



# Analyzing Impact of the Global Innovation Cluster Initiative through Regression Discontinuity Design

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## Research Question

How does the development and introduction of the Canadian “Innovation Supercluster Initiative” (ISI) development regions affect economic growth

## 1 Motivation and Contribution

Regional policy and development are of ever-growing importance in Canada. With the recent introduction of Bill C-5, inter-provincial trade will be supported as it has not been before. The introduction of the Canadian Innovation Supercluster Initiative (ISI), now the Global Innovation Cluster initiative, aims to assist in the development of 5 major industries. These industries include Digital Technologies, Protein Industries, Advanced Manufacturing, Scale AI, and Ocean.

Analyzing the impact of these development areas will allow us to judge the efficacy of said policies and determine whether they are a worthwhile use of government expenditure.

Currently, there are two important papers to highlight. "The Economics of Place-Making Policies" (Kline, Patrick [2014]) focuses on the concepts of place-based policy as an idea, rather than a specific analysis of ISIs. "The Innovation Superclusters Initiative in Canada: A new policy strategy?" (Doloreux, David [2022]) focuses rather on the theoretical ideas behind ISIs and the framework set by the Government of Canada.

## 2 Data

This paper will use data from Statistics Canada to supply data on economic growth. This will include business count and wage filing data across a specified time horizon required for the analysis. This data will be acquired in a CMA and national level. Statistics Canada is the primary source for Canadian economic statistics, and the quality of data is high.

Data outlining the ISIs, such as the amount of money supplied, location of the cluster and other important factors, will be retrieved through the Government of Canada website.

### 2.1 Issues

A major issue that may present itself in this research is the newness of the program. This initiative was first proposed in 2018. Since then, progress has been made in all areas of the ISI and should result in a measurable impact. However, because of the newness of the data, there is no direct analysis completed yet. While this may create a data collection issue, it exemplifies the importance of this study.

Another issue is the definition and assignment of subsidies. Within each cluster, a number of firms have been given grants to further pursue their projects. Grants are the main form of support given in this initiative. However, the locations of the clusters are not centralized, and thus the study will need some form of criterion for determining which projects to study.

## 3 Identification

This paper will analyze the impact of the introduction of the Global Innovation Cluster Initiative on economic growth, using business counts at a national and CMA level, as well as average wage filings by industry. I use a Regression Discontinuity framework, which will look at the effect of the clusters given a firm/project's distance

to the cluster's headquarters. For example, the advanced manufacturing cluster is led from Hamilton, Ontario. The identification assumption is that the introduction of the clusters will lead to positive economic growth in surrounding areas, conditional on controls.

### **3.1 Issues**

The main area of concern for the identification is the impact of other economic variables that can affect GDP. To account for this, fixed effects are used to account for the impact of those variables. However, they may still stand to cause an indirect impact when regressed on the impact of the ISIs.

## **References**

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