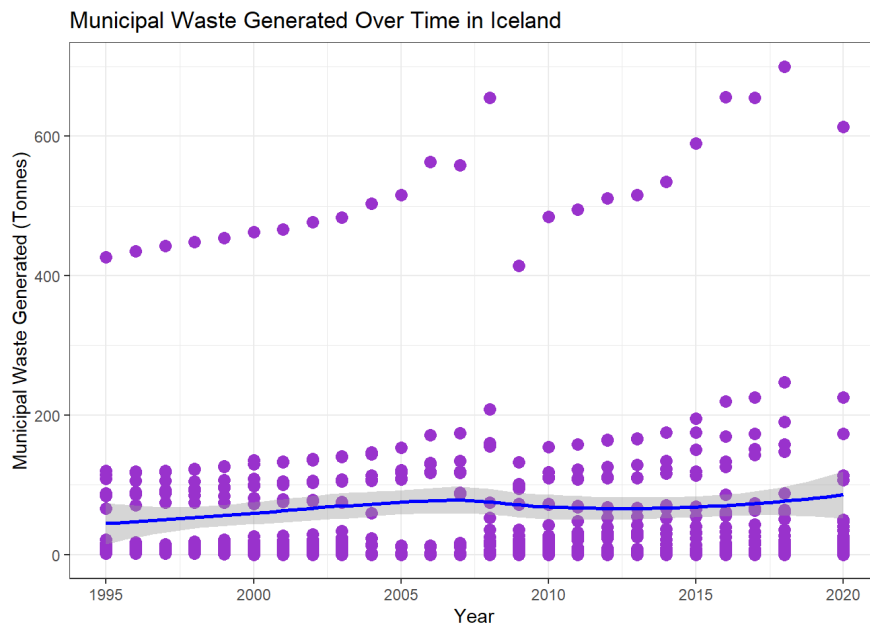
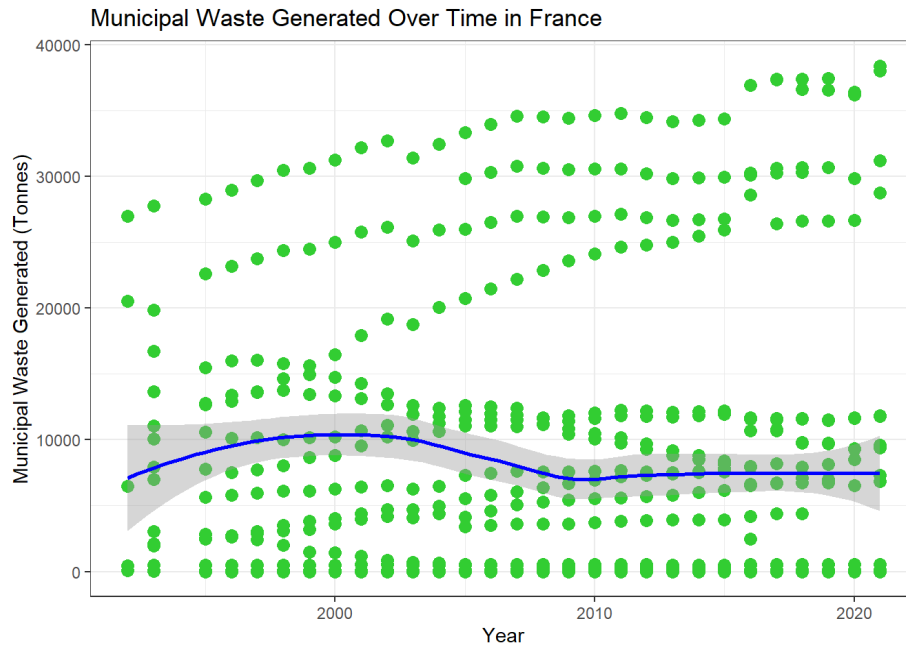
Municipal Waste Generated Over Time in Belgium



Municipal Waste Generated Over Time in Canada







These are summary statistics for the countries featuring the most data available. Here, there is a clear trend where countries that have stricter environmental taxes will typically produce less municipal waste than those with more flexible environmental tax policies.

DIVISION OF WORK:

This project will be divided in such a way that Veronica will mainly focus on generating the raw data, whereas Andy will focus on literary analysis. Both partners will work together on data analysis and confer with each other to form conclusions about the resulting statistical data.

Works Cited

“Environmental Taxes.” *World Bank*,

<https://www.worldbank.org/en/programs/the-global-tax-program/environmental-taxes>.

Accessed 25 September 2023.

“Municipal waste, Generation and Treatment.” *OECD Statistics*,

<https://stats.oecd.org/index.aspx?DataSetCode=MUNW>. Accessed 25 September 2023.