Diversification Policies to Enhance the Fraser Valley's Economic Resilience

by

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Abstract

The Fraser Valley Region has a specialized economy in agriculture. Empirical studies in economic geography literature find that specialized regional economies are less resilient and hence, more susceptible to economic shocks. Thus, this capstone project highlights the need for the region to implement diversification policies to enhance its economy's resilience to economic shocks. This capstone project conducted a panel study of 157 Canadian regional economies in 2006 and 2011 to determine if diversified regional economies were more economically resilient. Supporting the findings in economic geography literature, this study found that Canadian regional economies that were more diverse were more resilient. Base on economic geography literature, expert interviews, a jurisdictional scan, and policy analysis, this capstone project identified and recommended that the Fraser Valley Regional District implement several diversification policies.

Keywords: resilience; diversification; regional economic development; diversification policies; Fraser Valley Region

Dedication

This capstone project is dedicated first and foremost to Jesus Christ, my Lord and Saviour, for blessing me with the opportunity to complete a Master's in Public Policy at Simon Fraser University and the ability to finish this capstone. Thank you, Jesus Christ, for giving me this ability, for blessing me, for shaping me, for chastising me, for teaching me, for disciplining me, and for allowing me to complete this portion of my academic journey.

Second, this capstone project is dedicated to my mother, Judith Anna Alice Sutton, for supporting me throughout the process of completing my capstone and throughout my academic journey. Thank you, Mom, for keeping the faith, for all your hard work throughout the years, and for being a great editor, I genuinely appreciate your sacrifice.

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List of Acronyms

AIC	Akaike Information Criterion
CLM	Classical Linear Model
EDP	Economic Development Plan
FVRD	Fraser Valley Regional District
FVR	Fraser Valley Region
GVR	Greater Vancouver Region
RGS	Regional Growth Strategy
SI	Sensitivity Index
SW	Shannon-Weaver Index

Glossary

Diversification	As a dynamic and positive concept, it is the process of making things more unlike, different, and varied. As a dynamic and normative concept, it is the process of selecting assets to minimize risk.
Economic shocks	Are a sudden major economic impact, disruption, or interruption to a region's economy.
Regional economic development	The coordination of activity within a region, usually by public administrators, to achieve economic and social goals within a specified period.
Resilience	An economy's ability to maintain its core function and performance despite the economic shock by reorienting and reorganizing its structure to an existing or new and more favourable growth path.

Executive Summary

Introduction and Background

In response to the Local Government Act in British Columbia, Canada, that requires regions to develop a regional growth strategy (RGS), the Fraser Valley Regional District (FVRD) developed the 'Choices for our Future' RGS in 2004. Since the 2004 RGS, the Fraser Valley Region (FVR) has experienced socio-economic and demographic, which has prompted the FVRD to update its RGS to reflect these changes. In August of 2020, the FVRD released a draft copy of its updated RGS titled 'Fraser Valley Future 2050'. Both the 2004 and the 2020 draft RGSs emphasize growing and strengthening the region's specialized economy in agriculture. However, the 2004 and 2020 draft RGSs do not include policies explicitly aimed at diversification the FVR's economy. Empirical studies in economic literature found that more diversified economies are more resilient to economic shocks; in contrast, specialized economies are less resilient and more susceptible to economic shocks. In this sense, diversification is seen as a portfolio strategy to mitigate the risks of external shocks. The FVR is in a crucial stage of development in which it is vital for the region's future economic resilience that a RGS is developed that promotes economic diversification. If the FVRD's RGS does not include policies that aim to diversify the region's economy, the FVR will be less resilient and more susceptible to economic shocks, which can have detrimental socio-economic effects on the region, compared to regions with diversified economies.

Methodology and Results

This project employed three methods: a statistical model with a panel dataset, a jurisdictional scan, and expert interviews. First, a panel study was conducted to determine if economic structure (i.e., diversified or specialized), labour force educational attainment, and population size affected economic resilience of 157 Canadian regions from 2006 to 2011. The project found that Canadian regions with a more diverse economy, larger population size, higher proportion of labour force with post-secondary education were more economically resilient. The panel study's results support this capstone project's central hypothesis and past findings from

empirical studies in economic geography literature that economic diversification enhances regional economic resilience.

Second, a jurisdictional scan was conducted to identify diversification policies that the FVRD could implement to diversify the FVR's economy. The case study examines five selected jurisdictions' economic development plans. The selected jurisdictions are the City of Langley, Middlesex County, North West Oregon region, South Central Lower Michigan region, and Greater Eastern Oregon region. The case study identified many diversification policies. This capstone project categorized the identified policy options into six policy themes:

- marketing regions
- supporting an entrepreneurial culture
- targeting growth
- developing financial supports
- engaging in external events
- developing an economic development committee

This study assessed diversification policies against selection criteria to identify the most optimal policies for the FVR. It identified three diversification policies, which are to develop an innovation hub, a staff-assisted directory for financial supports, and an economic diversification committee.

Third, expert interviews were conducted to identify social and governmental objectives for regional economic diversification. There were six interviewees in total. The interviewees were either government employees in an economic development department or scholars in economic development. The expert interview findings highlighted six social and governmental objectives: effectiveness, stakeholder acceptance, equity, efficiency, cost to government, and administrative complexity. The objectives were employed as evaluation criteria to assess the three diversification policies identified in the case study. Further, all interviewees highlighted the importance of economic diversification to enhance regions' economic resilience.

Policy Analysis and Recommendation

The goal of this capstone project is to recommend policy option(s) that increase the FVR's economic diversification to enhance the region's resilience to economic shocks. The policy analysis's results found that based on the social and governmental objectives identified in the expert interviews that including a staff-assisted directory for financial assistance to the region's website was the most optimal policy option for the FVRD. The policy analysis results also found that establishing an economic diversification committee was an optimal policy option for the FVRD. Further, the results found that creating an innovation hub was the least optimal policy option; however, it ranked the highest, amongst other policy options, for its effectiveness at increasing diversification in the FVR. Therefore, based on the policy analysis results, combined with evidence from economic geography literature, the jurisdictional scan results, and expert interview findings, this capstone project recommends that the FVRD implement all three policies. This project recommends that the FVRD establish a staff-assisted directory for financial supports and regional diversification committee immediately, and create an innovation hub in the long-term.

Chapter 1. Introduction

Since the 2008 recession, the concept of resilience has gained attention in economic geography literature (Martin and Sunely, 2015). Academics and policymakers alike have started examining how to make regions more resilient to economic shocks, such as recessions and idiosyncratic industrial perturbances (Boschma, 2016; Davies and Tonots, 2010). The general consensus in economic geography literature is that a more diversified economy is a more resilient one (Martin and Sunley, 2015; Davies and Tonts, 2010; Hassink, 2010; Frenken et al., 2007; Wolman et al., 2017; Brown and Greenbaum, 2017; Boschma, 2014; Tan et al., 2020). In contrast, specialized economies are less resilient and more suspectable to economic shocks (Martin and Sunley, 2015). In this sense, diversification is seen as a portfolio strategy to mitigate the risks of external shocks (Frenken et al., 2007; Kemeny and Storper, 2015). Local economies that are not resilient to economic shocks risk experiencing detrimental socio-economic effects (Davies and Tonts, 2010; Martin and Sunley, 2015), such as a diminished tax base, unemployment growth, increased poverty, and property value decline (Kitchens, 2010).

In response to the Local Government Act in British Columbia, Canada, that requires regions to develop a regional growth strategy (RGS), the Fraser Valley Regional District (FVRD) developed the 'Choices for our Future' RGS in 2004. Since the 2004 RGS, the FVR has experienced several changes such as economic growth and changing demographics, which has prompted the FVRD to update its RGS to reflect these changes. In August of 2020, the FVRD released a draft copy of its updated RGS titled 'Fraser Valley Future 2050.' The 2020 draft RGS provides socio-economic development goals for the region to strive towards over the next 30 years (FVRD, 2020a).

The Fraser Valley Region (FVR) has a specialized economy in agriculture. Although over the past couple decades the region's economy has grown to include manufacturing, aerospace, service, and high-tech areas, the growth is mainly connected to the region's agriculture industry, which forms a significant component of its economy. This is not to argue that agriculture is impeding the growth of other industries, but to highlight the specialization of

the FVR's economy, which will impact the region's economic resilience. For example, goods-producing industries that are linked to the agricultural industry play a large role in the FVR's economy, with 30 percent of the region's labour force engaged in these industries (FVRD, 2020a). Furthermore, in 2015 the FVR had a gross farm receipt of approximately $1.5 billion, which was significantly higher than any other region in British Columbia. Specifically focusing on the agricultural industry, it produces $3.1 billion in annual economic activity. Moreover, most of the FVR's agricultural land is preserved and protected under the Agricultural Land Reserve, which prevents the re-zoning and development of designated agricultural land for alternative purposes (FVRD, 2017a). Nevertheless, the FVR's economy is growing and therefore, is at a crucial stage for development in which the FVRD can implement diversification policies that build off the region's economic growth. It is vital that the FVRD implement diversification policies that enhance the region's economic resilience and protect the region from future economic shocks. If the FVRD does not implement diversification policies now, the region's economy will be more susceptible to future economic shocks and at a higher risk of experiencing detrimental socio-economic impacts to its economy.

The FVR's draft RGS for 2020 identifies economic resiliency as a goal; however, it does not explicitly state a diversification strategy to enhance its economic resilience. In the draft RGS, the concept of resilience is almost entirely left out, and the notion of economic diversification is not discussed. The core focus of the draft RGS is to build on its current economic strengths (FVRD, 2020a). If the FVRD's RGS does not include policies that aim to diversify the region's economy, the FVR will be less resilient and more susceptible to future economic shocks, which can have detrimental socio-economic effects on the region, compared to regions with diversified economies (Davies and Tonts, 2010). For instance, the FVR, which had a less diverse economy than the Greater Vancouver Region (GVR) before the 2008 recession, experienced a decrease in labour force participation of 1.7 percent, almost three times that of the GVR, which experienced a decrease of 0.6 percent, after the recession. During the same period, the FVR's employment rate decreased by 2.9 percent, approximately twice that of the GVR, which experienced a decrease of 1.5 percent (Statistics Canada, 2012). Although data is not readily available on the socio-economic effects that the COVID-19 pandemic has had on the FVR, one could imagine that the pandemic has had a similar impact on the region's economy as the 2008 recession, since

the region still has a specialized economy (FVRD, 2020a). The pandemic has further highlighted the unpredictable nature of economic shocks and the urgency for the FVRD to diversify their economy to protect from future shocks. If the FVRD does not take steps to diversify its economy, the region will continue to experience similar adverse socio-economic effects as it did due to the 2008 recession.

The objective of this capstone project is to recommend feasible policy options to diversify the FVR's economic base and thereby, enhancing its resilience to economic shocks. The FVR is the focus of this project because the region has many opportunities for economic development, compared to other regions in British Columbia. This project examines the benefits and trade-offs of the identified policy options and discusses the potential barriers to their implementation. It conducts a literature review to assess and explain the current empirical findings and theoretical assumptions regarding diversification's effects on regions' economic resilience. Research for this project begins with a quantitative analysis using Statistic Canada census data for 2001, 2006, and 2011 to demonstrate the effect of diversification on Canadian regions' economic resilience. Then the project conducts a jurisdictional scan and expert interviews to identify and evaluate policy options.

Chapter 2. Literature Review: Economic Resilience and Diversity

2.1 Economic Resilience

Since the 2008 recession, regional economic resilience has gained mass attention by scholars and policymakers alike. The term resilience has been around for some time in psychology and ecology literature (Faggian et al., 2017; Hassink, 2010). Economists have applied the term to regional economics to examine regional economies' resilience to economic shocks (Martin and Sunley, 2015). In economic geography literature, there is conceptual ambiguity regarding the definition of resilience. Scholars from various sub-fields in economic geography use different definitions of resilience when conducting empirical studies. However, according to Martin and Sunley (2015), the notion of adaptive resilience is the most comprehensive and accurate definition. Adaptive resilience is an economy's ability to maintain its core function and performance despite the economic shock by reorienting and reorganizing its structure to an existing or new and more favourable growth path. Specifically, this notion of resilience as structural adaptability infers that resilient economies ‘bounce forward’ when hit by an economic shock (Faggian et al., 2017; Martin and Sunley, 2015; Martin, 2012).

Regional economic resilience refers to the ability of a region's economy to withstand or recover from an economic or environmental shock by either maintaining its developmental growth path or by adapting its economic structure to a different but more productive developmental growth path (Martin and Sunley, 2015). This definition incorporates adaptive resilience at the regional level. Furthermore, regional economic resilience is a process that has five components: vulnerability, shocks, resistance, robustness, and recoverability. First, vulnerability refers to the sensitivity of firms and the labour force to economic shocks. Second, shock refers to the origin, nature, scale, and the duration of the shock itself. Third, resistance refers to the initial impact of the shock. Fourth, robustness refers to the ability of firms, institutions, and the labour force to adapt and adjust to the shock. Fifth, recoverability refers to the extent and nature of recovery and the nature of the growth path after the region recovers. These five components are necessary to understand the resilience of regional economies. Moreover, as alluded to above, regional economic resilience is a recursive process in which the

structural change that occurs in a region's economy, in response to an economic shock, will determine its resilience to subsequent shocks (Martin and Sunley, 2015; Fingleton et al., 2012). In other words, "[regional] economic resilience … shapes and is shaped by the reaction of a region's economy to shocks" (Martin and Sunley, 2015, p.14).

When examining regional economies' resilience to economic shocks, it is essential to clarify what is meant by 'shocks' (Faggian et al., 2017). If shocks are equated to the 'slow-burning' pressures that occur incrementally over time (i.e., climate change), as some scholars have suggested (see Hassink, 2010), then the term gets diluted and indistinguishable from general economic change or 'industrial mutation' (Martin and Sunley, 2015; Schumpeter, 2010). Therefore, the term shocks need to be distinguished from the 'slow-burning' process to examine regional economies' resilience. To distinguish the term, Martin and Sunley define shocks as a sudden major economic impact, disruption, or interruption to a region's economy (Martin and Sunley, 2015). In essence, shocks are analogous to Schumpeter's gales of creative destruction in which outmoded and unproductive firms get swept away by sudden economic disruptions, creating room for new and more productive firms to emerge (Martin, 2012; Schumpeter, 2010). Building off Martin and Sunley's (2015) conceptual definition of shocks, this capstone project operationalizes the concept by defining shocks as two-quarters of consecutive decline in gross domestic product, such as the 2008 recession (Hubbard et al., 2018). Although this capstone project focuses on economic shocks, there are several other forms of shocks, such as industrial shocks or shocks caused by natural disasters and terrorist attacks (Wolman et al., 2017).

2.2 Economic Diversification and Resilience

Economic diversification in the context of regional economic development refers to the idea of diversifying regional economies' industrial structure. The technical definition of diversification is “[first,] the process of making things more unlike, different, and varied (a dynamic and positive concept), and [second,] the process of selecting assets to minimize risk (a dynamic and normative concept)” (Siegel et al., 1995, p. 262). Economic diversification gained attention during the Great Depression of the 1930s due to the adverse effects that economic downturn, specifically economic cyclical fluctuations, had on regional communities and

industries. Today, economic diversification is a primary element and focus of economic development departments (Dissart, 2003).

Regional economic development departments need to foster economic diversification to protect their regional economies from the adverse effects brought about by economic shocks or other perturbances, such as natural disasters and environmental disruptions. As previously mentioned, empirical evidence supports the claim that diversified regional economies are more resilient to economic shocks than specialized economies (Davies and Tonts, 2010; Frenken et al., 2007; Wolman et al., 2017; Hassink, 2010). The reason why diversification enhances regional economic resilience is attributed by scholars to the portfolio effect. The logic of the portfolio effect follows that of an investment portfolio in which the assets are the industries within a region. Employment is the return on investments, while employment variations are the risk. Therefore, the theory states that diversifying a regional economy acts as a risk-spreading strategy that will safeguard the region against losses due to economic shocks and fluctuations in the economy (Frenken et al., 2007; Dissart, 2003). In other words, the portfolio effect results in modularity in which subsystems (i.e., industries) within a system are weakly connected so that when a shock does occur, its adverse effects are contained and largely do not affect the system as a whole (Martin and Sunley, 2015).

2.3 Other Factors of Economic Resilience

Research has highlighted several factors, besides diversification, that enhance regions' economic resilience to economic shocks. Specifically, research has highlighted five factors that also affect regions' economic resilience: educational attainment of the labour force, population size, tech sector size, manufacturing sector size, public sector size (Wolman et al., 2017; Hill et al., 2012).

First, research has found that regions with a higher proportion of their labour force with educational attainment equal to or lower than a high school diploma are less resilient to economic shocks. Employers in all professions are more likely to layoff non-professional

workers, who typically have lower levels of education, when their region experiences an economic downturn (Wolman et al., 2017; Hill et al., 2012).

Second, empirical studies have found that population size is negatively associated with economic resilience, with regions that have smaller populations, compared to regions with larger populations, are more resilient (Wolman et al., 2017; Faggian et al., 2017). Dijkstra et al. (2015) suggest that larger populated regions are less resilient because they have "stronger connections to international markets" and therefore, when hit by an economic shock, such as the 2008 recession, are more volatile and fluctuate with international markets (p.948). Further, Faggian et al. (2017) indicate that medium-sized regions, compared to large regions, are more responsive to (i.e., more capable of reorienting their economic structure in response to) economic shocks.

Third, research has found that tech sector size is positively associated with economic resilience (Chapple and Lester, 2007; Wolman et al., 2017). Martin and Sunley (2015) state that tech sectors are "more innovative and adaptable, that is, they have greater dynamic capabilities so that they can better reconfigure, renew and recreate their resources and assets in response to adverse circumstances" (p.29). They suggest that tech sectors have a greater absorptive capacity than other sectors, which allows them to faster absorb and diffuse new innovations into the regional economy, raising its productivity and recovery from economic shocks. Further, tech sectors attract high-skilled human capital, which increases region's entrepreneurialism and helps renew their economic base (Martin and Sunley, 2015).

Fourth, research has found that regions with a larger manufacturing sector size are less resilient to economic shocks. Manufacturing industries have a cyclical nature in which the manufacturing sector will employ more workers when demand rises and layoff more workers when demand drops, such as during an economic shock (Wolman et al., 2017).

Fifth, research has also found that public sector size is positively associated with economic resilience, indicated that regions with a larger public sector, such as healthcare and social assistance, are more resilient to economic shocks. Public services are maintained by governments even during economic shocks, which explains the non-cyclical nature of

employment in the public sector, even during economic downturn (Martin and Sunley, 2015; Wolman et al., 2017).

2.4 Strategies of Economic Diversification

Research has recommended a plethora of diversification policies for regions to implement to enhance their economic resilience. However, it is out of the scope of this capstone project to examine all potential policy options. Therefore, this section of the capstone project will highlight the four overarching themes. The first theme is financial assistance, such as tax incentives and financial assistance, which are designed to attract and retain businesses to the region by providing financial support (Wolman et al., 2017). The second theme is industry targeting and clustering, which occurs when regions target growth in specific industries through "marketing and promoting, tax incentives, workforce training, and infrastructure development or redevelopment" (Wolman et al., 2017, p.136). The logic behind targeting and cluster policy is that industries can be identified for which a region can develop a competitive advantage. The third theme is technical assistance, which is when regional departments provide information to private sector firms regarding available technologies, management techniques, business strategies, and business-related activities. The logic behind regions' providing technical assistance is that small and even medium-sized firms may be disadvantaged to operate at their most productive potential due to market failures or information deficiencies. Therefore, technical assistance policies aim to assist private firms to be more competitive and productive. The fourth theme is entrepreneurial assistance programs that assist entrepreneurs by providing infrastructure, access to office supplies, business incubators and accelerators. The logic behind helping entrepreneurs and small businesses is that they increase and diversify regional economic activity (Wolman et al., 2017).

Chapter 3. Research Context

3.1 Fraser Valley Region

The Fraser Valley Region (FVR) is a developing region with a robust resource-based economy in agriculture. The region's agricultural sector is a crucial component of its economy and "is one of the most intensely farmed areas in Canada" (FVRD, 2017a, p.4). Six municipalities and eight electoral areas make up the region (Figure 3.1). FVR is one of the fastest growing regions in British Columbia, which experienced a population increase of 90,000 from 2004 to 2019 (FVRD, 2020a, 2004). Currently, the region has a population of 320,000 that is projected to increase to 500,000 in 2051 (FVRD, 2020a). Furthermore, the socio-economic changes in FVR's neighboring region, Metro Vancouver, has and is also expected to continue impacting the FVR. For example, the FVR's recreational parks are facing overuse due to increased domestic tourism from Metro Vancouver. Also, FVR has experienced a high level of in-migration from the surrounding areas like Metro Vancouver, which affects the region's ability to maintain affordable housing while at the same time protecting agricultural lands. Although the FVR has been and is expected to continue to be, impacted, its relationship with Metro Vancouver has also provided the region with many opportunities, such as access to a larger labour market pool, rising tourism demand, and increased collaboration opportunities (FVRD, 2020a). The changing socio-economic demographics, such as increased population size and economic activity, in FVR and surrounding regions will provide many opportunities and challenges for the region over the next 30 years. Therefore, it is imperative for the Fraser Valley Regional District (FVRD) to implement effective public policies to address these changes in order to foster a healthy and prosperous regional economy.

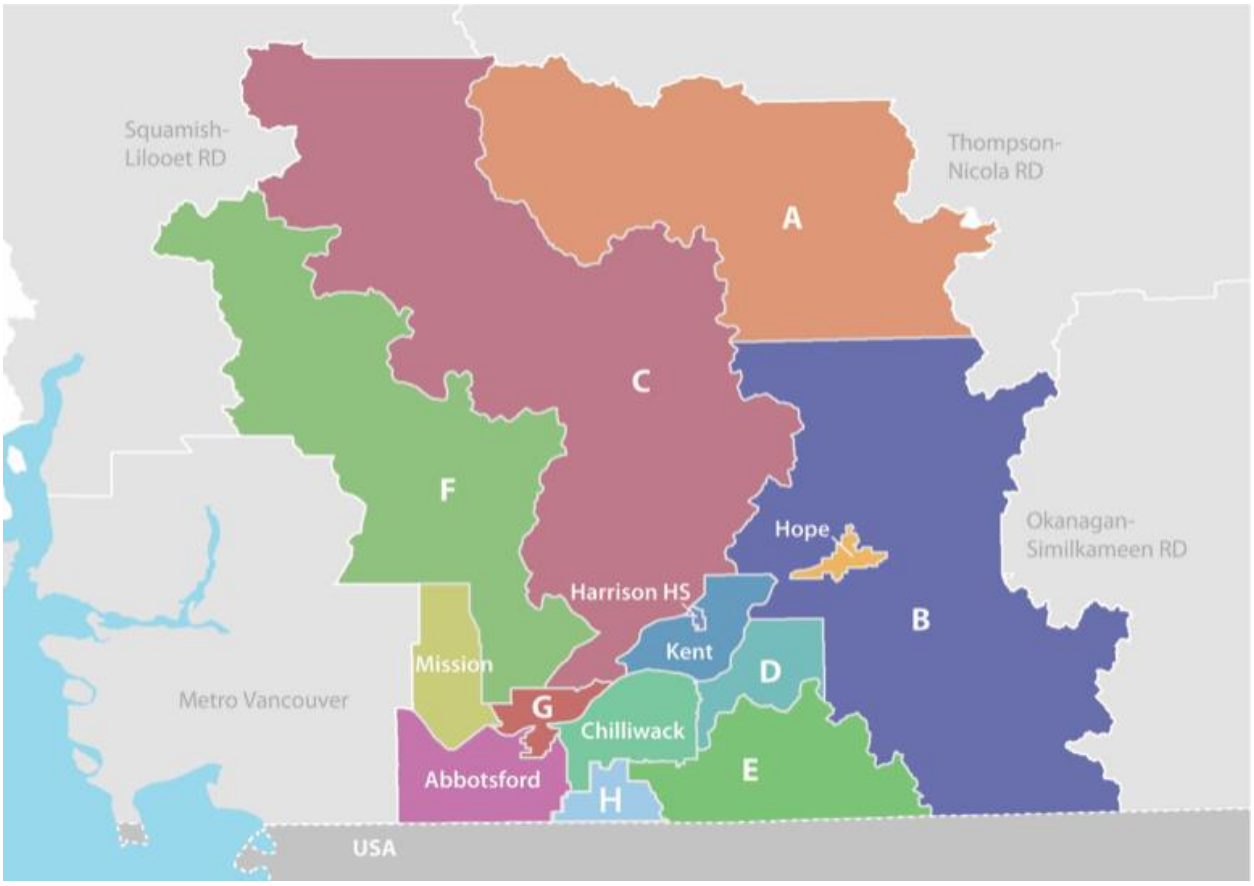

Figure 3.1 Map of Fraser Valley Regional District

Source: https://www.fvrd.ca/EN/main/about-the-fvrd/what-is-the-fvrd.html

3.2 Fraser Valley's Economic Structure

The FVR has a robust resource-based economy specializing in agriculture and is one of Canada's most heavily farmed regions. The FVR has the largest farm receipts in British Columbia of approximately $1.5 billion, which is $500 million more than Metro Vancouver and $250 million more than the rest of the regions in the province combined. Put differently, the FVR produces 39 percent of British Columbia's total farm receipts. From 2010 to 2015, the FVR was responsible for 44 percent of the total increase in the province's farm receipts. Furthermore, the total farm expense in the FVR was approximately $1.2 billion, of which the majority flowed back into the region's economy (FVRD, 2017a). Next to construction, the primary industries, such as agriculture, forestry, and fishing, combined with retail trade and manufacturing, comprise the largest proportion of business enterprises in the FVR at 27 percent. Compared to

Metro Vancouver, the FVR has approximately five times the labour force in its primary industries in the goods-producing sector (FVRD, 2010).

Over the past couple of decades, the region has diversified into other industries such as manufacturing, aerospace, and high-tech fields (see Figure 3.2; FVRD, 2020a). The FVR's expanding industrial structure is comprised of related economic activities surrounding agriculture like technology and manufacturing. The diversification that has occurred in the FVR is unevenly dispersed, being primarily isolated to Abbotsford's and Chilliwack's economy, while the rest of the municipalities and electoral areas' economies in the region have remained specialized in agriculture. Although the FVR's economy has diversified, the region's economy remains primarily specialized in and heavily dependent on agriculture (FVRD, 2017a). As illustrated in Figure 3.2, the labour force in the agriculture, forestry, fishing, and hunting industry has shrunk by 0.2 percent from 2001 to 2016. However, this trend is in part a reflection of the technological advancements, such as precision farming systems, drones, and bioscience, that has increase labour productivity on farms dramatically, resulting in fewer farmers being needed for agrarian work as in previous decades (Watson, 1947; Government of Canada, 2019a). The FVR has also experienced a decrease in labour force activity in its manufacturing industry. The manufacturing industry is closely related to the agricultural industry, through the food and beverage processing industry, which consumes over half of Canada's agricultural output (FVRD, 2017a). Further, the FVR has experienced a significant increase in the construction industry's labor force activity due to the increasing housing demand required to house the region's growing population (FVRD, 2011). Besides the primary industries (agriculture, forestry, fishing, and hunting), construction, and manufacturing, the FVR's structure has remained relatively constant over the past 15 years.

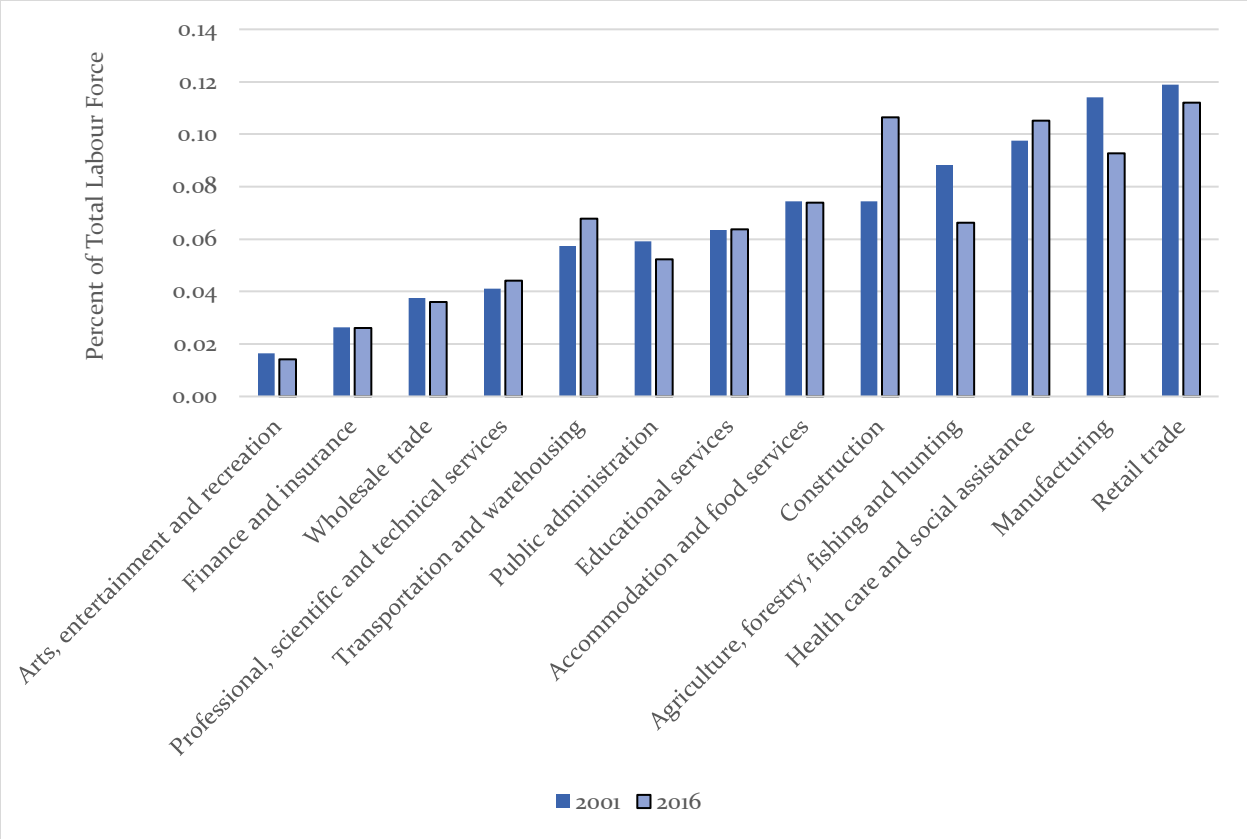

Figure 3.2 Change in Labour Force by Occupation, Fraser Valley Region, 2001 and 2016

Source: CHASS Data Centre http://datacentre.chass.utoronto.ca.proxy.lib.sfu.ca/census/

3.3 Fraser Valley's Economic Resilience to the 2008 Recession

This capstone project conducted a preliminary examination using the 2001, 2006, and 2011 Statistics Canada census data to assess the Fraser Valley Region's (FVR) economic resilience to the 2008 recession (see Table 3.2). Specifically, this project examined the socio-economic trends to assess the region's resilience. From the preliminary examination, it is clear that the FVR was not immune to the 2008 recession. The FVR's unemployment rate increased by 2 percent from 2006 to 2011, while the labour force participation rate decreased by 1.7 percent during the same period. In comparison, the Greater Vancouver Region (GVR) experienced an increase in its unemployment rate by 1.5 percent from 2006 to 2011 and a decrease in its labour participation rate by 0.6 percent during the same time frame. Further, the FVR experienced stunted employment growth from 2006 to 2011 of only 4 percent compared to employment growth in 2001 to 2006 of 16 percent; while the GVR did not experience such a severe stunt in

its employment growth during the same period. Comparing the FVR's labour trends to the GVR's trends, highlights the adverse impact that the recession had on the FVR's economy.

Table 3.1 Comparing Socio-economic Trends in the Fraser Valley Region to the Greater Vancouver Region and Canada, 2001, 2006, and 2011

	Fraser Valley Region	Greater Vancouver Region	Canada
Unemployment rate percentage change			
2006-2011	2%	1.5%	1.2%
Labour force participation rate percentage change			
2006-2011	-1.7%	-0.6%	-0.8%
Employment			
2001	108,205	995,320	14,695,135
2006	125,720	1,104,760	16,021,180
2011	130,135	1,182,395	16,595,030
Employment percent change			
2001-2006	16%	11%	9%
2006-2011	4%	7%	4%
Shift in employment (SI): Fraser Valley Region, Greater Vancouver Region relative to Canada			
2001-2006 (SI_{2006})	1.07	1.02	------
2006-2011 (SI_{2011})	0.99	1.03	------
Diversification $_{(t-1)}$			
2006 (SW_{2001})	2.71	2.76	2.75
2011 (SW_{2006})	2.71	2.76	2.77
Education (proportion of the labour force 25-64 with a post-secondary education)			
2006	52%	66%	61%
2011	55%	69%	64%
Population			
2001	237,550	1,986,965	30,007,094
2006	257,031	2,116,581	31,612,897
2011	271,655	2,280,695	32,852,320
Population percentage change			
2001-2006	8.2%	6.5%	5.4%
2006-2011	5.6%	7.8%	3.9%

Source: Statistics Canada data

Based on the 2001, 2006, and 2011 Statistics Canada census data, the Shannon-Weaver index (SW), which measures industrial diversification, and the sensitivity index (SI), which calculated economic resilience, were calculated for both regions. Higher scores on the indices indicate more diversified and resilient economies. The FVR had a less diverse economy than the

GVR, as indicated by their SW scores respectively, 2.71 and 2.76 (see Table 3.2). Also, the FVR was less resilient to the 2008 recession than the GVR, as indicated by their SI scores for 2011 respectively, 0.99 and 1.03. The FVR had a less diversified economy prior to the recession, compared to GVR, and the FVR was subsequently less resilient to the recession as well. The FVR's low resilience compared to the GVR can help explain why the FVR was more adversely impacted by the recession than the GVR. Further, Table 3.2 compares population change and labour force educational attainment in the FVR and GVR in 2006 and 2011.

3.4 Fraser Valley's Regional Growth Strategy

The Fraser Valley Regional District (FVRD) is currently updating its regional growth strategy (RGS) to reflect the socio-economic changes that have occurred in the region since 2004 (FVRD, 2020a). The 2020 draft RGS states eights goals:

- encourage collaborations between stakeholders and jurisdictions,
- increase resiliency and build on economic strengths to realize the region's economic potential,
- ensure all residents are able to maintain a high quality of life,
- foster community development that complements urban and rural areas,
- sustain the health of ecosystems,
- develop an integrated, safe, and efficient transportation system that minimizes its impact on air quality,
- provide efficient, sustainable, and cost-effective infrastructure and services to sustain growth, and
- reduce greenhouse gas emissions by increasing energy efficiency.

The region's 2020 draft RGS presents two guiding principles to achieve these goals. The two guiding principles are collaboration and a balanced approach. Collaboration with stakeholders and governments is needed to achieve these goals. A balanced approach is needed in which all regional initiatives are interconnected, not independent irrespective of other initiatives (FVRD, 2020a).

Although one of the goals of the FVRD's 2020 draft RGS is to increase resiliency, it does not state what is meant by resilience or what it aims to make the FVR resilient from. The 2020 draft RGS does not mention resilience past using it as a header or highlighting it as a goal (FVRD, 2020a). The conceptual ambiguity of and, even more importantly, the lack of content on resilience indicates that resiliency is not a legitimate priority of the FVRD's RGS. Furthermore, the 2020 draft RGS, like the former 2004 RGS, does not provide a diversification strategy (FVRD, 2020a, 2004). There are several policies stated in the 2020 draft RGS to increase economic growth in industries, such as agri-tourism, but these policies do not explicitly aim to diversify the region's economy even though they could be employed to do so. To develop a more resilient economy, the FVRD needs to include a diversification strategy in its RGS that aims to broaden the region's industrial base. If the regional district does not include a diversification strategy, it will be less resilient to economic shocks compared to other regions and continue to experience more adverse effects when hit by an economic shock than surround regions, such as the GVR.

Chapter 4. Methodology

4.1 Multivariate Regression Modeling

This capstone project conducted a quantitative analysis using panel data from the Canadian Socio-Economic Information Management System (CANISM). This empirical analysis aims to testify the relationship between economic diversity and resilience, as discussed in economic geography literature, in the Canadian context. In so doing, the quantitative analysis corroborates its central assertion that the Fraser Valley Regional District (FVRD) needs to implement diversification policies to make the Fraser Valley Region (FVR) more economically resilient. The analysis covers 157 Canadian regions (n=*314)* with a population over 24,000 from 2006 to 2011 to determine the effect of diversification and other variables on the regions' economic resilience. The project collected data to generate the key variables listed in Table 4.1. The independent variables examined were highlighted in the literature to affect regions' economic resilience.

Table 4.1 Model Variables

Variables	Description
Resilience (DV)	The sensitivity index is used to measure resilience. It measures the shift in employment from the pre- to the post-recessionary period (2006 to 2011) for both a region and the nation. Then the index divides the region's employment shift by the nation's employment shift. Employment sectors are categorized by the two-digit-level NAICS.
Diversification (IV)	The Shannon-Weaver index is used to measure the diversity of regions' industrial base. The index measures the diversity of a region's industrial base by examining employment distribution among its industries as categorized by the two-digit-level NAICS.
Year (IV)	Dummy variable to indicate census year; the reference year is 2006.
Region (IV)	Canadian census divisions with a population greater than 24,000.
Education (IV)	Proportion of regions' population from 25 to 64 with a completed certificate, diploma, or degree from a post-secondary educational institution.
Population (IV)	Total population in a region, 15 years and older by labour force activity.
Tech Sector (IV)	Total labour force, 15 years and older, in the professional, scientific, and technical industry as categorized by the two-digit-level NAICS.
Public Sector (IV)	Total labour force, 15 years and older, in the public administration industry as categorized by the two-digit-level NAICS.
Manufacturing Sector (IV)	Total labour force, 15 years and older, in the manufacturing industry as categorized by the two-digit-level NAICS.

DV = Dependent Variable; IV = Independent Variable; NAICS = North America Industrial Classification System

Resilience in this capstone project focused on regions' economic resilience to economic shocks. This project uses the adaptive resilience interpretation, as stated above, to define economic resilience. Adaptive resilience interprets economic resilience as a region's ability to change its structure to maintain its core functions, which is measured by the shift, or the lack of, in employment. This project used the SI to measure resilience. The SI measures the shift in employment from the pre- to the post-recessionary period for both a region and the nation. Then the SI divides the region's employment shift by the nation's employment shift. In other words, this index compares the shift in employment in each region compared to the shift in employment in the nation over a specified period to examine the sensitivity of a region to an economic shock. SI scores, based on the two-digit-level North America Industrial Classification System (NAICS), had a rough range of 0 to 1.2 with higher SI scores indicating higher regional resilience. The author took the natural logarithm of the SI for the multivariate regression. The SI was calculated for 2006 and 2011 using Statistics Canada census data (Formula 1), where $E_{r,t}$ is regional

employment at time t, $E_{n,t}$ is national employment at time t, time t in the analysis is 2011 and t-1 is 2006.

$$\mathrm{SI} = \frac{E_{r,t}}{E_{r,t-1}} \Big/ \frac{E_{n,t}}{E_{n,t-1}} \qquad \text{(Formula 1)}$$

Diversification in this capstone project examines the diversity of regions' industrial base. For the variable, diversification, this project used the SW to measure the diversity of regions' industrial base. The SW measures the diversity of a region's industrial base by examining employment distribution among its industries. The NAICS at the two-digit-level was used to examine the distribution in employment pre- and post-recession from Statistics Canada's labour survey. This project examines regional diversification for 2006 and 2011 by calculating the regions' diversification in the previous Statistics Canada census, 2001 and 2006 respectively, due to the time lag that diversification has on regions' resilience (Formula 2). SW scores, based on the two-digit-level NAICS, ranged from 0 to 3 with higher SW scores indicating higher regional diversification. For the SW, p_i is the proportion of employment of the *ith* industry.

$$\mathrm{SW} = c \sum_1^n -pi * \log(pi) \qquad \text{(Formula 2)}$$

This capstone project used Statistics Canada's census data to measure education by calculating the proportion of regions' population from 25 to 64 with a completed certificate, diploma, or degree from a post-secondary educational institution. This project calculated education for each region from 2006 to 2011. It gathered data on regions' population size from Statistics Canada census data for 2006 to 2011, which indicated the total population 15 years and older by labour force activity. Further, this project gathered data on the tech sector, manufacturing sector, and public sector from Statistics Canada's census data for 2006 to 2011 as categorized by the two-digit-level NAICS. The tech sector refers to the total labour force in the professional, scientific, and technical industries. The manufacturing sector refers to the total labour force in the manufacturing industry. The public sector refers to the total labour force in the public administration industry.

The unit of analysis is Census Divisions with 24,000 inhabitants or more in Canada (n=*314*). This project examines regions at the census divisions level, which are provincially legislated areas as intermediate geographic areas between municipalities and provinces, as defined by Statistics Canada (2018). For the sample period, the historical datasets provided three censuses from Statistics Canada, ranging from the 2001 to 2011 census. This sample period is used to examine how diversification and other factors affect Canadian regions economic resilience.

This capstone project conducted a multivariate regression using the ordinary least squares (OLS) method to examine the relationship between the independent variables specified above on the dependent variable, resilience, over time. The OLS method is used to minimize the sum squared residuals (Wooldridge, 2013).

The author used software R to run the specified OLS model. Akaike information criterion (AIC) was used to evaluate the model goodness of fit. Next, the project conducted a backward stepwise regression to evaluate the goodness of fit. The backward stepwise regression is an approach that starts with a full model and eliminates variables one by one until the regression has produced a reduced model that achieves the best model goodness of fit, i.e. the lowest AIC (for more on backward stepwise regression, see Draper and Smith, 1998). The backward stepwise regression found that the independent variable, public sector, which was not statistically significant, raised the AIC, and therefore, were removed from the model.

Model diagnostics was performed to make sure that the model satisfy the classical linear model (CLM) assumptions. The CLM assumptions are as follows: the relationship between the dependent and independent variables are linear, the independent variables are uncorrelated with the error terms, the model is non-multicollinear, the observations are independent, and the residuals are normally and constantly distributed (Wooldridge, 2013). The author removed the independent variables manufacturing sector and tech sector to satisfy the non-multicollinearity assumption. Also, the author reported robust standard errors to account for heteroscedasticity. Further, the model was transformed to satisfy the remaining CLM assumptions. Specifically, the natural logarithm of the dependent variable, resilience, and the independent variable, population,

were used to satisfy all the CLM assumptions. The final OLS model included the following independent variables: diversification, education, population, and year (2006 and 2011).

The OLS equation is specified as follows:

$$log(resilience_i) = \alpha_0 + \beta_1\, diversification_i + \beta_2\, education_i + \beta_3 \log(population_i) + \varepsilon_i,$$

Where i is the observation; β is the coefficient for that independent variable; α is the intercept; and ε is the idiosyncratic error.

4.2 Jurisdictional Scan

The author initially reviewed economic development plans (EDPs) that focused on diversification from thirty-nine different jurisdictions throughout North America, Ireland, Austria, New Zealand, and Sweden (See Appendix A for the full list). Criteria to select jurisdictions with the most relatable and applicable EDP for the FVR include: availability of wealth of information on the EDP, jurisdictions being at the regional level, jurisdictions having a democratic political structure similar to Canada, and jurisdictions having an agricultural economic base. Filtering the thirty-nine jurisdictions' EDP through the criteria resulted in only four satisfying all the criteria: the Middlesex County in Ontario, North West Oregon, South Central Lower Michigan, and Greater Eastern Oregon.

The criterion of a jurisdiction being at the regional level was relaxed to include the City of Langley (Langley) in the case study. This criterion was the least essential criterion to satisfy because municipal diversification policies can be applied at the regional level. A similar political structure, an agricultural economic base, and a wealth of information were essential to examine potential policy options that the FVR could incorporate. Therefore, including the City's municipal diversification policies will not diminish these policies' ability to enhance regional economic diversification. However, Langley's diversification policies will be limited to a scope of municipal policies and will not examine regional coordination strategies. Once the criterion of being at the regional level was relaxed, Langley was the only jurisdiction out of the remaining

thirty-five jurisdictions to satisfy the selection criteria. Therefore, this project will examine the EDPs of Langley, Middlesex Region, North West Oregon, South Central Lower Michigan, and Greater Eastern Oregon (see Appendix A for table summary of selection process).

4.3 Expert Interviews

Interviews were conducted with academic and professional experts to develop the selection and evaluation criteria used to analyze the identified diversification policies from the jurisdictional scan. Six participants were interviewed, specifically three academics and three professional regional and city planners, who all had expertise in diversification economic policy and/or policy implementation. Each interviewee was asked the same six questions and regional planners were asked an addition three questions (see Appendix B). The additional question for regional planners attempted to understand the current actions taken towards regional diversification by their department. The interviews ranged from thirty to sixty minutes long. Once all the interviews were conducted, the author analyzed the data. Specifically, the author thematically analyzed the interview data, indexing the data for common, relevant, and important themes.

Chapter 5. Multivariate Regression Results

This capstone project conducted a quantitative analysis to examine the effect of diversification and other independent variables on regional economic resilience in Canada from 2006 to 2011. The purpose of the analysis was twofold; first, to examine the general hypothesis in the literature regarding the positive association between diversification and economic resilience and second, to support this capstone project's central assertion that if the Fraser Valley Regional District (FVRD) implements diversification policies, the Fraser Valley Region's (FVR) economy will be more resilient to future economic shocks. Table 5.1 gives some descriptive statistics, which were calculated for all 314 observations.

Table 5.1 Descriptive Statistics

	2006 (N=157)	**2011 (N=157)**	**Overall (N=314)**	**Correlation Coefficient**
Resilience				
Mean (SD)	0.992 (0.0546)	0.979 (0.0584)	0.986 (0.0568)	
[Min, Max]	[0.870, 1.14]	[0.828, 1.12]	[0.828, 1.14]	
Diversification				0.171
Mean (SD)	2.64 (0.0772)	2.66 (0.0629)	2.65 (0.0711)	
[Min, Max]	[2.44, 2.80]	[2.51, 2.79]	[2.44, 2.80]	
Education				0.260
Mean (SD)	0.553 (0.0641)	0.589 (0.0642)	0.571 (0.0666)	
[Min, Max]	[0.370, 0.720]	[0.380, 0.750]	[0.370, 0.750]	
Population				0.218
Mean (SD)	132000 (185000)	138000 (202000)	135000 (194000)	
[Min, Max]	[26300, 1160000]	[24800, 1290000]	[24800, 1290000]	
Tech Sector				0.239
Mean (SD)	4260 (9750)	4690 (10700)	4480 (10200)	
[Min, Max]	[155, 79200]	[145, 87500]	[145, 87500]	
Public Sector				0.152
Mean (SD)	4490 (9010)	5760 (11400)	5130 (10300)	
[Min, Max]	[480, 90300]	[560, 114000]	[480, 114000]	
Manufacturing Sector				0.185
Mean (SD)	8560 (13900)	6960 (11500)	7760 (12700)	
[Min, Max]	[260, 112000]	[330, 93400]	[260, 112000]	

The mean of the resilience of Canadian regions did not vary strongly from 2006 to 2011. The overall mean of resilience was 0.992, indicating that the average Canadian region was less resilient than Canada to the 2008 recession. The Canadian region that was the most economically resilient region was Moulins, Quebec, in 2006 and Montcalm, Quebec, in 2011. Similarly, the diversification of Canadian regions did not vary strongly from 2006 to 2011. The region with the most diversified industrial base was Division No. 6 in Alberta at 2.80 in 2006 and 2.79 in 2011. Diversification was also positively associated with resilience, as indicated by its weak correlation of 0.171. The educational attainment of the labour force was positively associated with resilience, as indicated by its weak correlation of 0.260. The variable education did not vary strongly, with an overall standard deviation of 0.067. The region with the most educated labour force was the Ottawa division, with over 70 percent of its labour force aged 25 to 64 with post-secondary education in 2006 and 2011.

Further, the population mean of Canadian regions varied strongly from 2006 to 2011. The overall population mean was 135000 with a standard deviation of 194000. The most populated Canadian region in this study in 2006 and 2011 was Division No.6 in Alberta with 1160000 and 1290000, respectively. Whereas Yarmouth County, Quebec, had the lowest population in 2006 and 2010 with 26300 and 24800, respectively. The independent variable, population, was also positively associated with resilience, as indicated by its weak correlation of 0.218. All the sectors examined in this study varied strongly between Canadian regions. The tech sector had an overall mean of 4480 with a standard deviation of 10200. The tech sector was positively associated with resilience. The public sector had an overall mean of 5130 and a standard deviation of 10300. The manufacturing sector had an over mean of 7760 with a standard deviation of 12700.

The multivariate regression results are shown in Table 5.2. The F-statistic for the model was 17.61 and statistically significant, which suggests that at least one of the independent variables explained the variation in the dependent variable, resilience. Furthermore, the model had an adjusted R-squared of 0.175, suggesting that this model explains 17.5 percent of the variation in the dependent variable. All variables were found to be statistically significant at the 0.05 significance level or higher.

Table 5.2 Multi-variate Regression Results

	Dependent variable:
	Resilience (Logged)
Diversification (t-1)	0.131**
	(0.044)
Year (2006)	0.026***
	(0.006)
Population (Logged)	0.008*
	(0.004)
Education	0.231***
	(0.059)
Constant	-0.596***
	(0.113)
Observations	314
R^2	0.186
Adjusted R^2	0.175
F Statistic	17.608*** (df = 4; 309)
	*p<0.05; **p<0.01; ***p<0.001

Note: Under each variables' coefficient, in parentheses, is the robust standard error, which indicates the variability of the statistical inference of the coefficient.

The independent variable, diversification, had a coefficient of 0.131, which indicates that for an increase of 0.1 in the diversification index, the region's economic resilience increases by 1.4 percent, while holding the other variables constant (see formula 1 and 2 in subsection 4.1). Put simply, more diversified regional economies were more resilient, as illustrated in Figure 5.1. Further, the independent variable, year (2006), had a coefficient of 0.026, which indicates that regional economies in 2006 were more resilient than regions in 2011.

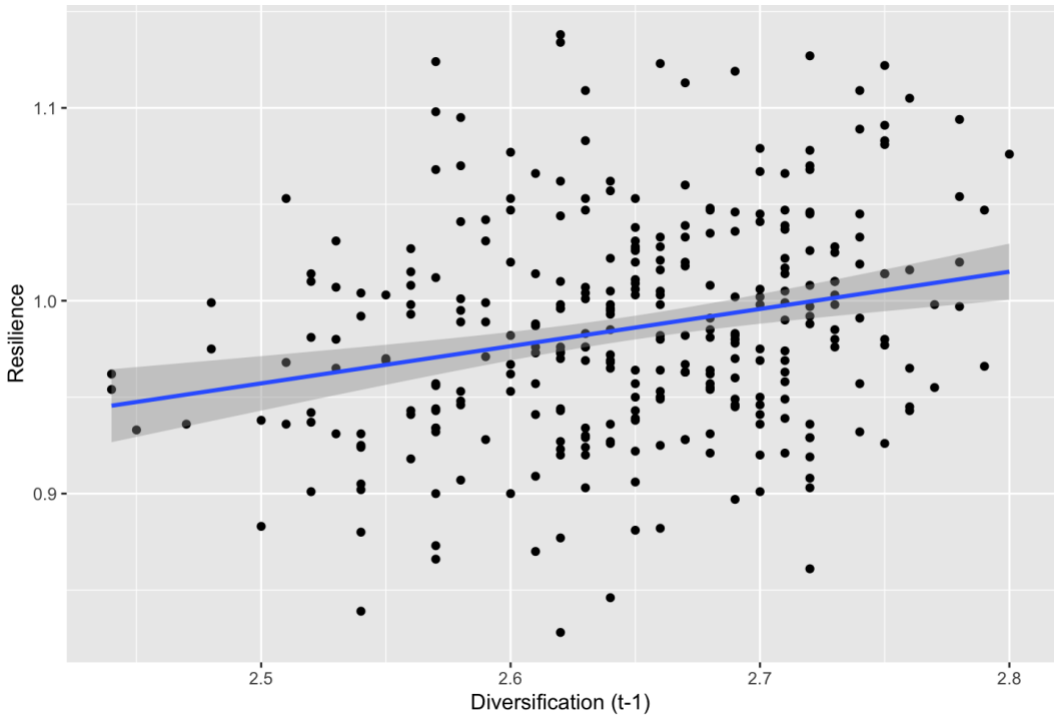

Figure 5.1 The Effect of Diversification on Canadian Regions' Economic Resilience, 2006 and 2011

Source: Created by author based on Statistics Canada data

The independent variable, population (logged), had a coefficient of 0.008. When controlling for other variables, the independent variable, population (logged), coefficient suggests that for every ten percent increase in the population in a region, that region's economic resilience increase by 0.08 percent. In other words, more heavily populated Canadian regions were found to be more resilient. Also, for the independent variable, education, the coefficient was 0.231. Education's coefficient indicates that an increase of 10 percentage points in the proportion of the labour force with post-secondary education is associated with an increase in resilience by 2.6 percent, when controlling for other variables.

The multivariate regression results confirmed the hypothesis stated in economic geography literature regarding the effect of diversification on regions' economic resilience. The results highlighted that Canadian regional economies that were more diverse were more economically resilient. Also, the results regarding the labour force educational attainment were consistent with literature, which stated that regions with higher proportion of their labour force

with a post-secondary education are more economic resilient. When examining regions' economic resilience in 2006 and 2011, the results suggest that regions were more resilient on average in 2006 than in 2011. This could be due to the fact that resilience in 2011 was calculated for regions during the 2008 recession; while regions didn't experience a similar economic downturn for the period in which resilience was calculated for 2006. Therefore, regions' actual economic resilience could be indicated by their resilience to the 2008 recession and hence their resilience score for 2011. Further, the results also contradict literature, which suggests that there is negative association between population size and economic resilience. The results found that Canadian regions that had a higher population were more resilient.

Chapter 6. Jurisdictional Scan Results

This capstone project conducted a jurisdictional scan to identify potential diversification policies the Fraser Valley Regional District could implement to enhance the Fraser Valley Region's (FVR) regional economic resilience. The case study selected five jurisdictions' economic development plans (EDPs) to be the focus of the case study analysis. The five jurisdictions are the City of Langley, Middlesex County, North West Oregon, South Central Lower Michigan, and Greater Eastern Oregon. When examining the recommended policies in each jurisdiction's EDP, only diversification policies are discussed and not general economic development policies. The narrow focus on diversification policies is to examine policies that will diversify regions' economic base; whereas, not all general economic development policies will achieve this outcome and could even result in more specialized (or concentrated) economies. See Appendix C for the socio-economic profile of each jurisdiction.

6.1 Themes of Case Study Analysis

In the case study, all five jurisdictions' EDPs highlighted the need to diversify their region's economy through various policies. There was a consensus among the jurisdictions' EDPs that economic diversification will make their economies more resilient. Although not all jurisdictions used the same policies, there are six common diversification themes (see Table 6.1). The six themes are marketing, support an entrepreneurial culture, targeted growth, financial support, external events to identify diversification opportunities, and develop economic diversification committees. The first theme, marketing, focuses specially on advertising jurisdiction’s resources, strengthens, and development opportunities to retain and strengthen industries within jurisdictions and also to attract industries to jurisdictions that will diversify the region’s economy. This includes marketing strategies, such as attending trade missions, providing research to businesses on development opportunities in the region, and developing an online presence. The second theme, support an entrepreneurial culture, focuses on creating an environment that encourages entrepreneurial activity within jurisdictions that will diversify their economy, such as consulting services, internet development toolkit, and innovation hubs. The third theme, targeted growth, focuses on targeting growth in desired economic activity that will

support or create new diverse economic activity, such as value-added agriculture and destination retail clusters. The fourth theme, financial support, focuses on providing or connecting industries to financial assistance to help support and create new diverse economic activity. The fifth theme, external events to identify diversification opportunities, focuses on external events, such as educational summits and business workshops, to help identify diversification opportunities within the jurisdiction. The aim of external events is to attract industries to jurisdictions and also expand existing jurisdiction's industries into diverse activities. The sixth theme, develop economic diversification committees, focuses simply of developing a committee in jurisdictions that aim sole to identify diversification opportunities, in similar vein to the fifth theme, to attract industries to jurisdictions and also expand existing jurisdiction's industries into diverse activities. The jurisdictions' EDPs emphasized that recommended policies would increase their jurisdiction's economic diversification.

Table 6.1 Summary of Diversification Policies in Select Jurisdictions

Policy Themes (Below)	City of Langley	Middlesex County	North West Oregon	Greater Eastern Oregon	South Central Lower Michigan
Marketing	Website, Trade Mission, & Research	Website & Trade Mission	Website	Website & Research	X
Support an Entrepreneurial Culture	Innovation Hub	Business Development Resources & Internet Toolkits	X	Incubators	Accelerators & Incubators
Targeted Growth	Destination Retail Stores & Tourism	X	Advanced Manufacturing, Aviation, Alternative Energy, Sustainable Fisheries, Marine Services, and Destination Tourism	X	Agriculture
Financial Support	Tax Incentives	Collaborate with Private Sector & Connect Economic Actors to Financial Assistance	Invest in Capital Assets & Regional Financing	Connect Economic Actors to Financial Assistance	Collaborate with Private Sector, Connect Economic Actors to Financial Assistance, & Regional Financing
External Events	X	Workshops/Seminars	X	X	X
Economic Development Committees	X	Agriculture & Tourism Advisory Committee	X	Committee for Economic Diversification	Committee for Economic Diversification

6.1.1 City of Langley, British Columbia, Canada

The City of Langley (henceforth Langley) is located in the Lower Mainland of British Columbia, Canada. In 2016, Langley developed an EDP, which aims to develop a robust economic environment that allows existing businesses to thrive while simultaneously attracting new businesses. Langley's EDP has six objectives, one of which is to facilitate the diversification of the City's economy. The EDP recommended diversifying Langley's economy into the retail sector by creating destination retail stores, establishing a domestic tourism sector through developing a night market, and increasing economic activity in its science-based industry by establishing an innovation hub. Other recommendations in Langley's EDP are more general in scope and are meant to support, promote, and encourage business start-ups and spin-offs. The EDP presents four main policy themes for diversification: marketing, targeted growth, financial support, and external events (City of Langley, 2016).

The first policy theme the EDP recommends, to diversify Langley's economy, is marketing. Specifically, the EDP aims to market the economic opportunities and strengths of the City. The EDP recommended creating a website highlighting opportunities and strengths to attract businesses. The EDP also recommends that the City's economic development department attend trade missions to market the region's economy. Further, the EDP recommends the City conduct and provide research to businesses to promote industries, such as innovation and creative industries, within the City that do not get the desired attention from investors. The second the EDP recommends is supporting an entrepreneurial culture. The EDP recommends developing an innovation hub to target economic development in new industrial activity. The third policy theme is targeted growth. Langley's EDP recommends targeting growth in the domestic tourism industry and the retail sector, explicitly creating destination retail stores. The EDP recommends that Langley targets domestic tourism growth by establishing a night market similar to those in Richmond, Vancouver, North Vancouver, and Surrey in British Columbia, Canada. The fourth policy and last theme is financial support. The City's EDP recommends using financial assistance to diversify its economy by supporting and attracting businesses. The EDP also recommended that the City provide tax incentives to attract desired industries and commercial activity to the downtown core and peripheral areas (City of Langley, 2016).

6.1.2 Middlesex County, Ontario, Canada

Middlesex County is located in Southern Ontario, Canada. In 2014, Middlesex County released an updated version of its 2008 EDP. The purpose of the EDP is to grow and diversify the County's economy. The EDP recommended diversifying the County's economy into agritourism, advanced manufacturing, agri-business, construction, professional and business services, and transportation and warehousing sectors. Other recommendations in the County's EDP are more general in scope and are meant to support, promote, and encourage business start-ups and spin-offs. The EDP presents five main policy themes for diversification: marketing, support an entrepreneurial culture, financial support, external events, and economic development committee (Middlesex County, 2014).

The first policy theme the EDP recommends, to diversify Middlesex County's economy, is marketing. Specifically, the EDP recommended updating the County's website to include a directory that connects entrepreneurs and businesses within the County to resources that enhance their development as well as strengthen local businesses' supply chains. The EDP also recommends that municipalities and private sector businesses within the County attend trade missions and shows. The purpose behind attending trade missions and shows is to market the County’s economy and attract foreign and domestic investment. The second policy theme is supporting an entrepreneurial culture. Within this policy theme, the EDP recommended two policies: business development resources and internet toolkits. The two recommended policies are intended to provide entrepreneurs with the resources, such as business management training, to grow their business and develop an online presence to reach domestic and global markets. The third policy is financial support to businesses, for which the EDP recommends two policies: connect businesses to financial assistance, and collaborate with private sector investors to support businesses financially. The fourth policy theme is to promote and facilitate external events. The County's EDP recommends that the County facilitate workshops and seminars, highlighting business opportunities to grow and diversify local businesses’ economic activity. The fifth policy theme is developing an economic development committee. The County's EDP recommends developing an agricultural and tourism advisory committee to identify opportunities to diversify the agricultural sector and the tourism industry (Middlesex County, 2014).

6.1.3 North West Oregon, United States of America

North West Oregon is connected to the greater Portland metropolitan area in Oregon in the United States of America. In 2018 the Region implemented a five-year comprehensive EDP to support and guide economic development and project investments. The EDP aims to support the retention, diversification, and expansion of businesses within the Region's economy to increase its stability and resilience. The EDP recommended diversifying the Region's economy into advanced manufacturing, aviation, alternative energy, sustainable fisheries, marine services, and destination tourism industries. Other recommendations in the Region's EDP are more general in scope and are meant to support, promote, and encourage business start-ups and spin-offs. The EDP presents three main policy themes for diversification: marketing, targeting growth, and financial support (NW Oregon, 2018).

The first policy theme the EDP recommends, to diversify the North West Oregon Region's economy, is marketing. Specifically, the EDP highlights the need to market the Region's commercial and industrial land. The EDP recommends updating the Region's website to provide public information on resources and economic opportunities within the Region. The second policy theme is to target growth. The EDP recommends targeting growth in emerging industries, such as alternative energy and sustainable fisheries, to diversify the Region's economy. The third policy theme is to provide financial supports. The EDP highlights the Region's need to provide financial assistance to business start-ups. The EDP offers four policy recommendations: provide financial support for small businesses, expand funding from public-private partnerships to fund business start-ups, invest in existing and new capital assets that add value to local economies, and connect businesses to financial supports (NW Oregon, 2018).

6.1.4 Greater Eastern Oregon, United States of America

Greater Eastern Oregon is located in the state of Oregon in the United States of America. In 2014, the Region implemented a five-year comprehensive EDP to support and guide economic development. The EDP aims to foster and support economic growth and diversification throughout the Region to increase stability, resilience, and self-reliance. The EDP recommended

diversifying Region's economy into unmanned ariel systems industry, agritourism, and added-value tourism and agriculture. Other recommendations in the Region's EDP are more general in scope and are meant to support, promote, and encourage business start-ups and spin-offs. The EDP presents four main policy themes for diversification: marketing, support an entrepreneurial culture, financial support, and economic development committees (GEODC, 2014).

The first policy theme the EDP recommends, to diversify the Greater Eastern Oregon Region's economy, is marketing. The EDP recommends that the Region develop a marketing program that markets the Region's strengths, resources, and small business development services within the Region. The EDP also recommends that the Region conduct and provide research to businesses to identify and promote economic activity and sectors in the Region that are either emerging or not getting the desired attention from investors, such as agritourism. The second policy theme is to support an entrepreneurial culture. Specifically, the policy aims to support an entrepreneurial culture by establishing business incubators. Business incubators help entrepreneurs grow their businesses, especially in targeted and emerging sectors. The third policy theme is to provide financial support. The EDP highlights the need for the Region to provide financial assistance to businesses through government funding and loan programs as well as develop funding mechanisms for high-risk ventures. The fourth policy theme is to develop economic development committees. The EDP recommends that the Region create partnerships with various provincial and federal economic development departments, educational institutions, research centres, and private organizations. Building partnerships between various institutions will help the Region identify opportunities for economic development that diversify the economy (GEODC, 2014).

6.1.5 South Central Lower Michigan, United States of America

South Central Lower Michigan is located in the state of Michigan in the United States of America. In 2017 the Region released the fifth edition of its 2010 comprehensive economic development strategy. The EDP has four goals, one of which is to diversify the Region's economy. The EDP recommended diversifying Region's economy into manufacturing, automotive technology, and agriculture, especially value-added agriculture. Other

recommendations in the Region's EDP are more general in scope and are meant to support, promote, and encourage business start-ups and spin-offs. The EDP presents four main policy themes for diversification: support an entrepreneurial culture, targeted growth, financial support, and economic development committees (Bauman and Gozdiff, 2017).

The first policy theme South Central Lower Michigan Region's EDP recommends, to diversify the Region's economy, is to support an entrepreneurial culture. The policy aims to develop an entrepreneurial culture by establishing technology and business incubators and accelerators, which support the growth of business start-ups and spin-offs. The second policy theme is targeted growth. The EDP recommends targeting growth in emerging sectors, such as the agricultural sector, to increase the value-added processing of agricultural products. To achieve the targeted growth, the Region's EDP recommends offering incentives to food processing businesses. In the same vein as value-added agriculture, the EDP recommends targeting growth in automotive technology and manufacturing to diversify the Region's economy. The third policy theme is to provide financial support. The EDP highlights the Region's need to provide financial assistance to business start-ups and expansions. Within this policy theme, the EDP recommends three policies: establish venture capital and angel networks, establish community capital, and take advantage of government funding. The fourth policy theme is to develop an economic development committee. Specifically, the EDP recommends that the Region partners with governmental economic development departments at the state and federal level (Bauman and Gozdiff, 2017).

6.2 Case Study Analysis Discussion

As illustrated in Table 6.1, every jurisdiction, except South Central Lower Michigan, used marketing to either attract business to the region or promote existing businesses. Several jurisdictions recommended policies to support an entrepreneurial culture by establishing innovation hubs, incubators, and accelerators or providing business development resources and internet toolkits to help businesses develop a global presence. Targeting growth in specific sectors was also a common theme among the jurisdictions, which targeted growth specific sectors such as the retail, tourism, and agricultural sectors. Every jurisdictions' EDP

recommended providing financial support to businesses because they identified access to financial capital as a barrier for potential business start-ups and expansions. A less common but noteworthy theme among jurisdictions was to host external events to or develop entities that identify diversification opportunities through workshops and seminars. The external events also serve as a marketing and networking strategy. It occurs periodically, and they highlight opportunities for businesses to diversify and grow their business. The development of external entities (i.e., workshops and seminars) would facilitate continuous knowledge dissemination of diversification opportunities to their surrounding jurisdiction. Also, every jurisdiction, except Langley and North West Oregon Region, recommended establishing economic development committees to identify opportunities for diversification. Furthermore, the EDPs indicated that the recommended policies highlighted in the case studies were effective policies for diversifying regional economies.

Chapter 7. Expert Interview Findings

There was a general consensus among interviewees that regional economic diversification makes regions more resilient to economic shocks. One Interviewee although skeptical about the relationship between diversification and resilience, noted that when an idiosyncratic shock hit the Swiss watch industry due to a drop in demand, the Swiss economy demonstrated resiliency by its ability to diversify its competencies in other related industries, such as the pacemaker industry. All the other interviewees were confident that diversification led to a more resilient economy. Also, most interviewees who were government employees highlighted that their regions' planning department was taking steps to diversify their economy. Throughout the interviews, a re-occurring theme was that diversification policies need to provide resources to support industries diversifying into new activities and not attempt to dictate economic activity.

7.1 Selection Criteria

The interviewees highlighted three policy selection criteria:

- Does the policy build on the strengths, resources, and competencies of the region?
- Does the policy provide resources that support business start-ups, spin-offs, and expansions?
- Does the policy support business development and expansion within the region as well as attract businesses to the region?

First, interviewees highlighted that diversification policies need to build on existing resources, such as economic strengths and competencies. The interviewees suggested that diversifying into unrelated economic activity is very risky and should only be attempted if a region's primary industry is becoming obsolete. They stated that radical steps need to be taken to develop the resources needed for new and unrelated economic activity, requiring long-term support from regional and local governments. The interviewees stated that the Fraser Valley Regional District

(FVRD) has a thriving agricultural economy and can develop into additional related economic activities. Therefore, this capstone project does not examine unrelated diversification policies.

Second, one interviewee highlighted that diversification policies need to support both entrepreneurial start-ups and firm spin-offs and expansion. The interviewee stated that economic diversification results from structural change induced by new economic activity created by entrepreneurs and firms. Further, the interviewee stated that although economic diversification arises more frequently through entrepreneurial start-ups, these start-ups have a high failure rate in the long-run compared to firm spin-offs or expansion that arise less frequently but have a higher success rate in the long-run.

Additionally, this capstone project incorporates a third selection criterion, which was highlighted throughout the jurisdictional scan. The third selection criterion examines if diversification policies are multi-dimensional in that they diversify economic activity by both attracting businesses to the region and supporting the development of entrepreneurial start-ups and business spin-offs and expansions. For example, marketing policies advertise the economic opportunities of the region to other regions, provinces, and countries, as well as advertise resources for firms and entrepreneurs within the region to support their development and expansion. These three selection criteria ensure that this capstone project provides the most optimal diversification policies for the Fraser Valley Region (FVR).

7.2 Evaluation Criteria

The interviewees highlighted six evaluation criteria that they suggest are essential for evaluating diversification policies (see Table 7.1). The evaluation criteria are effectiveness, stakeholder acceptance, efficiency, cost to government, administrative complexity, and equity. The interviewees agreed that the effectiveness and stakeholder acceptance criteria are the key objectives for evaluating diversification policy. Among the interviewees there was a consensus that the primary stakeholders were the municipalities within the FVR and economic actors. Additionally, this capstone project incorporates local communities, including Indigenous communities, as a third stakeholder because they were identified in literature as significant

stakeholders for enhancing economic development (Haughton, 1999; OECD, 2019). The interviewees stated that these two criteria are the most important (key objectives) because diversification policies need to increase economic diversity and have stakeholder acceptance from the municipal governments within the region and economic actors in order for the policies to be effective, implemented, and utilized. Also, the interviews stated that if stakeholders, specifically municipal governments within the region and industries, do not endorse the diversification policies, then the policies will not be implemented by municipal governments or utilized by economic actors. Further, the interviewees stated that regional diversification policies need to focus equitably on rural and urban areas to enhance both areas economic resilience.

Table 7.1 Evaluation Criteria

Evaluation Criteria	
Social Objectives	**Governmental Objectives**
• Effectiveness (key objective)	• Efficiency
• Stakeholder Acceptance (key objective)	• Cost to Government
• Equity	• Administrative Complexity

The interviewees that were regional planners stated that diversification policies need to be efficient. They stated that policies are efficient when they build on pre-existing regional government initiatives. Further, they emphasized that when diversification policies are efficient, the longevity of the policies is enhanced. The interviewees stated that the evaluation criteria cost to government, administrative complexity, and equity are also essential criteria. One interviewee stated that policy needs to work within municipalities' fiscal constraints, and if the policy cost exceeds those constraints, then the policy will not be implemented. The interviewees all stated that policies should not be too administratively complex, or the policy will also be less likely to be implemented. They stated that administrative complexity includes a high degree of collaboration between of organizations or high complexity of the policy itself.

Chapter 8. Policy Analysis

8.1 Policy Objectives and Evaluation Criteria

This capstone project employs six evaluation criteria as the analytical framework to evaluate the policy options. The six evaluation criteria are effectiveness, stakeholder acceptance, equity, efficiency, cost to government, and administrative complexity. The evaluation criteria stem from social and governmental objectives. The first three evaluation criteria stem from social objectives, and the last three stem from governmental objectives. Further, the first two criteria are the key objectives of this capstone project because the expert interview findings identified them as being crucial for regional economic diversification. This project assessed each policy option using the same evaluation criteria to provide the most objective policy analysis and recommendation. This policy analysis aims to select policy option(s) that are expected to achieve this capstone project's social and governmental objectives.

This capstone project evaluates each policy option on a scale of high, medium, and low against the evaluation criteria in which high presents the most desirable option and low presents the least desirable option. The scale uses a point system to rank each policy option in which "high" equals three points, "medium" equals two points, and "low" equals one point. The points ascribed to each policy option is determined by how they fair against each criterion's measure. Each criterion measure is based on the expert interview findings. Table 8.1 provides a summary analysis of the policy options, their objectives, and their measures. The summary analysis is colour-coded with green presenting "high," yellow presenting "medium," and red presenting "low." As highlighted in the expert interview findings, the first two evaluation criteria, effectiveness and stakeholder acceptance, are the key objectives of this policy analysis because they are critically for implementing successful policies. Therefore, the key objectives are weighed more heavily than the other criteria. The key objectives are weighted on the point system as a factor of two, with "high" equaling six points, "medium" equaling four points, and "low" equaling two points.

Table 8.1 Summary of Evaluation Criteria

Criterion	Objective	Measure	Scoring
Effectiveness (Key Objective. Points x2)	Increases Economic Diversity	The extent to which the policy is expected to diversify the FVR's economic base.	High (3pts): Expected to result in a significant increase in economic diversification in the FVR.
			Medium (2pts): Expected to result in a moderate increase in economic diversification in the FVR.
			Low (1pt): Expected to result in a small increase in economic diversification in the FVR.
Stakeholder Acceptance (Key Objective. Points x2)	Stakeholder Acceptance (Acceptance by Municipalities, Economic Actors, Local Communities)	The extent to which the policy is expected to be endorsed by the primary stakeholders.	High (3pts): Expected to have a high likelihood of being endorsed by all three primary stakeholders.
			Medium (2pts): Expected to have a high likelihood of being endorsed by two of the three primary stakeholders.
			Low (1pt): Expected to have a high likelihood of being endorsed by one of the three primary stakeholders.
Equity	Diversify Economic Activity in Rural and Urban Areas	The extent to which they are expected to diversify economic activity in both rural and urban areas within the FVR.	High (3pts): Expected to increase economic diversification equally in both rural and urban areas within the FVR.
			Medium (2pts): Expected to increase economic diversification somewhat more in either urban or rural areas in the FVR.
			Low (1pt): Expected to increase economic diversification primarily in either urban or rural areas in the FVR.
Efficiency	Builds on Regional Initiatives	The extent to which the policy is expected to build on regional districts initiatives in the FVR.	High (3pts): Expected to significantly build on the FVRD's initiatives.
			Medium (2pts): Expected to moderately build on the FVRD's initiatives.
			Low (1pt): Expected to slightly build on the FVRD's initiatives.

Criterion	Objective	Measure	Scoring
Cost to Government	Affordability	The extent to which the policy is expected to be affordable to the FVRD.	High (3pts): Expected to be very affordable for the FVRD.
			Medium (2pts): Expected to be moderately affordable for the FVRD.
			Low (1pt): Expected to be not very affordable for the FVRD.
Administrative Complexity	Administrative Ease	The extent to which the policy is expected to be administratively easy for the FVRD to implement.	High (3pts): Expected to be very administratively easy for the FVRD to implement.
			Medium (2pts): Expected to be moderately administratively easy for the FVRD to implement.
			Low (1pt): Expected to be not very administratively easy for the FVRD to implement.

FVR = Fraser Valley Region; FVRD = Fraser Valley Regional District; pt(s) = point(s)

1) Effectiveness

The criterion effectiveness is one of the two key objectives of this capstone project used to evaluate policy options. It is essential that policy options aimed at economic diversification truly diversify the Fraser Valley Region's (FVR) economic base. Each policy option is examined based on the extent to which they are expected, by the author based on literature, empirical findings, jurisdictional scan results, and expert interview results, to diversify the FVR's economic base. The inclusion of this criterion is based on literature and expert interview findings. For this criterion, effectiveness, policy options are scored based on the criterion's measure as having a significant, moderate, or small ability to increase economic diversification in the FVR.

2) Stakeholder Acceptance

The second key objective is the criterion stakeholder acceptance, which this capstone project uses to evaluate policy options. This criterion focuses on three primary stakeholders for economic diversification: municipalities within the region, economic actors, and local communities, which includes Indigenous communities. Municipal governments, economic actors, and local communities must endorse policy options in order for the options to be utilized, regardless of how effective they are. Policy options are examined base on the extent to which they are expected to be endorsed by the primary stakeholders. The inclusion of this criterion is based on the expert interview findings and literature. For this criterion, stakeholder acceptance, policy options are scored based on the criterion's measure as having a high, medium, or low likelihood of being endorsed by stakeholders.

3) Equity

The criterion equity incorporates a social objective, which this capstone project uses to evaluate policy options. Policy options must diversify economic activity in both rural and urban areas to enhance the economic resilience of all areas within the FVR. Each policy option is examined base on the extent to which they are expected to diversify economic activity in rural

and urban areas within the FVR. The inclusion of this criterion is based on the expert interview findings. For this criterion, policy options are scored based on the criterion's measure as having the ability to increase diversification equally in both, somewhat more in either, or primarily in either rural and/or urban areas within the FVR.

4) Efficiency

The criterion efficiency is a governmental objective, which this capstone project uses to evaluate policy options. The governmental objective is that policy options build on the regional government's current initiatives, which allows for more coordination between regional initiatives. This is not to say that policy options should build on old initiatives (i.e., vertically), but policy options should build on current initiatives (i.e., horizontally). The initiatives presented in the FVRD's 2020 draft regional growth strategy, such as its enhanced transportation and its clean energy initiative, should build on each other. For example, the FVRD should implement policies that increase public transportation that is also fueled by clean energy. Policy options aimed at economic diversification must be efficient and try to reduce the discord between initiatives. Each policy option is examined base on the extent to which they are expected to build on regional initiatives in the FVR, such as the region's clean energy initiative. The inclusion of this criterion is based on expert interview findings. For this criterion, efficiency, policy options are scored based on the criterion's measure as having a significant, moderate, or slight ability to build on current FVRD's initiatives.

5) Cost to Government

As highlighted throughout the case study, regional governments usually have limited financial capacity. Therefore, this capstone project uses the criterion cost to government, which incorporates this governmental objective, to evaluate policy options. Policy options must not impose a heavy financial burden upon regional districts, and they must be affordable regardless of regional districts' financial capabilities. Each policy option is examined base on the extent to which they are expected to be affordable to the FVRD. The inclusion of this criterion is based on the expert interview findings and the case study. For this criterion, cost to government, policy

options are scored based on the criterion's measure as very, moderately, or not very, affordable to the FVRD.

6) Administrative Complexity

The criterion administrative complexity is a governmental objective, which this capstone project uses to evaluate policy options. Policy options must be administratively easy to implement for the FVRD because more complex policies are less likely to be implemented. Each policy option is examined based on the extent to which they are expected to be administratively easy to implement, including the expected number of collaborates between various organizations and the complexity of the policy itself. The inclusion of this criterion is based on the expert interview findings. For this criterion, administrative complexity, policy options are scored based on the criterion's measure as being very, moderately, or not very easy, administratively, for the FVRD to implement.

8.2 Policy Options

In the jurisdictional scan, regional economic development plans recommended various diversification policies; however, to evaluate all possible policy options is out of the scope of this capstone project. Therefore, this capstone project used selection criteria to assess and identify the most optimal diversification policies. Once the selection criteria were applied to the initial policy options identified in the jurisdictional scan, only three policies satisfied all the selection criteria (see Appendix C). The three policies are the focus of this policy analysis. This policy analysis focuses on identifying and recommending policy options that can be implemented at the regional or municipal level; therefore, policy options that can be implemented at the provincial and federal levels were not examined.

This capstone project identified three selection criteria through the expert interview and jurisdictional scan findings (see subsection 7.1). This capstone project applied the selection criteria to the identified policy options, and three policy options satisfied all the criteria. The three policy options are to develop: an innovation hub, a staff-assisted directory of financial

supports, and an economic diversification Committee. These three policy options are the focus of this policy analysis.

1) Policy Option 1: Staff-assisted Directory of Financial Supports

This policy option proposes that the FVRD update its current website to include a directory, which connects entrepreneurs and firms within the region to available financial supports and assists economic actors through the application process. Essentially, this option, once implemented, connects economic actors to financial supports such as government-funded programs, venture capital, and angel investors. This option has two main objectives. The first objective is to connect entrepreneurs and firms to financial assistance within the region who need financial support to develop and expand their business. The second objective is to connect firms from outside the region with financial assistance who need financial support to relocate or expand into the region. Every jurisdictions' economic development department in the case study, except the City of Langley and South West Oregon, recommended that their jurisdiction connects economic actors to financial supports. In this case study, the jurisdictions' economic development department found that inadequate information on existing financial supports presents a barrier for entrepreneurs and firms attempting to start or expand their business.

2) Policy Option 2: Innovation Hub

This policy option proposes that the FVRD develop an innovation hub, which targets economic development in new industrial activities that diversify the FVR's economic base. An innovation hub is a facility, or a cluster of facilities, that allow inventors, entrepreneurs, and firms to work alongside experts and practitioners within a specific field. The purpose of an innovation hub is to provide a high-tech laboratory or environment where research and development in a specific field can be conducted that fosters education and innovation (Youtie and Shapira, 2008). There are numerous innovation hubs throughout Canada, such as in Surrey, B.C., Waterloo, Ontario, and Trios-Rivières, Quebec (CFI, 2002; KPMG, 2017). Focusing on B.C., an innovation hub has been developed in Surrey, which builds off Kwantlen Polytechnic University's tech-based Surrey campus. Similarly, the City of Langley's economic development

plan recommended that the City develop an innovation hub building off Kwantlen Polytechnic University's science-based Langley campus (City of Langley, 2016). In line with Surrey, the FVR should develop an innovation hub that builds on one of the University of the Fraser Valley's campuses, such as Chilliwack high-tech agricultural campus or the University's aerospace centre. An innovation hub in the FVR will support new economic activity in its growing tech-based agricultural industry as well as in other emerging industries, such as in manufacturing, aerospace, construction industries. This option will also result in business spin-offs or attract new businesses to the region that want to capitalize on the external economies produced from the innovation hub.

3) Policy Option 3: Committee for Economic Diversification

This policy option proposes that the FVRD develop a committee for economic diversification. A committee for economic diversification is specifically tasked with identifying resources, financial supports, and economic diversification opportunities to support business start-ups, spin-offs, and expansions in emerging markets within the FVR. For example, the committee for economic diversification could target growth in the agricultural sector by developing programs that support business expansion into value-added agriculture. The committee for economic diversification should be composed of members from various provincial and municipal economic development departments, educational institutions, research centres, and private organizations. Developing a committee for economic diversification will strengthen the region's social network between public and private organizations, enhancing economic coordination and collaboration, and increasing the effectiveness of diversification policies. Every jurisdiction's economic development department in the case study, except the City of Langley, recommended that the jurisdiction develop some form of committee or partnership that focuses on economic diversification.

8.3 Policy Option Evaluation

Policy Option 1: Staff-assisted Directory of Financial Supports

Effectiveness

For the criterion, effectiveness, this policy option is expected to moderately increase economic diversification in the FVR. This option is ranked medium because, as the jurisdictional scan found and reports by the OECD highlight that the lack of awareness and knowledge of available financial supports is a huge barrier for entrepreneurs and small- and medium-enterprises to engage in economic activity or expand their business, which can increase economic diversification (OECD, 2015, 2017, 2018). For instance, interviews conducted in rural areas nation-wide by Rural Economic Development Canada in 2019 found that many rural Canadians want to start businesses; however, they lack the knowledge on how to find and apply for funding programs to do so. Further, a survey conducted in the United Kingdom found that 56 percent of businesses were unaware of financial supports other than bank loans (Baeck et al., 2014). Even though business start-ups and spin-offs contribute to economic growth and development (OECD, 2018), the typical start-up fails within the first five years (Wolman et al., 2017). Increasing economic actors' awareness of and accessibility to financial supports will increase the number of and enhance the longevity of business start-ups within the region. Therefore, this option is expected to increase economic diversification in the FVR moderately.

Stakeholder Acceptance

For the criterion, stakeholder acceptance, this policy option is expected to have a high likelihood of being endorsed by the primary stakeholders. As highlighted in literature and the jurisdictional scan findings, many municipal governments support and recommend connecting businesses to financial assistance. For example, the Township of Langley's 2012 economic development plan recommends assisting businesses in finding and applying for financial assistance (Township of Langley, 2012). Economic actors and local communities have a high likelihood of endorsing the staff-assisted directory for financial supports as it will increase their

awareness of, and access to, financial assistance to help their businesses grow. A survey conducted by Rural Economic Development Canada in 2019 found that many Canadians wanted to start a business but were unaware of financial supports available to them. Indigenous communities will especially endorse this option because it is will provide a master directory with all funding programs available to indigenous communities and assist them through the application process. This option ensures Indigenous communities are fully aware of all available financial assistance programs to enhance their self-determinacy over their economy, which indigenous people in Canada and around the world have asserted as their right (OECD, 2019). Further, economic actors, such as property developers and local business leaders, will endorse this policy option because it can enhance regional development that in turn can increase business activity and property development. Also, the author does not foresee any objections to this policy option from local communities that support the agricultural land reserve because this option does not encroach on agricultural land, even though these communities may not support the aim of an economic diversification committee. For these reasons, the option ranked high.

Equity

For the criterion, equity, this policy option is expected to increase economic diversification equally in both rural and urban areas within the FVR. A report by the OECD (2018) found that alternative financing options to traditional banking loans, such as online funding programs, have increased rural businesses' access to financial capital. Traditional financial instruments have been a barrier for SMEs in rural areas (OECD, 2018). Similarly, providing a staff-assisted directory for financial supports will increase business start-ups and spin-offs awareness of and access to financial assistance in both rural and urban areas in the FVR. Increased awareness of and access to financial capital will increase economic diversification in both rural and urban areas. Therefore, this option was ranked high on this criterion.

Efficiency

For the criterion, efficiency, this policy option is expected to slightly build on the FVRD's initiatives. This policy option is ranked low because the FVRD would not be able to determine if economic actors that receive financial assistance through this policy option will engage in economic activity that also builds on the district's current initiatives, such as its clean energy initiative. Since the staff-assisted directory connects entrepreneurs and firms to provincial and federal funded programs as well as regional and private funded programs, the region cannot fully dictate what parameters get included in financial supports. Therefore, this option builds on the FVRD's initiatives only as far as funding programs include parameters that align with the district's initiatives.

Cost to Government

For the criterion, cost to government, this policy option is expected to be very affordable for the FVR. The only foreseeable cost that the FVR would incur is the cost of hiring additional staff to update the region's current website to include a staff-assisted directory for financial supports. For example, the City of Langley estimates that it would cost $50,000 to update their city's website to incorporate similar content (City of Langley, 2016). Although the updates to the FVR's website will be slightly different from the on the City of Langley's website, the FVRD will incur similar costs. This policy option has a low upfront cost because the FVRD's administrative team could absorb the additional work needed to staff the assisted directory, which includes maintaining the directory, ensuring it is up-to-date, and assisting entrepreneurs and firms within and outside the region to access financial supports. If additional staffing is required, it will increase staffing costs for the FVR; however, this option is not expected to require additional staffing. For these reasons, this option is ranked high.

Administrative Complexity

For the criterion, administrative complexity, this policy option is expected to be very easy for the FVRD to implement, from an administrative perspective. This option is ranked high

because updating the FVRD's website to include a staff-assisted directory of financial supports will not require the district to collaborate administratively with public or private organizations, municipalities within the region, or surrounding regions, such as Metro Vancouver. As highlighted in the expert interview findings, the administrative process of implementing a new policy becomes complex when it requires collaboration between various organizations, cities, and regions. Further, this policy does not require any legislation implements or amendments.

Table 8.2 Summary of Policy Analysis for Policy Option 1

Effectiveness (x2)	**Stakeholder Acceptance (x2)**	**Equity**	**Efficiency**	**Cost to Government**	**Administrative Complexity**
Medium	High	High	Low	High	High

Policy Option 2: Innovation Hub

Effectiveness

For the criterion, effectiveness, this policy option is expected to increase economic diversification in the FVR significantly. As the jurisdictional scan found, innovation hubs are a key cornerstone to economic diversification. For example, Surrey's innovation hub has resulted in new economic activity in the City's health sector, such as independent healthcare, medical devices, and digital health (City of Langley, 2016). Surrey's innovation hub is also projected to attract over 500 firms to the City (Curve Communication Group Ltd., 2016). Further, similar to that of Surrey, economic diversification has occurred in Trios-Rivières due to its innovation hub (CFI, 2020). Therefore, an innovation hub is expected to increase and diversify economic activity in the region significantly. For these reasons, this capstone project ranks this option as high.

Stakeholder Acceptance

For the criterion, stakeholder acceptance, this policy option is expected to have a high likelihood of being endorsed by economic actors and local communities. This option is ranked medium because only two out of the three primary stakeholders are likely to endorse an innovation hub. Economic actors will endorse this option because, as seen in Waterloo, economic actors will exploit the external economies or knowledge spillovers from the innovation hub (KPMG, 2017). Further, local communities will endorse this option because it can enhance regional development that in turn can increase business activity. For example, Surrey's innovation hub is estimated to contribute $1.1 billion dollars annually and attract over 500 companies to Surrey (Curve Communication Group Ltd., 2016). Also, the author does not foresee any objections to this policy option from local communities that support the agricultural land reserve because this option does not encroach on agricultural land, although these communities may not support the aim of an economic diversification committee. Further, Indigenous communities have a high likelihood of endorsing this option because it will be accessible to all entrepreneurs, including Indigenous entrepreneurs, which will help develop a strong Indigenous economy in Canada. Although this option is not devoted exclusively to Indigenous entrepreneurs, it is expected to have similar support as Toronto's Indigenous Centre for Innovation and Entrepreneurs (innovation hub) had from the Canadian Council for Aboriginal Business (Government of Canada, 2019b).

Municipalities have a low likelihood of endorsing this option because an innovation hub is costly. The cost that a municipality will incur is very high as innovation hubs have a high sunk cost and require constant funding. For example, Surrey's innovation boulevard cost over $625 million in infrastructure costs (Curve Communication Group Ltd., 2016). This capstone project could not find the total cost of Surrey's innovation hub but to calculate the total cost, maintenance and staffing costs would have to be included, significantly raising the total cost past $625 million. Although the innovation hub developed in the FVR will be different from the one in Surrey, the municipality in the FVR in which the innovation hub is develop would incur similar costs.

Equity

For the criterion, equity, this policy option is expected to increase economic diversification somewhat more in either rural or urban areas in the FVR, depending on what university campus or centre the innovation hub is based on. This option is ranked medium because an innovation hub based on either the University of the Fraser Valley's high-tech agricultural campus in Chilliwack or its aerospace centre in Abbotsford would produce innovations that would increase and create new economic activity primarily in either rural or urban areas in the FVR, but not equally in both. However, innovation hubs, regardless of which campus or centre it is based on, can increase and create new economic activity in other industries as well and can provide positive externalities for industries throughout the region. For example, suppose the innovation hub is based on Chilliwack's high-tech agricultural campus. In that case, it can still produce innovation that creates new economic activity in agricultural product transportation, storage, and processing, which is conducted in both rural and urban areas. Therefore, this policy option is expected to create new economic activity, somewhat more in either rural or urban areas.

Efficiency

For the criterion, efficiency, this policy option is expected to build on the FVRD's initiatives significantly. This option is ranked high because it will build on the FVRD's initiatives, highlighted in its 2020 draft RGS, to promote growth and development in emerging industries, such as agriculture and aerospace. Specifically, the FVRD's 2020 draft emphasizes the need for the FVR to capitalize on its competitive advantage in the agricultural industry by exploiting agricultural innovations and technologies. Surrey's innovation hub resulted in new healthcare technology that helped advance its healthcare industry (City of Langley, 2016). Like the outcome of Surrey's innovation hub, an innovation hub in the FVR, focused on agriculture, is expected to advance the region's agricultural industry and, therefore, build on and advance the FVRD's initiative. Furthermore, the innovation hub is also expected to support and build on other initiatives in the FVR, such as the region's clean energy initiative.

Cost to Government

For the criterion, cost to government, this policy option is expected to be very affordable for the FVRD. Since an innovation hub will be financed by the municipality in which the hub is located, the only foreseen cost that the FVRD will incur is additional staffing costs. The FVRD will have to hire additional staff to oversee the innovation hub and coordinate with various stakeholders and public and private organizations. This capstone project used the annual wage of an FVRD planner to approximate the annual cost of employing an additional staff to oversee the innovation hub. In 2017 a regional planner at the FVRD earn $80,967 (FVRD, 2017b). Therefore, this policy option is ranked medium because the policy option will result in the FVR incurring annual costs of an estimated $80,000. For these reasons, this policy option is ranked medium.

Administrative Complexity

For the criterion, administrative complexity, this policy option is expected to be not very easy for the FVRD to implement, from an administrative perspective. This option is ranked low because developing an innovation hub would require the district to collaborate with regional businesses, municipalities within the region, and other public or private organizations, such as the University of the Fraser Valley. As highlighted in the expert interview findings, the administrative process of implementing a new policy becomes complex when it requires collaboration between various organizations, cities, and regions. Furthermore, this policy option is ranked low because of the administrative complexity of establishing and building an innovation hub.

Table 8.3 Summary of Policy Analysis for Policy Option 2

Effectiveness (x2)	**Stakeholder Acceptance (x2)**	**Equity**	**Efficiency**	**Cost to Government**	**Administrative Complexity**
High	Medium	Medium	High	Medium	Low

Policy Option 3: Committee for Economic Diversification

Effectiveness

For the criterion, effectiveness, this policy option is expected to result in a moderate increase in economic diversification in the FVR. As highlighted in the jurisdictional scan, almost every jurisdiction's economic development department recommended that their regional district establish a committee that focuses on economic diversification. The jurisdictions' economic development plans indicated that developing an economic diversification committee, which is tasked with identifying and promoting economic diversification opportunities within a region, will support businesses within the region to engage in new economic activity. Further, a regional economic diversification committee can develop programs that enhance the region's economic diversification, such as a marketing program that retains and attracts businesses. Establishing an economic diversification committee will moderately increase economic diversification because this option does not directly increase diversification but indirectly enhances it through various programs such as marketing programs, as highlighted in the jurisdictional scan findings. For these reasons, this option ranked medium.

Stakeholder Acceptance

For the criterion, stakeholder acceptance, this policy option is expected to have a high likelihood of being endorsed by municipalities within the region, economic actors, and local communities. This option is ranked high because all primary stakeholders are likely to endorse establishing an economic diversification committee. Municipalities and local communities will endorse establishing an economic diversification committee because it enhances collaboration between cities and promotes new economic activity. Also, the author does not foresee any objections to this policy option from local communities that support the agricultural land reserve because this option does not encroach on agricultural land, although these communities may not support the aim an economic diversification committee. Further, Indigenous communities have a high likelihood of endorsing an economic diversification committee because it will identify opportunities for economic diversification in Indigenous communities, which will help foster a

strong Indigenous economy as advocated for by the Canadian Council of Aboriginal Business (Government of Canada, 2019b). Economic actors will also endorse an economic diversification committee because the new economic activity opportunities identified by the committee would supplement entrepreneurs' and firms' need to conduct extensive research and development.

Equity

For the criterion, equity, this policy option is expected to increase economic diversification equally in both rural and urban areas within the FVR. This option is ranked high because an economic diversification committee would identify new economic development opportunities in both rural and urban areas. The FVRD's 2020 draft RGS focuses primarily on urban economic development because the agricultural land reserve constrains rural economic development. However, due to technological advancements in the agricultural industry, there are many opportunities to diversify agricultural economic activity in rural areas (FVRD, 2020a). For example, the jurisdictional scan findings identified several opportunities for jurisdictions to diversify their rural economies, such as in the agricultural tourism industry and value-added agriculture.

Efficiency

For the criterion, efficiency, this policy option is expected to build on the FVRD's initiatives significantly. This option is ranked high because an economic diversification committee will identify diversification opportunities that will simultaneously build on the FVRD's initiatives, which are highlighted in its' 2004 and 2020 draft RGS and other regional initiatives. For example, the committee can promote, through hosting workshops and educational summits or conducting and providing research to regional businesses, economic diversification opportunities that build on initiatives in the RGS, like increasing domestic tourism, or other regional initiatives, like its clean energy initiative. Therefore, this option is expected to build on the FVRD's initiatives significantly.

Cost to Government

For the criterion, cost to government, this policy option is expected to be moderately affordable for the FVR. This option is considered moderately affordable because the FVR will incur high staffing and administrative costs. This capstone project uses the 2020 tax requisition for the FVR's Indigenous Relations Committee as a proxy to estimate the annual cost of establishing an economic diversification committee. In 2020 the tax requisition for FVR's Indigenous Relations Committee was $83,721 (FVRD, 2020b). Therefore, this policy option, using the cost of operating the Indigenous Relations Committee as a proxy, is ranked medium because the policy option will result in the FVR incurring annual costs of an estimated $80,000.

Administrative Complexity

For the criterion, administrative complexity, this policy option is expected to be moderately administratively easy for the FVRD to implement. This option is ranked medium because developing an economic diversification committee would require the district to collaborate with other public or private organizations, municipalities, and surrounding regions, such as Metro Vancouver. The expert interview findings indicated that the FVRD already experiences administrative complexities when engaging in economic development because of the number of collaborations required to conduct economic development properly. Further, this policy option was ranked medium because of the administrative complexity of establishing an economic diversification committee.

Table 8.4 Summary of Policy Analysis for Policy Option 3

Effectiveness (x2)	**Stakeholder Acceptance (x2)**	**Equity**	**Efficiency**	**Cost to Government**	**Administrative Complexity**
Medium	High	High	High	Medium	Medium

Policy Analysis Summary

Table 8.5 Summary of Policy Analysis

Evaluation Criteria	Policy Option 1: Staff-assisted Directory for Financial Support	Policy Option 2: Innovation Hub	Policy Option 3: Economic Diversification Committee
Effectiveness (x2)	Medium (4)	High (6)	Medium (4)
Stakeholder Acceptance (x2)	High (6)	Medium (4)	High (6)
Equity	High (3)	Medium (2)	High (3)
Efficiency	Low (1)	High (3)	High (3)
Cost to Government	High (3)	Medium (2)	Medium (2)
Administrative Complexity	High (3)	Low (1)	Medium (2)
Score	20	18	20

As indicated by each option's total score in the policy analysis (see Table 8.5), the first policy option, staff-assisted directory for financial support, tied for the highest score on the policy analysis when examined against the evaluation criteria. This policy option ranked high on all the criteria except for effectiveness and efficiency. When considering this policy analysis's key objectives, this option ranked medium on effectiveness and high on both stakeholder acceptance. This option is expected to indirectly increase economic diversification by increasing economic actors' awareness of and connecting them to financial supports. Also, this option is expected to be endorsed by all the primary stakeholders: the FVRD, municipalities within the region, economic actors, and local communities. With administrative ease and minimal cost to

the regional district, this policy option is expected to increase economic diversification in both rural and urban areas. Also, this option is expected to not perform highly on the criterion efficiency due to the FVRD's inability to determine if economic actors, who receive funding, will engage in economic activity that also builds on the region's current initiatives.

The second policy option, developing an innovation hub, scored the lowest among all three policy options. For the key objective, effectiveness, the option ranked high and is expected to significantly increase economic diversification in the region. However, the option ranked medium for stakeholder acceptance because it is only likely to be endorsed economic actors and local communities due to the high-cost municipalities within the FVR will incur for developing an innovation hub. This option also ranked medium on the social objective equity because it is expected to only somewhat increase economic diversification in both rural and urban areas depending on what the innovation hub specializes in, such as the region's aerospace industry. When evaluating governmental objectives, this option ranked high on efficiency, medium on cost to government, and low on administrative complexity, indicating high administrative complexity. Although this option is expected to significantly build on the FVRD's initiatives and is a moderately affordable option for the FVRD, it is administratively complex to implement.

The third policy option, establish an economic diversification committee, tied for the highest score on the policy analysis. For the key objective, effectiveness, the option ranked medium and is expected to moderately increase economic diversification in the region. The option ranked high for stakeholder acceptance because all primary stakeholders have a high likelihood of endorsing this option. For the social objective equity, the option ranked high because it is expected to equally increase economic diversification in both rural and urban areas. When evaluating governmental objectives, this option ranked high on efficiency, and medium on cost to government and administrative complexity. This option is expected to significantly build on the FVRD's initiatives; however, it is costly and administratively complex for the FVRD to implement.

8.4 Recommendation

This capstone project makes three recommendations for the FVRD. First, the FVRD based on the policy analysis should update the district's website to include a staff-assisted directory for financial support. This option is expected to moderately increase economic diversification in equally in both rural and urban areas in the region and be supported by economic actors, municipalities, and local communities within the FVR. Although this option is expected to only moderately increase economic diversification and slightly build on the FVRD's initiatives, it ranks high among both the social and governmental objectives, especially in comparison to the other policy options. Economic geography literature and the jurisdictional scan findings both highlighted that connecting economic actors to financial supports was an effective policy to increase economic diversification. Moreover, the interview findings emphasized the importance of providing resources, such as financial supports to increase regional economic diversification. Therefore, this project recommends that this policy be implemented in the short-term.

Second, this project recommends that the FVRD also establish a regional economic diversification committee. The third policy option, economic diversification committee, tied for the highest score, amongst other policy options, on the policy analysis. Establishing a committee for economic diversification is important for helping the FVRD develop a regional growth strategy, amongst other strategies, plans, initiatives, that supports and promotes economic diversification. Additionally, a committee for economic diversification can indirectly enhance economic diversification through developing various programs, such as workshops, educational seminars, and marketing programs. Further, the jurisdictional scan findings highlighted the importance of committees and their ability to foster economic diversification.

Third, this project recommends that the FVRD create an innovation hub in the long-term because it is the most effective policy option for increasing economic diversification. This option ranked low on the policy analysis due to its administrative complexity, moderate cost to the FVRD, and a low likelihood of being endorsed by municipalities within the region. Increasing the FVR's economic diversification is important for protecting the region from economic shocks

and maintaining a stable economic through socio-economic benefits, which cannot be stressed enough. Further, economic geography literature and the jurisdictional scan findings indicated that innovation hubs were an effective option because it, like business accelerators and incubators, enhanced the success of business start-ups and spins and hence, increased economic diversification. Therefore, the FVRD should create an innovation hub as a long-term policy that builds on emerging industries in the region, such as the aerospace industry.

Chapter 9. Conclusion

The Fraser Valley Region (FVR) is at a crucial stage in its economic development and, through policies, can foster a resilient regional economy. Currently, the FVR has a specialized economy in agriculture (FVRD, 2017a). This project conducted a panel study of 157 Canadian regions and found that more diversified regional economies were more resilient. This project's findings support similar empirical studies in economic geography literature (Davies and Tonts, 2010; Frenken et al., 2007; Wolman et al., 2017). Regions that are less resilient to economic shocks experience more significant detrimental socio-economic effects, such as increased unemployment and a diminished tax base, when hit by an economic shock (Martin and Sunley, 2015). Therefore, to make the FVR more resilient to future economic shocks, the Fraser Valley Regional District (FVRD) needs to implement policies aimed at diversifying its economy.

This capstone project conducted a policy analysis to examine feasible policy options that the FVRD could implement to diversify the FVR's economy. This project recommends that the FVRD immediately develop a staff-assisted directory for financial support and establish an economic diversification committee, and in the long-term create an innovation hub. These recommendations would require the FVRD to update the region's website to include a directory of financial supports, establish a regional economic diversification committee, and create an innovation hub. Based on economic geography literature, jurisdictional scan findings, expert interview findings, and the policy analysis results, these recommended policies will increase the region’s economic diversification. Although regional economic diversification occurs over a long period of time, implementing these diversification policies is a step towards a more resilient regional economy.

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Appendix A: Initial Jurisdictional Scan Review

Table A. 1 Summary of Jurisdictional Scan's Economic Development Plan Selection Process

	Democratic Political Structure	Agricultural Economic Base	Wealth of Information	Regional Level	Pass? (Yes/No)
Newfoundland (Canada)	✓	✗	✓	✗	No
Northwest Territories (Canada)	✓	✓	✗	✗	No
White Horse (Canada)	✓	✓	✗	✗	No
West Vancouver (Canada)	✓	✗	✓	✗	No
North Vancouver (Canada)	✓	✗	✗	✗	No
Langley (Canada)	✓	✓	✓	✗	No*
Calgary (Canada)	✓	✗	✗	✗	No
Battle River Alliance (Canada)	✓	✓	✗	✓	No
Regina (Canada)	✓	✗	✗	✗	No
Middlesex (Canada)	✓	✓	✓	✓	Yes
North West Oregon (USA)	✓	✓	✓	✓	Yes
South Central Oregon (USA)	✓	✓	✗	✓	No
Columbia Gorge (USA)	✓	✓	✗	✓	No
Greater Eastern Oregon (USA)	✓	✓	✓	✓	Yes
South West Washington (USA)	✓	✓	✗	✓	No
Tri-County Washington (USA)	✓	✓	✗	✓	No
Central Puget Sound (USA)	✓	✓	✗	✓	No
South Central Lower Michigan (USA)	✓	✓	✓	✓	Yes
North East Michigan (USA)	✓	✓	✗	✓	No
West Michigan Shoreline (USA)	✓	✓	✗	✓	No

	Democratic Political Structure	Agricultural Economic Base	Wealth of Information	Regional Level	Pass? (Yes/No)
Western Upper Peninsula Michigan (USA)	✓	✓	✗	✓	No
Beartooth (USA)	✓	✓	✗	✓	No
Eastern Plains Montana (USA)	✓	✓	✗	✓	No
Tri-County Montana (USA)	✓	✓	✗	✓	No
Norrbotten County (Sweden)	✓	✗	✓	✓	No
Loddon Mallee (Australia)	✓	✓	✗	✓	No
Hume (Australia)	✓	✓	✗	✓	No
Gippsland (Australia)	✓	✓	✗	✓	No
Barwon South West (Australia)	✓	✓	✗	✓	No
Central West Region (Australia)	✓	✓	✗	✓	No
Tweed (Australia)	✓	✓	✗	✓	No
Galway (Ireland)	✓	✓	✗	✓	No
Offaly County (Ireland)	✓	✓	✗	✓	No
Wicklow County (Ireland)	✓	✓	✗	✓	No
Kilkenny County (Ireland)	✓	✓	✗	✓	No
Kerry (Ireland)	✓	✓	✗	✓	No
Limerick (Ireland)	✓	✓	✗	✓	No
West Coast Region (New Zealand)	✓	✗	✗	✓	No
Hawke's Bay (New Zealand)	✓	✓	✗	✓	No

*The criterion of jurisdictions being at the regional level were relaxed to allow another Canadian jurisdiction in the case study, which allowed the City of Langley to be included.

Appendix B: Expert Interview Questions

All the interviewees were asked six questions:

1. In your opinion, what are the critical selection criteria when choosing regional economic diversification policies to examine? (Selection criteria are essential criteria characterizes for policy options to possess.)
2. In your opinion, what are the critical evaluation criteria and measures for evaluating regional economic diversification policies? (Evaluation criteria are criteria used to assess and measure the qualities of potential policy options.)
3. In your opinion, what specific diversification policies are foundational for regional economic diversification? And why?
4. In your opinion, what specific diversification policies are the most effective for regional economic diversification? And why?
5. In your opinion, what specific diversification policies are least effective for regional economic diversification? And why?
6. In your opinion, do you think that related or unrelated diversification is more important for regional economic resilience? And why?

Regional planners were asked an additional three questions:

1. What steps, if any, has your department taken to diversify their regional/local economy?
2. If your department focuses on regional economic diversification, what are the objectives your department aims to achieve through its diversification strategy/plan?
3. If your department focuses on regional economic diversification, do the diversification strategy/plan include policies that aim to diversify rural areas, urban areas, or both?

Appendix C: Socio-Economic Profile

City of Langley, British Columbia, Canada – Socio-economic Profile

The City of Langley (henceforth Langley) is located in the Lower Mainland of British Columbia, Canada. As of 2015, Langley had a population of 27,740 and, from 1996 to 2015, experienced a population growth of 18 percent (or 4,993 residents). Langley's population is projected to grow at a higher rate than Metro Vancouver's and British Columbia's growth rate. Like most cities and regions in Canada, Langley's labour force is moving away from occupations in the goods-producing industries and towards service occupations. The retail and commercial sector is the largest contributor to Langley's employment base, accounting for approximately 56 percent of all jobs. Businesses play a larger role in the City's economy, with 80 percent of new jobs created by existing businesses. However, approximately 3 in 4 of city residents in the labour four commutes outside the City for work. The mobility of the labour force indicates the need for economic development to maintain and improve Langley's wealth and wellbeing (City of Langley, 2016).

Middlesex County, Ontario, Canada – Socio-economic Profile

Middlesex County is located in southern Ontario, Canada. Although London is in Middlesex County, the regional economic development plan (EDP) is for the whole County except London because London has its now economic development planning department. As of 2011, the County had a population of 73,000, which grew by 4.4 percent since 2006 and is projected to grow to 79,080 by 2021. Although the County's population has grown, from 2006 to 2011, its labour force has declined by 2.1 percent (830 workers), and unemployment increased by 38.6 percent (614 workers). However, during this period, the County had a lower unemployment rate than the London Economic Region and Ontario. These trends suggest that the Middlesex County has a tight labour market (Middlesex County, 2014).

Middlesex County has a diverse economic base. The five main sectors in Middlesex county are manufacturing, retail trade, construction, healthcare and social assistance, agriculture, fishing, forestry, and hunting. The County has experienced a decline in employment in all five sectors, except healthcare, with the largest decline in agriculture and manufacturing. The County also experienced a small decline in the number of businesses operating in Middlesex County by 0.3 percent (or seven firms) from 2008 to 2012. However, the County experienced a 7.0 percent (3,784 firms) increase in the sole proprietor and home-based businesses, with 79 percent of all businesses having fewer than ten employees. Like most cities and regions in Canada, these trends reflect the County's shift away from goods-producing occupations towards service occupations (Middlesex County, 2014).

North West Oregon, Oregon, United States of America – Socio-economic Profile

North West Oregon is connected to the greater Portland metropolitan area in Oregon in the United States of America. In 2016, the Region had a population of 161,200. From 2010 to 2016, the Region's population grew by 10 percent (or 16,120 residents). As of 2016, the Region also had a labour force of approximately 91,700. The Region's unemployment rate has declined by eight percent from 2010 to 2017. A low unemployment rate and a three percent growth rate in 2018 indicate that the Region has a tight market (NW Oregon, 2018).

The Region has a diverse resource-based economy. Four main clusters in the Region support its economy: timber and value-added forest products, fishery and seafood processing, agriculture and food processing, and tourism. Although the Region has a natural resource economic base, most employment is in the service, retail, and manufacturing sectors. From 2013 to 2017, the Region experienced the most growth in employment in professional services and construction industries of 30 percent and 21 percent, respectively. However, as residents seek employment outside the Region, there has been increasing pressure on the Region to diversify its economy. Small businesses are also an essential part of the Region's economic composition, with 57 percent of private businesses having fewer than five employees (NW Oregon, 2018).

Greater Eastern Oregon, Oregon, United States of America – Socio-economic Profile

Greater Eastern Oregon is located in the state of Oregon in the United States of America. In 2014, the Region had an estimated population of 140,792. From 2010 to 2013, the Region's population grew by 1.7 percent (or 2276 residents). Although the Region has experienced an increase in its population, its labour force shrunk. From 2003 to 2013, the Region's labour force participation declined by 6 percent (or 3,863 workers), while Oregon and the United States of America's labour force participation increased. Concurrently, the Region's unemployment rate also declined. According to the Region's economic development plan (EDP), these socio-demographic trends indicate a declining job base and a shrinking labour pool need to fill jobs (GEODC, 2014).

Greater Eastern Oregon's economy is primarily resource-based but has diversified into other sectors over the last decade. The Region's primary resource-based economic activity is in the agricultural and forestry sectors, with growing manufacturing and healthcare and social assistance sectors. The largest employer in the Region is the government, which accounts for 25 percent of employment. Small businesses are also a critical component of the Region's economy, with 50 percent of all businesses having fewer than five employees (GEODC, 2014).

South Central Lower Michigan, Michigan, Unite States of America – Socio-economic Profile

South Central Lower Michigan is located in the state of Michigan in the United States of America. In 2015, the Region had a population of 304,839. From 2010 to 2015, the Region's population declined by 0.6 percent (or 1,829 residents), whereas Michigan's and the United States of America's population increased during the same period by 0.2 percent and 2.5 percent, respectively. Further, the Region's population is projected to continue declining to 298,503 by 2040 (Bauman and Gozdiff, 2017).

Following the Region's population trends, from 2006 to 2015, the labour force supply has experienced a decline of 8,825 workers. There was also a decline in the number of businesses in

the Region. From 2005 to 2015, the Region lost 971 businesses, with the largest decline occurring in the retail and construction sectors. This decline occurred in most sectors throughout the Region. However, the healthcare and information sectors experienced an increase in the number of businesses by 15.8% and 26.3%, respectfully. In contrast to the socio-demographic trends, the amount of unemployment in the Region declined from 21,562 in 2009 to 7,081 in 2015. Although unemployment has declined, the Region has experienced a decline in its population, labour force, and the number of businesses, which according to the Greater Eastern Michigan's economic development plan (EDP), indicates a need to develop for economic development to attempt to reverse these trends (Bauman and Gozdiff, 2017).

Appendix D: Selection Process of Policy Options

Table D.1 Summary of the Policy Option Selection Process

Policy Themes	Policy Options	Selection Criteria			Pass? (Yes/No)
		Builds on Regional Capabilities	Provides Resources for Business Start-ups, Spin-offs, and Expansions	Expands and Attracts Businesses	
Marketing	Website	✓	✓	✗	No
	Trade Mission	✓	✗	✓	No
	Research	✓	✓	✗	No
Support an Entrepreneur Culture	Business Development Resources	✓	✗	✗	No
	Internet Toolkits	✓	✓	✗	No
	Incubators	✓	✗	✗	No
	Accelerator	✓	✗	✗	No
Targeted Growth	Destination Retail Stores	✗	✓	✗	No
	Tourism	✓	✓	✗	No
	Agriculture	✓	✓	✗	No
Financial Support	Tax Incentives	✓	✗	✗	No
	Connect Economic Actors to Financial Assistance	✓	✓	✓	Yes
	Invest in Capital Assets	✓	✗	✗	No
	Regional Financing	✓	✓	✗	No

Policy Themes	Policy Options	Selection Criteria			Pass? (Yes/No)
		Builds on Regional Capabilities	Provides Resources for Business Start-ups, Spin-offs, and Expansions	Expands and Attracts Businesses	
External Events	Innovation Hub	✓	✓	✓	Yes
	Educational Summit	✓	✓	✓	Yes
	Workshops/ Seminars	✓	✓	✗	No
Economic Development Committees	Committee for Economic Diversification	✓	✓	✓	Yes
	Agriculture and Tourism Advisory Committee	✓	✓	✗	No

SMEs = Small and Medium-sized Enterprises