

Global Innovation Cluster: Literature Review

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The “Canadian Innovation Supercluster initiative” (CSI), or now known as just the “Global Innovation Clusters” (GIC), is a new industrial policy proposed by the Government of Canada, specifically the ISED (Innovation, Science and Economic Development Canada), in May of 2017. Since then, the program has narrowed down five clusters from a pool of over fifty prospective industry consortia to the following five clusters: ScaleAI, Advanced Manufacturing, Protein Industries, Digital Technology, and Ocean. Within these five, 682 projects have been announced and are underway, with over \$3.29 billion of funding. This funding is split between federal funding (\$1.24 billion) and industry funding (\$2.05 billion) (Minister of Innovation Science and Economic Development, 2025). The goal of the proposed study is to analyze the economic impact of the GICs as a form of place-based industrial policy. There is little literature currently on the economic impact of the GIC program. However, a recent paper by Doloreux and Frigon, *The Innovation Superclusters Initiative in Canada: A new policy strategy?* aims to expand the current understanding of the project through a more theoretical approach. Doloreux and Frigon discuss the origins of the program with respect to the economic theories it is based upon, followed by potential challenges that they foresee arising as a result of the new policy. The GIC program aims to use the concepts of place-based policies uniquely. Traditionally, a place-based policy would be centred around a geographic area. While this remains true for the GICs, the program also aims to see productivity increases among the individual clusters. “One of the objectives is to go beyond the ‘local’ and develop the relational dimension of related clusters, by supporting large-scale industry partnerships and connectivity with other innovation ecosystems” (Doloreux & Frigon, 2021). The GIC program aims to fulfill this idea through the way that individual projects, within the same cluster, can take place across the nation, rather than staying centralized. Doloreux and Frigon later highlight some important questions that remain

that the proposed study aims to answer. Primarily, Doloreux and Frigon suggest that “this initiative puts forward a (rather) naive understanding of the territorial context of superclusters” (Doloreux & Frigon, 2021). This point implies a potential difficulty in tracking efficacy, given the vast economic differences seen throughout Canadian regions.

Industrial policy, best described as “intentional political action meant to shift the industrial structure of an economy” (Lane, 2020), is the centrepiece when considering the theoretical aspects of the GIC program. The current literature on industrial policy presents mixed interpretations of its efficacy, although much of the recent work is positive. Much of the discourse is rooted in the difficulty of empirically analyzing the effect of these policies in any meaningful way. As put by Lane, “Justifications for industrial policies introduce their own complications. Benefits and costs may be hard to fully capture in straightforward empirical exercises, much less distill into a single discrete punchline.” (Lane, 2020). Literature regarding industrial policy also aims to reevaluate past use of these policies, to better enforce their role in development economics. “Recent work evaluating these interventions finds positive effects for many policies, including infant industry promotion, domestic market integration, and technology policy.” (Juhász & Steinwender, 2023). When analyzing the effects of industrial policy in the 19th century, Juhász and Steinwender find that while some economists may look at industrial policy with a disenfranchising eye, it held its own in the development of many modern countries' success. When considering the impacts of industrial policy in the case of the GIC program, we must consider these ideas. Literature on industrial policy implies that we would expect a potential increase in economic efficiency through a change in the structure of the current economic landscape, as presented by Lane, or through agglomeration effects in other industries such as technology and domestic markets, as implied by Juhász and Steinwender. As a result, the

use of industrial policy, in the form of the GIC program, should prove to be beneficial to both national and local economies in Canada.

Place-based policies, which target a specific region or economy, stand as an important economic theory to consider in the analysis of the GIC program. “Place-based policies, by contrast, explicitly target geographic areas for some form of special treatment, be it tax subsidies, public investments, or special rules and regulations.” (Kline & Moretti, 2014). These policies, like industrial policy, aim to create a restructuring of an economic landscape, but focus on a specific area. This is what is seen in the GIC program, and will later be discussed as a place-based industrial policy (PBIP). The goal of place-based policy often comes from a drive to benefit low-efficiency economic areas through subsidies for disadvantaged areas, such as welfare programs (Kline & Moretti, 2014). These economic benefits are argued to come from market imperfections such as agglomeration economies or human capital spillover (Glaeser & Gottlieb, 2008). These imperfections are exactly what the proposed study looks to capture in the GIC program. Agglomeration economies provide a boost in economic productivity through proximity. It assumes that having more firms and workers in proximity will create a productivity spillover effect (Kline & Moretti, 2014). Through the GIC program, incentivizing businesses to increase production in certain industries (outlined by their respective cluster), should see a similar spillover effect. It can be theorized that creating more firms in an industry would lead to higher productivity for the industry as a whole; this is what is expected of agglomeration effects.

Place-Based Industrial Policies and Local Agglomeration in the Long Run by Incoronato and Lattanzio (2024) presents a similar study, focusing on a place-based industrial policy (PBIP) seen in Italy, in the 1960s-70s. This paper joins Lane in their reference to the mixed opinions of industrial policy as an economic tool. Using a regression discontinuity design, Incoronato and

Lattanzio estimate the impact of an Italian PBIP that is extremely similar in structure to that of the GIC program. *The Industrial Development Areas* (IDAs) were “groups of municipalities within the EIM jurisdiction identified as suitable hosts for industrial clusters.” (Incoronato & Lattanzio, 2024). The incentives presented to the IDAs were similar to those of the subsidy provided to programs accepted in the GIC program, mainly through the provision of government funding for their respective projects. This paper provides context through both a theoretical lens but also an empirical lens to bolster the reasoning behind the choices made in the study of the GIC program. Incoronato and Lattanzio observed the criteria for establishing the IDA as a way to isolate exogenous variation for their treatment selection (Incoronato & Lattanzio, 2024). The paper highlights an essential outline set by the Italian government, which they refer to as the “contiguity rule”, which states, “the government required that the minimum set of municipalities forming an IDA should be the IDA center and all municipalities directly contiguous to it.” (Incoronato & Lattanzio, 2024). This approach to defining treatment could prove beneficial when defining treatment in the GIC program, and will likely be used to ensure that any spillover effects can be captured in the RDD analysis of the program

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