B.C. Resource Communities:

Assessing Restructuring Processes and Local Responses

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Brandon J. Young
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Name:	**Brandon J. Young**
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Examining Committee:	Dr. Nicholas Blomley, Chair Professor, Geography

Dr. John T. Pierce, Senior Supervisor
Professor, Dean pro tem, Faculty of Environment

Dr. Alison Margaret Gill, Supervisor
Professor, Geography

Dr. Greg Halseth, External Examiner
Professor, Geography
University of Northern British Columbia, Prince George

Date Approved: **July 10, 2009**

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Abstract

This thesis investigates how the effects of restructuring are influencing rural British Columbia communities. A principal component of a communities potential to positively manage restructuring is economic diversification. This analysis employs a mixed-method methodology to better understand the comparative influences of key factors in the economic diversification of rural B.C. Quantitatively, linear regressions are used to correlate three measures of diversification to eleven independent variables. Qualitatively, municipal economic development officers (EDOs) in eight B.C. communities are interviewed. This thesis suggests that EDOs will continue to play a vital role in the diversification of communities. The future success of diversification, however, is dependent on several factors: a greater understanding of the complex interactions between municipal development officers and other entities involved in diversification; increasing the leadership of rural citizens; educating rural citizens to the benefits of diversification; and securing stable, long-term funding from all levels of government.

Dedication

This thesis is dedicated to my two beautiful children, Corbin Joseph Young and Elizabeth Aileen Young. I hope this thesis opens many new opportunities to a much more prosperous future together.

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List of Abbreviations

AAC	Annual Allowable Cut
CEAI	Community Economic Adjustment Initiative
CDC	Community Development Corporation
CED	Community economic development
CEDI	Community Economic Diversification Initiative
CFBC	Community Futures BC
CPR	Canadian Pacific Railway
CSD	Census Sub-Divisions
Div	Diversification Ratios (one of the DVs)
DV	Dependent variable
ED	Economic development
EDO	Economic development officer
EI	Employment Insurance
FIRE	Finance, insurance, real estate, and service jobs
For	Forest Vulnerability Index, equivalent to FVI (one of the DVs)
FRP	Forest Revitalization Plan
FVI	Forest Vulnerability Index, equivalent to For
F_Dep	Forestry Income Dependency
GAI	Golden Area Initiative
GDP	Gross Domestic Product
Gov	Percentage of income dependent on total government (one of the IVs)
Inc	Median Personal Income, divided by 1000 (one of the IVs)
IV	Independent variable
KRREA	Kootenay Rockies Regional Economic Alliance
LA	Local Area
LD	Local development
LRMP	Land and Resource Management Planning
MTTED	Ministry of Technology, Trade and Economic Development
NB_Inc	Nonbasic Income Ratios (one of the DVs)
NDIT	Northern Development Initiative Trust
NDP	New Democratic Party
Pop	Total population, divided by 1000 (one of the IVs)
Pub	Percentage of income dependent on public administration (one of the IVs)
P_20_29	Percentage of population between the ages of 20 and 29 (one of the IVs)
QCEDC	Quesnel CED Corporation
REDI-BC	Rural Economic Diversification Initiative – BC
REI	Regional Economic Initiative
R_C	Distance to regional centre, per 100km (one of the IVs)
SDIT	Southern Development Initiative Trust
Sen	Percentage of population 65 years of age and older (one of the IVs)
SMZ	Special Management Zones
STC	Distance to Southern Transportation Corridors, per 100km (one of the IVs)
S.T.C.	Southern Transportation Corridors

TFL	Tree Farm License
Tran	Percentage of income from government transfers (one of the IVs)
U_E	Unemployment Rate (one of the IVs)
Van	Distance to Vancouver, per 100km (one of the IVs)
WD	Western Economic Diversification Canada
WDP	Western Diversification Program
WEPA	Western Economic Partnership Agreements
_A	Suffix indicates that the DV covers all 59 LAs and 17 sub-regions
_B	Suffix indicates that the DV covers only the 59 LAs

CHAPTER 1.
Introduction: Communities in Transition

1.1 Economic Restructuring and Community Resilience

For the last twenty-plus years the British Columbian economy has been affected by numerous dynamic forces of change. These forces have changed both the composition and structure of the provincial economy. The major forces at play include: changes in regional funding (public spending); capital intensification; increased global competition; falldown in resource stocks; increased environmental consciousness; increased U.S. protectionism; and aboriginal land-claim issues (Barnes et al. 2001; Marchak 1983; Markey et al. 2005). These forces operate under the umbrella term of *economic restructuring* (Hayter 2000). The effects of these forces have been particularly felt by those communities in the province that rely on resource extraction as their primary source of economic wealth.

British Columbia resource communities have not been passive receptors to the vagaries of economic restructuring that have wrecked havoc upon them (Barnes and Hayter 1992; Barnes et al. 2001; Markey et al. 2005). From the start, resource communities and the citizens within them were resilient. This resilience started with a will to not let their communities die: even without the previous economic engines of their communities running and the economy in turmoil some citizens refused to abandon their communities (Barnes and Hayter 1994). With time it started to become clear to some of the citizens that to limit future economic busts the economic bases of their communities needed to become more diversified (Markey et al. 2005).

The historic wealth generated from natural resources, both within and outside resource communities, complicates accomplishing diversification. The traditional top-down power structure in resource communities also makes local change difficult to achieve. Staples theory will be employed in the next chapter to help further elaborate and explain these and other forces of resistance to change. Staples theory can be used to help understand the historical resource dependence of both Canada and B.C. Internationally,

Canada can be seen as an exporting region (hinterland) that supplies resources to its more developed and powerful metropoles (primarily the U.S., but also Europe and Japan). Within B.C., the southwest metropole can be viewed as a micro-metropole for the remainder of the predominantly rural hinterland. The first empirical focus of this research is to quantitatively correlate resource dependency and economic diversification variables (dependent variables) to key spatial, demographic and economic variables (independent variables) using linear regression. The choice of dependent and independent variables was primarily based upon the findings of the literature review and data availability. Staples theory and the forces of economic restructuring can be applied to all resource extracting and exporting activities. Thus, all regions in B.C., with the exception of the urban southwest metropole, will be included in the statistical analysis (see section 1.3).

Changes in the economic bases of communities can originate externally or internally. The benefits and drawbacks of economic change that originate from within communities – local development (LD) [1] – vis-à-vis externally-derived change will also be discussed in the next chapter. It will be argued that LD is potentially more beneficial compared to externally-derived economic change. Arguably the most germane benefit of LD is its potential to reverse the most common structure of control and power within resource communities: instead of resting predominately with big, often foreign-owned companies and external governments the balance of power is tipped more towards the community's favour (Innis 1946; Markey et al. 2005). Power transfers not only to local government and local economic development agencies but to all citizens of the community, including business people, local leaders and entrepreneurs. The second empirical focus of this research is a qualitative investigation of the ability of B.C. community's to bring about LD. Qualitatively investigating all of the regions analyzed quantitatively is not feasible. A particular subset of these regions, eight interior forestry dependent communities, will instead be investigated (see section 1.3).

1.2 Purpose and Objectives

[1] See section 2.8 for a more detailed discussion of local development.

The purpose of this research, in the broadest of terms, is to better understand the forces of change affecting resource communities. The applied objective of this research is to try and assist communities in being able to create positive economic change from within. The forces affecting resource communities are powerful and entrenched. Nevertheless, it is hoped that this research will: provide at least some useful information that will assist resource communities towards greater economic independence; and provide new avenues for future research. To help facilitate this, the final results of this research will be shared with the research participants. The theoretical objective of this research is to contribute to the knowledge base of the interrelated themes of economic dependency, diversification and local economic development. Parts of the research can be viewed as both extending and diversifying research undertaken in the monograph *Second Growth.* Increasing the theoretical bases of bodies of knowledge also increases the efficacy of them. The authors of *Second Growth* (Markey et al. 2005, 4) explain the reasoning as follows:

> "To extrapolate "best practices," and to narrow our understanding of the relationships between different contextual circumstances and local development implementation will provide practitioners with useful information and examples".

The results of this will hopefully provide insights into ways of improving the policy of local government economic agencies, to be discussed in the conclusion.

1.2.1 Research Questions

The principal research question is: *What are the relative influences of, on the one hand, key economic, demographic and geographic variables and, on the other hand, economic development entities upon the economic diversification of rural B.C. with special emphasis on interior forestry communities?*

A number of sub-questions help to clarify and operationalize this principal research question. The sub-questions can be grouped based upon the two different empirical emphases of this thesis. Quantitatively, the following sub-questions are asked:

- *What are the key variables behind both economic diversification and forestry dependence?* This question will first be addressed in the literature review and will help identify potential independent variables.

- *Of the key variables identified above, which ones can be successfully used in this study?* The selection of independent variables needs to be based on data availability and other data constraints. This will identify the independent variables used in this study.
- *What is the relative importance (degree of correlation) and significance of these variables to the dependent variables?* This question is the basis for all of the statistical analyses that will be discussed in chapter 4.
- *How do the statistical results of this research compare to the existing body of knowledge?* This helps strengthen the results and identify gaps in the literature.

Qualitatively, the following sub-questions are asked:

- *What is the geographical, historical and economic setting of the eight interior forestry communities?* This will help explain how place-based factors influence economic development. This question is the basis of the community settings discussion in chapter 5. This will provide context for the discussion in the remainder of the chapter, including comparisons between communities.
- *Does there appear to be any correlation between recent economic success in any of the eight communities and specific local development policies and initiatives? What similarities and differences exist among the economic policies of the eight communities?* These last two questions will help identify factors and local policies that have been relatively more successful at bringing about diversification and change and those that have had negative effects.
- *From whence do economic initiatives originate and what role does local leadership and entrepreneurialism play in this?* External factors still play a key role in economic development in rural B.C. and likely will for the foreseeable future (to the chagrin of ardent LD supporters). Thus the interaction of external actors with local actors is a key to the (at least immediate) future success of LD.

Finally, the following sub-question is asked:

- *What are the benefits of mixed-methods and data triangulation?* This will help tie together the two empirical chapters and allow for reflections on the efficacy of mixed-method research designs. By looking at both sets of empirical data it is hoped that generalizations about local economic change can be made.

The research undertaken will thus be mixed-method in nature. Quantitatively, there will be an analysis of key spatial, demographic, economic, and diversification measures. Qualitatively, these results and a case study will be used to help better understand the differences and similarities among the eight communities investigated.

Numerous case studies have investigated the responses of local resource dependent communities to external economic shocks[2]. These studies, however, have primarily studied communities in isolation from one another. Each community has been treated as a separate entity in relative isolation to the rest of province, state or nation. By simultaneously investigating the multiple local responses of different resource dependent communities to external economic shocks it is hoped this research will add an extensive research contribution to this field of inquiry.

There are multiple sources, or factors, that bring about change locally. The specific focus of this research is the role of local economic development agencies. These are local agencies, generally integrated in some capacity with the municipal government, whose mandates are to enhance economic prosperity from within. Most often these bodies are led by an economic development officer (EDO). It is these local planning agencies that will be the primary focus of the qualitative research undertaken in this project via in-depth interviews of their managers. Economic development agencies, of course, are not the sole source of internal economic change. Other factors will also be considered including local business actors and community citizens. External government can also have an enormous impact upon local development agents and these former agents will also be considered. These other agents of change, however, will primarily be analyzed through the EDO interviews.

The research questions of this thesis are partly based on trying to generate explanations that can help answer the following question: *why do some communities fail while seemingly similar ones prosper?* If the external conditions of a given set of communities are fairly similar, as is the case with the eight forestry communities examined in this research, then another place to look for potential differences between such a set of communities would be the internal conditions of these communities. By accounting for these differences in the internal reactions of communities to change, it is

[2] See chapter 2 for a detailed discussion of these studies, especially sections 2.2 and 2.4.

hoped that knowledge can be gleaned concerning reactions that have led to positive change and to prosperity. Identifying causation is difficult and thus the focus is not so much on the types of changes (that have been successful or not) but on the factors that have aided or retarded such internally-derived change. This same broad question has been asked by other researchers, to varying degrees of complexity, not only in relation to forestry communities but for all types of communities: urban/rural; small population/large; remote/central, mining dependent, fishing dependent, etc[3]…

1.3 Rural B.C. and the Chapter Five Study Communities

The geographical coverage of the quantitative chapter (4) constitutes the hinterland regions of B.C. There is no agreement on the definition of hinterland, or rural, B.C., nor is there agreement on the definition of the metropole, or urban, region(s) in B.C. Staples theory, a principal theoretical framework of this thesis, generally envisions the southwest corner of the province as the only metropole (Markey et al. 2005). This particular bifurcation of the province will be employed in this thesis. Even within staples theory, however, there is no precise agreed upon boundary for the southwest metropole. The southwest metropole, for the purposes of this research, includes all of the Greater Vancouver Regional District and the municipalities of Mission and Abbotsford (all coterminous and located on the mainland of B.C.) and the Capital Regional District (only municipalities located on Vancouver Island), excluding the municipalities of Sooke and Port Renfrew[4]. The remaining area of the province is thus considered the hinterland. This hinterland region is further divided into 59 local areas. The dependent and independent variables used in the linear regressions are calculated based on these local areas. This 'rural' hinterland region, however, is not uniformly rural; within it there is a continuum of development from undeveloped wilderness reserves to a city with over one hundred thousand people. This discrepancy was partly accounted for with a dependent variable that measures the distance of the 59 local areas to their closest 'regional centre' (see figure 1.1).

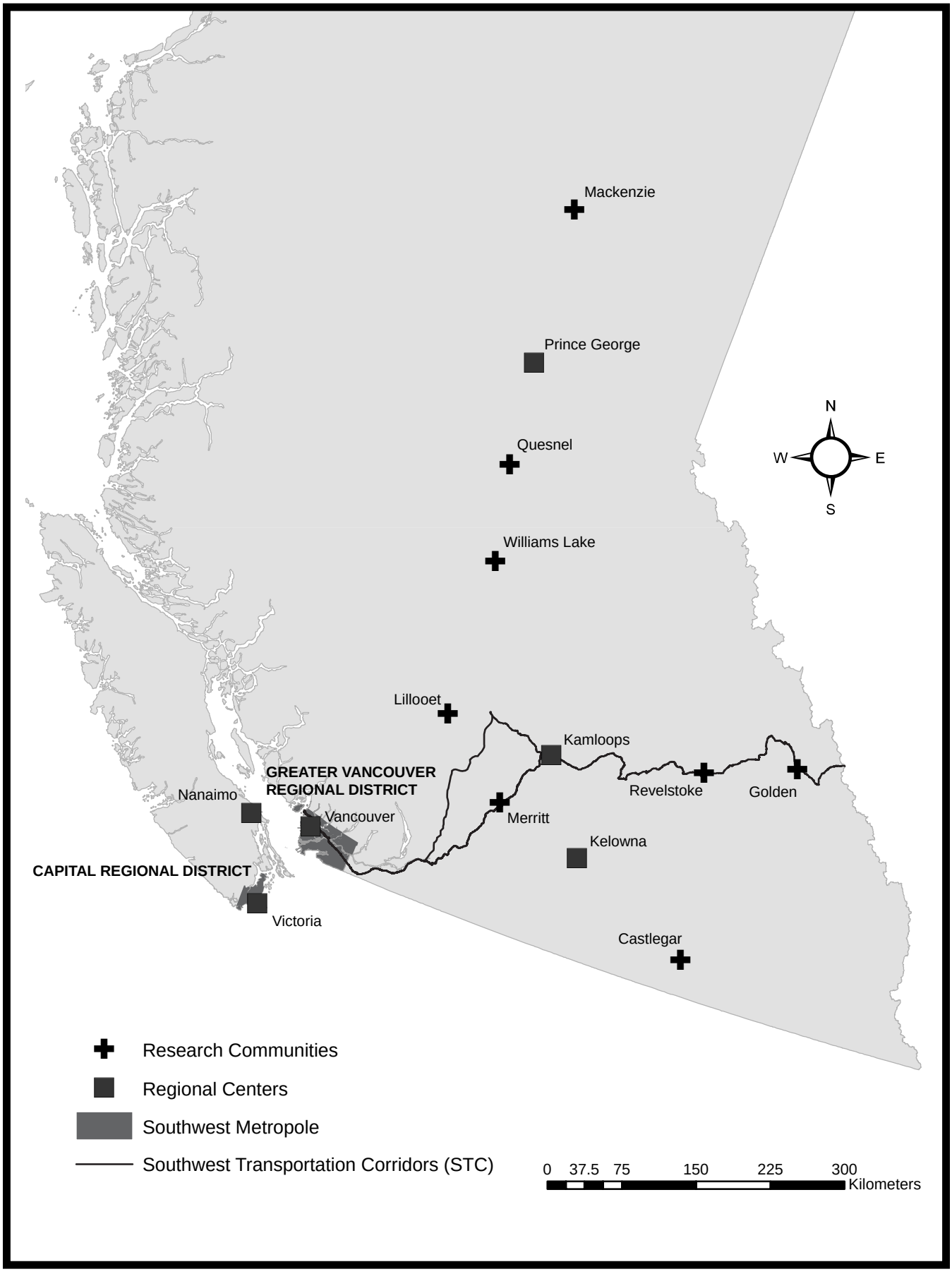
[3] For a sampling, see: Barnes and Hayter 1994; Barnes et al. 2001; Markey et al. 2005; Power 1996; Rockandel 2005. This question is not solely the interest of academia – it has also garnered quite the attention of the general public in recent years: for example, see Diamond (1997, 2005).

[4] For a more detailed discussion of the reasoning behind the precise geographical coverage of the southwest metropole employed in this particular thesis see chapter 4.

The geographical coverage of the qualitative analysis (chapter 5) is less extensive than in the quantitative analysis (chapter 4). To best facilitate comparisons between the results from the two empirical chapters, all of the local areas investigated in the quantitative analysis would ideally be investigated qualitatively. Unfortunately, this is not possible given the time and space available within this research project. As the historical backbone of the provincial economy, forestry communities in B.C. have been extensively researched. This body of knowledge provides a solid foundation that facilitates comparisons between communities, which is a research sub-question. Consequently, only communities with high forestry dependence (over 20% of income dependent on forestry in 2001) were considered. Furthermore, as size increases the internal economic complexity of communities also generally increases. By selecting only smaller sized communities (under 20,000), potential complexities between communities are also potentially reduced. This facilitates the selection of similar communities, which is also a research sub-question.

In chapter 5, EDO interviews are the principal data collection method, and as such, for a community to be considered for investigation it needs to have a local government economic planning agency. This requirement eliminates the very smallest of communities. Finally, within B.C, the histories, economic compositions and underlying forces of change are broadly different between coastal forestry communities and interior forestry communities (Hayter 2000; Marchak 1983). To facilitate comparisons in the success of development policies between communities (a research sub-question), the underlying economic conditions of the communities should ideally be minimized. Consequently, only interior forestry dependent communities in B.C. were considered. The choice of interior communities is twofold. First, coastal forestry communities have arguably been more extensively researched already than their interior counterparts. There is thus a comparative lack of knowledge of the latter. Second, the research being undertaken builds upon the prior research of Markey et al. (2005) who also investigated only interior forestry dependent communities. Through this selection process, eight communities were chosen for investigation in chapter 5: Merritt, Lillooet, Castlegar, Revelstoke, Golden, Williams Lake, Quesnel and Mackenzie (see figure 1.1 for their locations within B.C.).

Figure 1.1: Map of B.C.



1.4 B.C. Forestry

Forestry has left a lasting legacy on all of British Columbia, including both rural and urban areas. This dichotomous legacy has both positive and negative outcomes across both time and space. Throughout much of the last century, various abundant (or at least they were perceived to be) natural resources fueled growth within both the resource communities of B.C. that extracted them and the metropolitan areas of the provinces to which most of the money from the resources eventually flowed (Marchak 1983). Forestry fueled this economic 'long boom'. The causes of this long boom are complex but can be summarized as a fortuitous coming together of different forces after WWII including geography, ecology, technology, history and institutions. A generally strong provincial economy meant the people of the province were both financially sound and psychologically content (Hayter and Barnes 1990). Forestry brought large wealth to not only forestry dependent communities but also to the province in general: it has traditionally been the largest single employer of British Columbian's and contributed more than any other industry to provincial coffers (Hayter 2000; Marchak 1983). However, the economy was not continuously booming during this period. There were downturns, but these busts were generally short lived and minor. Over time many people began to assume that this boom and bust net growth cycle would continue indefinitely.

Starting in the 1970s, however, the numerous dynamic forces of economic restructuring discussed above began to tear through the province (Markey et al. 2005). This culminated in the early 1980s with a severe and prolonged recession. The economic consequences of this recession were severe for both the citizens of B.C. and the provincial government. Mills and mines stopped operating, people were laid off and families lost their homes (Barnes et al. 2001; Rockandel 2005). It was thus not only economic misery but also social misery writ large. Prior to this time, busts were only temporary, booms dominated and the overall trend was long-term positive growth. The consequences of this recession were not only economic: it also forced B.C. residents to contemplate the negative consequences of economic specialization. The previous disinterest of the population towards the economy and their assumption of continued growth were severely shaken. This was no truer than in small single industry communities (Markey et al. 2005). Indeed, the very economic foundation on which

numerous single resource communities in the province rested seemed to be in dire jeopardy. As a result of resource dependency, communities had very little to fall back on when the price and demand for resources dropped during the recession and their economies suffered. Forestry, the traditional backbone of the B.C. economy, was particularly hard hit including the numerous forestry dependent communities spread throughout the entire non-metropolitan area of the province (Hayter and Barnes 1990).

A consequence of the 1980s recession was that communities began to look at ways of expanding the foundations of their economies, that is, at diversifying, more so than they ever had in the past (Markey et al. 2005). It soon became clear in this research that by no means do all residents of resource communities desire change, nor do they all desire the same types of change. Resistance to change can be powerful in resource communities as the wealth of booms makes palpable for many the misery of busts. This resistance to change can be so intense that some researchers have described boom-and-bust economies as being addictive (Freudenburg 1992). The addictive nature of booms is but one reason for this resistance. The internal reactions of resource communities consequently vary as do their economic fortunes.

1.5 Smallness and Rurality

As a consequence of the research design, all of the communities investigated in detail in chapter 5 had small populations. Smallness has both economic and social implications. An example of the latter includes the commonly taken for granted belief that small communities are more socially intertwined than is generally the case compared to larger ones (Markey et al. 2005; Pratt 1996). However, many researchers who have investigated this phenomenon are critical of it (Harper 1989; Pratt 1996). For them, there is a continuum of both rural and urban social structures that can be found in any space.

Smallness has far reaching implications on community economies and on the ability of communities to control their own economic destinies, which are key topics of interest here. A small population base hinders a community's ability to develop a diversified and large service base, something that is necessary for a community to diversify (Watkins 1963). It also limits the types of economic development strategies and projects that are financially feasible (Flora and Flora 1991). The limited financial

resources of small communities also results in both a smaller labour pool from which to draw potential citizen activists and volunteers and smaller economic development agency staff levels than would be possible in larger sized communities. Indeed, the smallest, and thus most vulnerable, resource dependent communities are too small to financially support local economic development agencies. In such situations it is often the mayor of the community who directly takes responsibility for economic development, regardless of the knowledge base that they may have (Walzer and Gruidl 1991). These communities, by default of not having an EDO, cannot be investigated in this thesis given its research design. Smallness thus hinders the ability of small communities to successfully deal with both local development and economic diversification.

The relative isolation that most often comes with being a *rural* community also has implications on the ability of small communities to bring about internal economic change. Isolation not only operates through distance to larger communities (of which there is a hierarchy as one measures distance to larger and larger communities) but also through distance to major transportation corridors. Arguably, the most important road corridors in B.C. are the Southern Transportation Corridors (figure 1.1). The most pertinent consequences of isolation in regards to this research are the increased difficulties rural communities face trying to attract new citizens, capital, tourists and the attention of higher levels of government compared to more metropolitan communities[5]. The more isolated a community is the more exacerbated the difficulties become. The effects of both smallness and rurality became readily apparent during the research and as such both of these topics will be addressed throughout the remainder of this thesis.

1.6 Themes

Three concepts, dependency, agency and change, will play a major role both in the literature review and in the empirical research results. *Dependency*, through a combination of the shared geographies and histories of the forestry communities in this research, has resulted in both economic and social difficulties for these communities, especially since the recession of the early 1980s. This has necessitated *change* if these

[5] 'Metropolitan' used in this sense could also include the relatively large cities of Kelowna, Kamloops and Prince George located in the interior of the province and Nanaimo on Vancouver Island, as well as the traditional southwestern metropolitan core of Vancouver/Victoria (see section 4.3).

communities are to continue to prosper in the future. *Agency* in the form of local actors being able to control their own economic futures is the mechanism that is investigated in this research as a possible catalyst to realize this change. These themes are similar to the ones employed by Markey et al. (2005).

1.7 Summary

The effects of economic restructuring on small resource communities have been both extensive and intensive. Communities, however, have not always been passive receptors to these effects; as the influence of these effects increase, as they have recently, many communities have become more active at trying to control their own economic destinies, especially through local development and economic diversification. This thesis employs a mixed-method methodology to investigate both the forces of economic diversification (chapter 4) and the actions of EDO personnel and other actors who are trying to achieve economic diversification (chapter 5). The applied objective of this research is to contribute insights that may help communities create positive economic change by themselves. This will be accomplished through statistical analyses and a multiple, embedded case study, the methodologies of which will be discussed in chapter 3. The concepts of smallness, rurality and community and the key themes of dependency, agency and change will be continually employed to help facilitate and guide this thesis. The next chapter (chapter 2) will investigate the academic and theoretical underpinnings of these concepts and themes and those of staples theory and economic development, which combined will act as the foundation for all of the discussions in the following chapters.

CHAPTER 2.
Literature Review

2.1 Introduction

The broad investigation of the literature review both grounds the forthcoming investigations of this thesis in their academic context and uncovers lacunae in this established academic literature. These gaps in the existing body of knowledge and the body of knowledge itself also influence purposes and objectives that would be appropriate for investigation. There is thus a recursive relationship between the literature review and the purposes and objectives. For this thesis, the literature review covers a wide range of economic, geographic, historic and social topics and concepts. The first topic of investigation is the evolution of the B.C. forest industry. The primary school of thought employed in this thesis, staples theory, will then be examined, first in general terms and then in the context of B.C. Although it is not the only relevant theoretical framework, the literature review will show why it is appropriate in the context of this thesis. The first two sections provide the overarching framework for this thesis. These sections also introduce several important concepts – community, resource, economic diversification and local development – which require additional review in the final sections of this chapter. The specific material of each section thus builds upon the discussion of previous sections and influences proceeding sections.

2.2 Forestry in British Columbia

Resources, of which forestry has been the most important for the last hundred years, have been the historical backbone of the B.C. economy (Pierce 2000). Forestry has brought great wealth to the provincial economy in the form of resource rents, has employed thousands and has been the principal economic base for dozens of forestry dependent communities throughout the province (Hayter 2000; Marchak 1983). This ‘green gold’, as Marchak (1983) calls it, has also resulted in environmental degradation to the forest and surrounding ecosystems and rivers (Green 2000; Marchak et al. 1999;

M'Gonigle and Parfitt 1994) as well as economic dependency and community instability (Markey et al. 2005). The forest industry in B.C. is historically rich, temporally varied and conceptually complex. The intent of this section is to briefly discuss this complexity. Thus, the key elements of the history of forestry in B.C. will be investigated. Focus will be placed on the interactions of government, business and local communities. The following section will then introduce an explanatory theory – staples theory – to help interpret this resource's history and geography.

Canada is a classic example of a small open economy (Barnes 1996). In 1992, nearly 25% of the nations GDP came from exports. This same figure for the U.S. and Japan is 10.5% and 10.4%, respectively. Furthermore, four-fifths of trade is with one single nation – the U.S. In the case of B.C. the principal item of trade are resources (Hayter and Barnes 1990). The three most important being forest products, minerals and energy, which together in 2000 accounted for 71% of B.C.'s total exports and 19.7% of its GDP (Markey et al. 2005). Of these three, forestry is king. In 2008, forestry was the largest single employer in the province (accounting for 4% of total employment) and it remains B.C.'s most important export commodity (BC Stats 2008). Furthermore, federal, provincial and municipals governments received $4.2 billion in 1999 through forest royalties and various taxes from the B.C. forest industry (Markey et al. 2005). However, the importance of forestry to the B.C. economy has been steadily declining: in 1990 it accounted for 6% of total employment and from 1990 until 2008 the proportion of provincial GDP dependent upon[6] it declined from 11% to 6% (BC Stats 2008).

Forests cover 59 million hectares of British Columbia's landmass, the largest ecosystem type in the province (BC Ministry of Forests 1996). Of this, just under half is considered commercially important and available for timber cutting. The primary industrial outputs of B.C. forestry are construction-grade lumber and kraft pulp (Barnes 1996). Wood products account for approximately 60% of the forest industry in B.C., of which lumber accounts for 90% while plywood, shakes and particle-board account for the other 10% (Kukucha 2005). The remaining 40% of the industry is dominated by pulp and paper. One can see from these statistics that very little value-added or remanufacturing of wood products takes place within B.C. Since the 1970s the interior

[6] This includes both direct and indirect contributions (see section 4.2).

has dominated the forest sector in B.C., reversing the role that the coast had traditionally held from the start of industrial forestry in B.C. (Marchak 1983). The primary destination for wood products from B.C., like most trade in Canada, is the U.S. Japan is also an important destination, especially for coastal wood products (Hayter 2000; Kukucha 2005). The destination of pulp and paper is somewhat more diversified, although still dominated by the U.S., with additional exports to parts of the European Union and the Pacific Rim. The following discussion will describe how this large resource base rose to economic dominance through the interactions of various parties.

Throughout most of the first half of the twentieth century the forest policy of B.C. increasingly promoted large companies with long tenures. This was facilitated through numerous government studies and commissions culminating in the two Sloan Commissions (see appendix F for a discussion of this time period). Coinciding with the time period after the Sloan Commissions was the coming together of many forces that would result in a period of sustained and prosperous growth in the B.C. forest industry known as the 'long boom' (Barnes and Hayter 1992; Hayter 2000; Marchak 1983; Prudham 2007). The key ingredients of the long boom were geography, technology and institutions. The principles of sustained yield, liberal environmental standards and a constant market in the U.S. were the principal geographical factors. Technologically, it was the Fordist era that characterized the post-war world economy (Barnes and Hayter 1994; Hayter 2000). The leading characteristics of Fordism are: large, vertically integrated, oligopolistic corporations that derive economies of scale from mass producing long runs of standard products (Holmes 1987). Also in Fordist production, specialized machinery and workers do a limited amount of activities (Hayter 2000). The standard products in B.C. forestry, construction grade lumber and kraft pulp, are both easily mass produced using assembly-line techniques (Marchak 1983). Evidence of the oligopolistic nature of the industry is found in its high degree of corporate concentration. In 1974, for example, eight firms controlled 82% of the forest harvesting rights in B.C. (Barnes and Hayter 1992, 654). For Fordism to operate smoothly there needs to be large and expanding markets as well as secured resource access for uninterrupted mass production to occur (Barnes 1996). Canada had the secured resource (bountiful, albeit quickly depleting, forests) and the U.S. had the insatiable market for wood products: 1960 to

1973 was the golden age of international trade during which time Canadian exports grew ten percent annually (Barnes 1996, 52).

Institutionally, it was the idea of 'partners with industry' that made the long boom possible. Each partner, government, labour and (implicitly) the general public had a vested interest (primarily stable, high income) in stability and maintaining the status quo (Barnes and Hayter 1994; Marchak 1983). The government provided infrastructure, low cost access to B.C.'s forest base (via low stumpage fees) and a social welfare system (important during temporary economic downturns) (Hayter 2000). Organized labour provided the large labour pool required in Fordist mass production. They also, possibly because of the relatively high wages they earned given their skill sets, gave up "their right to control their labour practices for financial gain and stability of employment" (Barnes and Hayter 1992, 654). There was thus a relaxed tension during this time between organized labour and government, something that is relatively uncommon in B.C.'s history (Marchak 1983). It was this 'exploitation axis' of state-led scientific forest management, capitalistic forest extraction and a highly unionized and complacent workforce that made the long boom in B.C. forestry possible (Prudham 2007).

The exploitation axis began to break down during the later part of 1970s. Sustained yield was replaced in 1978 with AAC. The inexhaustible nature of B.C. forests began to be questioned as environmentalism began to grow, spearheaded by the Coalition for Responsible Forestry Legislation (Green 2000; Marchak 1983). Throughout the world, the foundations of Fordism started to give way to specialized production. A switch to flexible and specialized production was particularly difficult in B.C., however, because of the historical reliance of forestry on standardized products. The windfall of lumber from the Mountain Pine Beetle has only reinforced this standardized focus with the recent creation of even larger mills that produce even less specialized products (Markey et al. 2005). The growing neo-conservatism of the early 1980s began to erode the social safety net necessary to maintain Fordist production (Hayter 1997). All of these factors came to a tipping point during B.C.'s severe recession of the early 1980s. The main cause of the recession was a drop in demand (mostly by the U.S.) and price for B.C. forestry products (Barnes and Hayter 1994). As forestry was the primary industry in B.C., repercussions were felt throughout the entire B.C. economy. The statistics are

gloomy. Unemployment reached 14% in Vancouver and was estimated to be two to three times higher than this in resource communities; at its peak in 1982 twenty-three thousand workers lost their jobs (Barnes and Hayter 1992). In the early 1980s in Canada, the economy of B.C. was second only to Alberta, but by 1988 it had fallen below the national average (Markey et al. 2005). This was in contrast to the long boom when the problem was not with laying-off workers but with labour shortages (Barnes and Hayter 1994). The economy of B.C. did not return to pre-recession levels until 1986.

The 1980s recession in B.C. was not a regional event. Major changes in the world economy had started to take place during the 1970s including rapid and unanticipated increases in energy prices, stagflation and deep recessions that had shaken the foundation of Fordism and the world economy that had been dependent on it for growth over the previous three decades (Hayter 2000). Fordism was replaced with a post-Fordist or flexible production technological regime that although difficult and elusive to define was characterized by small runs of specialized products (Barnes 1996). Rather than vertically integrated plants there is vertical disintegration (Hayter 2000). Instead of doing a minimal amount of tasks both workers and machines need to be flexible and capable of doing multiple tasks incorporating computer technology. The forest industry in B.C., possibly because of the low profit margins of the industry, was slow to incorporate flexible production techniques, especially in the pulp and plywood industries where capital costs are very high (Barnes and Hayter 1992, 1997). Even recently Hayter (2000) notes that the shift to flexibility is contested and that within the B.C. forest industry there is a blend between mass production techniques, flexible production and flexibly specialized production.

The late 1970s and early 1980s (continuing to this day) was also a time of greatly increased competition within the international forest products industry (Hayter 2000; Markey et al. 2005). In B.C.'s case, the main source of this competition was from already established second growth forests in other parts of the world that had lower production costs (Marchak 1991). After 1973 there was also increased labour competition from low wage newly industrialized countries, made possible through the geographical reach of multinational corporations (the so-called new international division

of labour) (Barnes 1996). Local labour became more militant and demanding and the final result was the death of the exploitation axis and major changes to B.C. forestry.

Another principal force of change within the B.C. forest industry has been the increasing land claim demands of B.C. First Nations[7] (Hayter 2000, 2003; Markey et al. 2005). In most of B.C., the land title of First Nations people has been historically denied by the B.C. government. This has always been a point of contention for First Nations who began to take out their frustration over land claims in a more public manner starting with blockades in the mid-1970s, which peaked in 1990 when there was a total of thirty blockades in the province (Blomley 1996). Two recent legal decisions have greatly helped the First Nations cause: the 1990 *Sparrow* decision[8] stated that the Canadian constitution ensures First Nation access to resources, including forests, and the 1997 *Delgamuukw* decision[9] legally recognized First Nation title. This has resulted in the B.C. provincial government, especially the current Liberal administration, attempting to accelerate the B.C. treaty process, with limited success to date. The increased rights of First Nations have resulted in uncertainty regarding the access and rights to forest lands for both B.C. forestry companies and resource communities (Hayter 2000; Markey et al. 2005). Although the settling of land claims in the province will result in forest access reductions, the certainty that they will bring will help build stability and confidence within the industry, which are both positive aspects from a business point of view (Hayter 2000, 2003). Land claims also result in the potential for business collaborations between First Nation people's and industry and communities (Markey et al. 2005).

There are additional (besides First Nation land claims) B.C.-based causes for the decline and restructuring of the B.C. forest industry. Investment in B.C. is lower than in the rest of Canada (Markey et al. 2005). The business community and the provincial NDP governments during the 1990s had generally poor relations, which led to reduced business confidence and lower levels of investment within the province (Kukucha 2005). The provincial Liberal party has been able to warm these relations since coming to power

[7] Excluding First Nations in the northeast corner of the province where land claims have long been settled. The primary resource industries of this region, however, are oil and gas and farming and thus this has little influence on the overall discussion here.
[8] *R. v. Sparrow*, [1990] 1 S.C.R. 1075.
[9] *Delgamuukw v. British Columbia* [1997] 3 S.C.R. 1010.

but this legacy is still felt in industry[10]. There has also been a historic lack of innovation within the B.C. forest industry (Hayter 2000). This has the tendency to result in higher raw log exports, which has negative ramifications for communities as it leads to lower levels of value-added manufacturing and thus less economic diversification.

The forces of change within the B.C. economy have also changed its spatial structure. Capital intensification has resulted in increasingly larger B.C. forestry companies (often via foreign takeovers) (Hayter 2000, 2003). The result has been the agglomeration of forest operations into larger centres, especially the Lower Mainland (Markey et al. 2005). The mobility of capital is especially difficult for small communities to deal with because of the rootedness of place. Since the recession of the early 1980s there has also been a trend of increased growth within the metropolitan areas of B.C.: between 1981 and 1991 360,000 net new jobs were created in B.C. and all but 1,000 of these were in the Lower Mainland (Markey et al. 2005). Discussing the role of Vancouver, Hayter (2000, 63) argues that it is the "centre of the forest industry in terms of manufacturing, distribution, and forward, backward and final-demand linkage effects[11]". Even by the late 1990s almost half of the forest industry's contribution to provincial GDP was generated by industrial activities in the Lower Mainland (Hamilton 1998). Also, the majority of remanufacturing takes place in the Lower Mainland: in 1999 there were sixty companies engaged in remanufacturing and another forty-nine in the adjacent Lower Fraser Valley with only forty-nine in the remainder of the province, most of which were in larger population centres (Hayter 2000). This is despite the fact that 71% of B.C.'s $33.8 billion in international exports in 2000 came from non-metropolitan areas (Baxter and Ramlo 2002). Regardless of the origins of the province's wealth, it is increasingly difficult for B.C. communities, especially small ones, to cope with change in the forest industry. This will be discussed in greater detail in section 2.6.

The provincial NDP government during the 1990s, through numerous policy reforms, initiated several changes in the B.C. forest industry. One of their major goals was to attempt to accommodate different forest values besides the traditional focus on industrial forestry (Markey et al. 2005). The impetus for this change was the final report

[10] Before the NDP the growth rate in the province was still below the Canadian average during the 'business-friendly' 1980s Social Credit era (Markey et al. 2005)
[11] See section 4.2 for a discussion of these terms.

of the Forest Resources Commission (formed in 1989), *The Future of Our Forests* (Peel 1991), which recommend the incorporation of different forest values[12]. Other values included sustainable development (including ecosystem values), non-timber forestry uses and communities, amongst others. The perceived benefit of these changes was that non-forestry uses would help diversify the economy of B.C. (reduce the control of large corporations) while at the same time protect the environment.

The Land and Resource Management Planning (LRMP) boards were the mechanisms through which the NDP hoped to incorporate multiple values into the land base (Halseth and Booth 2003). The LRMP brought together a diversified range of stakeholders to decide land issue access based upon different planning regions throughout the province. Areas that could not be agreed upon were deemed Special Management Zones (SMZ) and planning for them was delayed indefinitely. In these areas little changed and it was often business as usual – i.e., industrial forestry (Cashore et al. 2001). Because of the strong executive control of B.C. forestry, changes in government generally result in large changes in forest policy (Kukucha 2005). This was true when the BC Liberal party took office in 2001. The remainder of this section will discuss some of these key changes as well as some of the recent forces of change within the industry.

The liberals took office promising to (further) streamline forest practices in the province and to make stumpage fees more representative of the true cost of timber. This was accomplished with legislation and forest management that further increased the market-based changes introduced by the NDP in 1998 (Markey et al. 2005). The first element of this was an enhanced results-based forest practices code introduced in December of 2002, the Forest Range and Practices Act (Kukucha 2005). Streamlining was accomplished with a 35% cut to the Ministry of Forests budget in which industry took over previous ministry responsibilities such as timber supply analysis, strategic planning and public consultation (Markey et al. 2005).

Another key forestry policy change of the Liberal's was the Forestry Revitalization Plan (FRP) that was unveiled in March of 2003. The key element of this plan was tenure reallocation (Kukucha 2005). Before this change the allocation of timber

[12] The role of the commission was to investigate non-government organization in forestry policy formation (Kukucha 2005). In the report, the government also first acknowledged the effects of falldown (Peel 1991).

cutting rights was still based on the same stumpage system that was recommended by the Sloan Commissions over fifty years earlier. The FRP called for a 20% reallocation of logging rights from major licensees with the ambitious goal of opening up close to 45% of the provinces total harvest for market bidding. It was hoped that this would result in greater access for First Nations, new entrepreneurs and re-manufactures. The FRP explicitly increased the AAC of First Nations from 3% to 8% and shared $95 million of forest revenues with them over the following three year period. To compensate lease holders for lost access due to the re-allocation the government set aside $275 million and gave a further $75 million to labour and contractors for various adjustment programs.

The main impetus for changing the calculation of stumpage fees was to settle the Softwood Lumber Trade dispute with the U.S. (Hayter 2003; Prudham 2007). The reallocation of tenure rights was designed so that the calculation of stumpage fees would more accurately reflect market prices so that when the price of timber decreases so too does stumpage fees and vice versa (Kukucha 2005). This trade dispute, which is one of the most enduring and significant in modern history, started back in 1981 and has seen see-saw victories for both sides since then through four different rounds of disputes (Hayter 2000). The main issue from the U.S.'s perspective is their belief that softwood lumber is unfairly subsidized by Canadian provincial governments because of the traditional non-market-based approach of stumpage calculations in Canada. In contrast, most forest land in the U.S. is owned privately (Marchak 1983). This, according to the U.S., allows them, based upon their trade laws and in conjunction with international trade laws, to place countervailing duties on the import of softwood lumber into the U.S. (Hayter 2000). The ongoing fourth round of the dispute started in 2001 as soon as the 1996 Softwood Lumber Agreement (that ended the third round of the dispute) expired and has resulted in the U.S. collecting over $5 billion in counter tariffs (Prudham 2007). In 2006, a tentative compromise was reached and over $4 billion in tariffs was returned.

The Liberals also made some forestry changes that had important ramifications for forestry dependent communities. To understand these changes it is important to remember that historically "timber processing requirements were considered a form of 'social contract' that forest companies were required to grant in exchange for the right to harvest on publicly owned lands" (Kukucha 2005, 521). This 'social contract' was

accomplished through various measures that guaranteed jobs (excluding cyclical unemployment during busts) within the communities from whence wood was harvested. The Liberals, in their desire to make forestry more market oriented, eliminated most of these guarantees: minimum harvest cut controls were eliminated as being uneconomical (only maximum cuts remained); 'appurtenancy' – the requirement to process cut logs at specific mills (usually close to where they were logged) – was gone; and restrictions on transferring tenure or dividing tenures were removed (Kukucha 2005). The Liberals thus greatly aided the mobility of capital. Unfortunately, one element that was not changed was the restriction on the export of raw, unprocessed logs.

There have been some positives for forestry dependent communities. The Community Forest Pilot Program, which was introduced by the NDP government in 1998 (Hayter 2000), was renewed by the Liberals in 2004 (Prudham 2007). The initial implementation of this program by the NDP was fairly unsuccessful: only seven contracts were awarded totaling a mere 0.1% of the AAC (Markey et al. 2005). The Liberal government expanded the program by increasing the invitations to potential communities and increased the terms of the contracts to between 25 and 99 years. Although more successful than the initial incarnation the revised community forest pilot program has also had limited success (Prudham 2007). A hurdle facing community forestry is the resistance of organized labour, who often see it as being too socialistic in nature and incapable of replacing the number of jobs available through large-scale industrial forestry[13] (Hayter 2000; Marchak 1983).

In retrospect, Markey et al. (2005) argue that the Liberal party's changes to forest policy since taking office in 2001 have been relatively ineffective. The softwood lumber dispute still haunts the industry and the sluggish pace of First Nation treaty signings continues to hamper business confidence in the industry. The world economy has cooled, especially so in the U.S. who are teetering on the edge of recession thanks to the ongoing subprime mortgage crisis (The Economist 2008). This has resulted in decreased demand for B.C. softwood. The cumulative result is yet another bust for the B.C. and the

[13] This has had important ramifications for the provincial NDP party: the more environmentally leaning component of its support base generally favours community forestry (and less forestry in general) whereas organized forestry unions (and many [still] employed in forestry) favour continued large-scale industrial forestry (Prudham 2007). This has resulted in a so-called red-green split in the support base of the NDP.

Canadian forestry industry, the latter of which lost $1.1 billion between 2007 and 2008, with eleven out of the top thirteen Canadian forest companies loosing money (Anderson 2008). The capital return of these thirteen companies is also worst in the world in their industry. Although the overall economy of B.C. has remained strong, especially in the urban areas of the province, forestry dependent communities continue to be subjugated to the unpleasant vagaries of dependency. Since 1997, over 27 mills and over 13,000 jobs have been permanently lost in the B.C. forest industry (Markey et al. 2005, 96). Forestry may no longer be the primary engine of the B.C. economy but it nevertheless remains vitally important to the health of numerous forestry communities located throughout the province. The next section will introduce staples theory and show how it can be successfully applied to investigate the B.C. forest industry and the communities that depend on it.

2.3 Staples Theory

Pioneered by Harold A. Innis during the first half of the last century, staples theory is a model that tries to explain the historical evolution of the Canadian economy[14] (Innis 1933, 1946). It is thus a uniquely homegrown Canadian theory. Innis tried to explain the evolution of the Canadian economy based on the exploitation of various unprocessed or semi-processed resource-intensive exports, or staples (Watkins 1977). The key assumption of staples theory is that staple exports drive the economy, according to Watkins (1963, 144) "staple exports are the leading sector of the economy and set the pace for economic growth". The particular staple being exported depends upon the particular demands of the international community, international communication and transportation networks, the structure of international power, and the characteristics of the staple being exported, including the geography of its region of origin (Innis 1946; Watkins 1963).

The first staple exploited in Canada was fish, first on the Atlantic coast during the 16th century onwards and then further inland as stocks became depleted (Innis 1933). Chronologically, fur from the interior of the New World was then harvested. And in turn,

[14] Innis also used staples theory to help explain the social development of Canada (Innis 1956). As the focus of this research is primarily economic this aspect of staples theory will not be investigated.

lumber, gold, pulp and wheat were successively exploited (Innis 1946). The geographical focus of staple exploitation is evident in each of these staples: fish primarily on the coasts, oil and gas in Alberta and northeastern B.C., wheat in the interior plains and lumber in most places with economically harvestable forests, B.C. being the most abundant in Canada (Hayter 2000). Indeed, Innis saw Canada as a Nation because of its geography (Bone 2008). The exploitation of new resources in different parts of the country led to the initial development of these regions (Markey et al. 2005). The resulting relationship and trade flows of these resources with the industrial core intimately shaped the development of staple regions.

Key to understanding staples theory is the relationship that exists between the exporting staple-producing region and the region importing the staple[15]. Innis labeled these two regions as the hinterland and the metropole, respectively (Innis 1946). Two additional, interchangeable names for these concepts are periphery and core, respectively[16]. The characteristics of these two entities are very different. The core has a larger population and domestic market as well as more capital and advanced technology compared to the periphery (Watkins 1963). At the start, the periphery may have little or none of these qualities and it is only with time that the periphery begins to nurture these domestically. One can see how the core dominates the periphery (Drache 1976). This power relationship has important consequences for the economic fate of the periphery.

A tendency of orthodox economists is to try and explain the economic evolution of the new world by analogue to what has already occurred in the old world (Innis 1956). A well known example of this being Rostow's (1960) theory of the stages of economic growth. In this theory, states modernize as their economies undergo a series of predetermined linear sequential developments. The theory is broken down into five neat categories: (1) the traditional society; (2) the pre-take-off society; (3) take-off; (4) the road to maturity; (5) the mass consumption society. The stages in this theory are based upon the historical industrialization of Western European nations starting with England in the middle of the 18th century. Every country (and region) has a unique set of geography,

[15] Most often the 'region' here is thought of as a country. However, regions can be within the same country. This will be discussed in greater detail in the next section.

[16] Some researchers, while continuing to use the term hinterland, have replaced the term metropole with heartland (see for example Barnes and Hayter 1992; Reed 1995). Unfortunately, heartland has also been applied to rural regions, for example, see Horne 2004, and thus will not be employed in this thesis.

resource endowments, population characteristics and domestic entrepreneurship (Watkins 1982). One shortcoming of Rostow's theory is that the uniqueness of local conditions greatly affects the future development of both pre-industrialized and industrializing nations. Contrary to these orthodox theories, Innis specifically designed his theory of economic growth based on the 'new world facts' of the staple regions (Barnes 1996). Historically and geographically rich, staples theory stands in stark contrast to the uniformity, ahistoricalism and aspatialism of neo-classical economic theories (Hayter and Barnes 1990). Innis preferred working with the actual geography of the region he was investigating, unlike orthodox economists who generally disregard geography by working in abstract space. Innis was so grounded in empirical detail that he even referred to himself as a "dirt economist" (Innis 1936, 26).

Three key components of staples theory guide the context of it and ground it in the real world realities of both time and place: technology, geography/ecology and institutions (Innis 1946; Barnes 1996, 2000). This triad is the basis of the staples theory of accumulation (Innis 1946). The technology of the core dictates the type and state of staples that are financially viable to be exported to the core from the periphery. Geography comes into play in finding a suitable periphery that contains what the core wishes to exploit at a viable cost. In Innis's (1946, 87) words: "Geography provides the grooves which determine the course and to a large extent the character of economic life". Exploitation of the staple only occurs if the final piece of the triad is present: there needs to be a viable institutional structure between the core and the periphery. Amicable relationships between the core and the periphery are key factors in the success of this institutional structure. One can see how the generally positive relationship between colonial Canada and England and later the United States has helped to support continued staple exploitation in Canada (Watkins 1963). Staple production requires large investments by the core into the periphery because of the cost intensive nature of resource extraction (Barnes 2000; Watkins 1977). Only two institutional types are able to raise the capital for such large scale expenditures: states and large corporations (Barnes 1996, 2000). The former provides the basic structure while the latter provides capital. When these three elements come together in both place and time the rate of resource extraction can be immense.

Staples theory, by including the institutional and technological components of the triad, is not a deterministic theory. An explanation of economic change by looking at only the staple or resource itself, a common occurrence in environmental determinist theories, would be oversimplified as it would ignore the ability of humans to alter time and space (Barnes 1996). This is a key benefit of staples theory as geographers have tried to distance themselves as much as possible from the environmentally determinist theories that were popular in geography during the first part of the twentieth century (Graham and St. Martin 1990). Clapp (1998, 130) summarizes this resistance nicely: "geographers have often avoided seeking explanations for changes in resource use in the dynamics of the physical resource itself". Resources play a key theoretical role in staples theory but they are complemented by an equal focus on institutions and technology[17].

In the optimistic development view of a staple region, continued investment in the extraction of staples by the core will eventually lead to a more diversified and healthy peripheral economy (Barnes 1996; Drache 1995; Watkins 1963). The process by which this growth occurs is through the stimulation of internal linkages in the domestic market of the staples region. Three types of linkages exist: backward, forward and final-demand (Watkins, 1963) – see section 4.2 for a discussion of each linkage. The ability of a region to become fully industrialized depends upon its success at developing these linkages (Barnes 1996). In the neo-classical economist's point of view, it is only a matter of time before a staple region becomes fully industrialized (Watkins 1982). On the contrary, most modern staple theorists take a more pessimistic point of view in which the inevitability of sustained and prosperous development is contested (Barnes 1996; Drache 1995; Innis 1956; Markey et al. 2005; Watkins 1977, 1982); it is to this perspective that we will now turn our focus.

In the pessimistic point of view, the economy of the staple region becomes overly dependent on exports to the core and is not able to sufficiently diversify its economy to become independent of staple exports. This is what Watkins (1963) referred to as the

[17] There is no *a priori* logic that necessitates distant regions becoming staples economies. Walker (2001), in a detailed study of California's economic history, highlights how the economy of California has been transformed into one of the most vibrant, diversified and richest in the world despite it starting off in the 1840s based primarily upon resource extraction. Walker, as does Innis in his staples theory, pays close attention to the specific geography and history of California, that is, to the "deep-seated origins of geographical differences" (Walker 2001, 171).

staples trap. There are multiple causes for regions becoming entrenched in a staples trap. Continued exporting of the staple requires continued demand for it by the core and sufficient resources in the periphery to meet this demand. However, investment never lasts because of the instability of staple production and eventually investment shifts to other regions or staples (Barnes 2000). A sufficiently large population base is also necessary to support a strong domestic consumption sector (key to final-demand linkages) (Watkins 1963). An even income distribution is also key to a diversified economy as it will result in a larger demand for mass-produced low cost goods increasing the chances that domestic production of such goods will be economically viable in the periphery. A skewed income distribution will result in a smaller demand for mass-produced goods and a higher demand for expensive goods, which due to the economics of their production will need to be imported from the core (Watkins 1963). The institutions and values of the periphery are also important success factors (Walker 2001).

A key consequence (and cause) of the staples trap is that periphery regions become overly dependent upon exports at the expense of their domestic markets (Markey et al. 2005). The transportation of raw materials over long distances to destinations outside of the core results in a weakened domestic transportation system. This is evident in Canada in the tendency of major highways to lead to the U.S., with the exception of the Trans-Canada Highway (Lea and Waters 1996)[18]. There is also a dependence on external industrialized areas for markets and supplies of manufactured goods (Drache 1995; Markey et al. 2005). Another consequence of the staples trap is the reliance on external sources of capital to cover the high costs of resource development (Watkins 1977). To a large extent, the fate of staples regions is also not within their own control as it is subject to the vagaries of world demand and economics leading to an unstable and continually fluctuating domestic market (Drache 1976; Innis 1956): the boom-and-bust nature of resource economies. This leads not to a diversified and vibrant economy as predicted by orthodox theories but to a highly specialized one.

[18] Indeed, the Trans-Canada Highway and the first Canadian trans-continental railroad were both nation-building projects and were not built (entirely) for economical reasons (Hayter and Barnes 1990). As further evidence, the federal Liberal party in the 1990s considered upgrading the entire Trans-Canada route to freeway standards (similar to the transcontinental Interstates in the U.S.) but the provincial premiers stopped the project as they preferred upgrades to N/S corridors into the U.S. over upgrades to the predominantly E/W Trans-Canada Highway.

Diversification can also be hindered because of additional factors, such as the export mentality prevalent among domestic staple producers (Barnes 2000). Levitt (1970) argues that Canada has not experienced economic development but only growth, as the latter requires control over decision making. In interpreting Levitt's work, Markey et al. (2005, 53) state: "Canadian capitalist elite chose income over corporate control, and managerialism over entrepreneurialism". This, Levitt argues, leaves American companies in charge of the Canadian economy. Even excluding American corporations, the economy is dominated by only a few, large and often foreign-owned multi-national corporations (Britton and Gilmour 1971). This has resulted in the channeling of capital surplus outside of the resource region (Watkins 1977, 1982). The spending of this capital within the local economy is a necessary step in the optimistic view of staples theory originally put forward by Watkins (1963). Simply put, "there is no imperative for owners to invest locally" (Marchak 1983, 22). Diversification is also blocked because of the truncated industrial branch-plant structure often present in a staples economy, which some argue is the case in Canada (Barnes 2000; Laxer 1989). A branch-plant economy minimizes the development of higher order control and research functions making it more difficult for a staple economy to become diversified via domestic innovation. The fact that the periphery is subject to the more powerful core makes breaking free from the staples trap all the more difficult (Drache 1995; Innis 1956).

Although the economy of Canada has diversified, especially in the major population centres of the country, there is still an overall dependence of foreign markets, both for their capital and as a destination for our exports (Markey et al. 2005). Markey et al. (2005, 54) succinctly summarizes the negative consequences of a staples economy: "lack of reinvestment, foreign control, lack of diversification, limited research and development, high staples exports, low levels of manufacturing, resource exhaustion…".

Clapp (1998) further elaborates upon the core/peripheral dichotomy used in staples theory to describe his theory of resource cycles. Clapp argues that all renewable resources pass through three phases. The initial phase constitutes exploration and discovery, followed by an economic boom as the first production of the resource occurs. During this time, large government subsidies are often required to develop transportation networks. The second phase involves continued profitable operation made possible by

expanding capacity through increased capital intensity. The government during the second phase makes significant revenues through resource rents. However, as is common in a staple economy, most of these revenues flow to the core and not back to the periphery. The third phase involves resource depletion and economic bust. In the case of forestry, increasingly marginal trees are harvested to maintain previous profit levels leaving only the poorer stands of timber to be felled. Eventually profit levels must decline as the economically harvestable quantity of wood drops and the region dependent on the forest resource busts. The B.C. forestry economy is currently in the third and final stage of the resource cycle (Clapp 1998; Markey et al. 2005).

Two insights of resource cycle theory are worth highlighting. One, the resource cycle applies not only to non-renewable resources but equally as well to renewable resources. In the former, after resource exhaustion the region will bust if its economy has not been diversified. In the latter, although renewable, resources such as trees and fish must be harvested at sustainable levels to maintain a constant resource return, which in practice is rarely achieved (Clapp 1998). More often than not, renewable resources are harvested at unsustainable levels, even when set by the government who are often more interested in short-term electoral gain than in a region's long-term future (Hirt 1994; Skocpol 1986). The most blatant example of this is resource liquidation, which has been historically dominant in B.C. forestry (Marchak 1983). Furthermore, renewable resources depend on complex ecosystems for their survival, which are often only partial understood at best (Marchak et al. 1999). Even minor levels of resource extraction can result in complex changes to an ecosystem with concomitant changes to resource stocks. Thus calculating what constitutes a sustainable level may be more smoke and mirrors on the part of the government than true science.

Second, resource cycles are not dependent on business cycles (Clapp 1998). Instead, these two cycles dynamically interact. Resources are price takers (Innis 1946). As such, even if resource exhaustion is occurring locally within a region the general economic rule of scarcity does not apply, even for regional monopolies. Other regions in the world can pick up the slack. In the case of softwood lumber, these regions are the (southern) United States, Spain, Portugal, Brazil, New Zealand and Chile, all of which enjoy lower fiber costs and faster growth rates compared to forests in B.C. (Barnes and

Hayter 1994; Clapp 1998). Instead of local scarcity leading to rising prices for the resource, increased global supply holds prices in check. As the resource becomes locally depleted, the only way to cover increasing costs is to increase the scale of production resulting in ever increasing resource depletion and eventually exhaustion. A booming world economy thus does not necessarily guarantee prosperity within a given resource region, especially if the latter is in the third resource cycle. The opposite is also true, though the boom in the region would likely be tempered as the price of the resource would more than likely be negatively affected. Temporally, this also means that a resource cycle can last through several economic cycles.

The theory of resource cycles helps to complement and strengthen the theoretical potency of the geographical spoke of staples theory. It thus becomes not only geographical in focus but also ecological. The pattern of overexpansion and collapse in a resource economy is observable in various resources and regions and at different times. The precise path of resource exhaustion depends upon the technology of resource processing and the allocation rights to the resource that are set by institutions (primarily government or government sanctioned bodies) (Clapp 1998). The geographical/ ecological, institutional and technological triad of resource cycles is clearly evident in the above discussion.

Staples theory is not without it critics. A major critique involves the tensions and conflicts between its geography/technology/institutions triad and the nature of staples, particularly the fact that it ignores class, unlike in Marxist theories of the economy (Barnes and Hayter 1992). Barnes and Hayter (1992, 648), however, argue that there are also similarities between staples theory and Marxist thought in that both "recognize that the fate of places …. is bound up with the particular geographies of accumulation". The same is true of the theory of resource cycles, which has been criticized for ignoring the social and political aspects of Canada's regional development and for its simplicity (Millar and Winder 1999). Nevertheless, many researchers still find the broad scope, contextual richness, versatility and attention to the historical and geographical differences of place that staples theory provides, including the addition of resource cycles to it, useful

at explaining the current state of Canada's economy[19]. Staples theory is particularly suited at explaining both the historical and contemporary state of the economy of 'peripheral' British Columbia as the next section will show.

2.4 The Application of Staples Theory to British Columbia

The economic tapestry of B.C. is heavily interwoven with forestry (see previous sections). This connection is taught in the sense of both history and magnitude. Forestry is not the only staple from which B.C. has been crafted, however. Staples, of one form or another, are the backbone of B.C., especially in its hinterland (Barnes et al. 2001; Markey et al. 2005). On the coasts of B.C., fish and forestry are paramount; specialty fruits and market gardening in the southern central interior grow supreme; mining in the southeast and parts of the north is common; hydroelectric power reigns on several of the provinces major rivers[20]. The particular staple in each region is a reflection of both history and geography (see previous section). Not surprisingly then, B.C. has the highest number of single industry towns in Canada on a per capita basis (Bradbury 1987). The strong intellectual and contextual nature of staples theory makes it a powerful tool for researching a wide array of places and peoples. As such, many researchers, past and present, have employed staples theory to understand the economic development of B.C. An important theme running throughout the discussion below is the tendency for staple production in a given region to be, at varying points in time, both a creative and a destructive force (Innis 1946). This is a general consequence of staple production but it may be no more evident than in B.C. (Barnes et al. 2001). The remainder of this section will highlight some of the recent research that has used staples theory to investigate B.C.

Canada, as the previous section argued, is a periphery nation. The other half of this uneven relationship is the dominant and powerful core, which in Canada's case is primarily the United States of America (Barnes 1996). The situation for Western (and Eastern) Canada is even worse, however. Hayter and Barnes (1990, 159) show how not only is Western Canada a hinterland to the U.S. and to a lesser extent Europe and Japan

[19] For a sampling of recent applications of staples theory, see: Barnes 1996; Barnes and Hayter 1992, 1994, 1997; Britton 1996; Hayter and Barnes 1990; Hutton 1997; Markey et al. 2005; Markey et al. 2000.
[20] Space precludes a more in depth discussion of the geography and history of each of these staples; for further details see Barnes et al. 2001.

but how it is also a hinterland to Central Canada, namely the industrially and politically powerful Windsor-Quebec City Corridor, hence their describing B.C. as "doubly peripheral: the one constant is that those areas supplying staples are always in the shadow of the metropole(s)". The levels of dominance do not end there: in the case of B.C. an additional iteration is also possible. The southwestern developed areas of the province, centred on Vancouver and Victoria, act as another (mini) core dominating the remainder of the predominantly rural area of the province (Hayter and Barnes 1990; Hutton 1997; Markey et al. 2005). In the words of Bradbury (1987), the province of B.C. is a metropolis and hinterland in microcosm. The wealth that staples production generates in the periphery of B.C. fuels its urban mini-core and thus the latter is intimately dependent upon the former for its continued success (Hayter and Barnes 1992). This core however, because of its more diversified base, is more protected from economic downturns than its rural periphery (Barnes 1996). Furthermore, the reality remains that decision making power for both industry and government are located in this relatively developed mini B.C. core. One could thus say that the rural areas of B.C. are *triply peripheral* (in ascending order of dominance) to: Vancouver/Victoria; the Windsor-Quebec City Corridor; the U.S., Japan and Europe. This triply peripheral nature of rural B.C. helps explain the extraordinary resource dependency that is prevalent throughout these areas and the concomitant lack of diversification, even by Canadian standards.

Hayter and Barnes (1990) made an important contribution to the body of staples theory by resurrecting the status of the geography/institutional/technology triad that they argue had been neglected since Watkins's classic exposition of staples theory in the 1960s. Hayter and Barnes (1990) argue that Watkins (1963), by introducing the staples trap, aligned staples theory more closely with aspatial and ahistorical orthodox economic doctrine thus neglecting the very things that Innis had built staples theory on and that gave it so much intellectual and contextual power. Even Watkins (1977) himself would come to realize his earlier folly and wrote the following about his 1963 portrayal of staples theory: it "was bought at the high price of constraining …[staples] theory to the very limiting paradigm of orthodox economics in general and the theory of international trade in particular" (quoted in Hayter and Barnes 1990, 158). Hayter and Barnes (1990) then go on to use their newly revamped staples triad to analyze the prosperous long boom

in B.C.'s forestry economy (and economy in general) from the end of WWII until the economic collapse in the early 1980s. This same sort of analysis, not surprisingly, is very common with most B.C. staples researchers. The economic details of each of these time periods were highlighted in section 2.2; however, works by Hayter and Barnes (1990) and others that followed in their footsteps can explain in greater detail the particular underlying forces at play in the context of B.C.

B.C.'s long boom can be seen as a perfect coming together of the three elements of the staples triad, which resulted in very creative and prosperous staples production for both the core and periphery regions of B.C. Geographically, the resources that drove staple production were still relatively abundant and cheap, at least they were perceived to be, and the markets for B.C.'s staples were strong (Hayter 1996; Markey et al. 2005). The tendency for staples to be underpriced, as were B.C.'s forests during the long boom in an attempt to promote cheap resource dependent development, is a common short-term economic tool of governments (Gunton and Richards 1987). Institutionally, public and private sector policies and attitudes were both supportive of staples production, primarily because of the wealth it generated throughout the province and because staples were seen as being so plentiful and cheap (Barnes et al. 2001). W.A.C. Bennett, whose Social Credit party was in power continuously from the early 1950s until 1972, brought both political stability to the province and support in Victoria for staples production (for example, long resource leases – see section 2.2). This helped ensure that the necessary infrastructure was in place to support staple production, including the construction of new roads, rails, dams and entire new towns[21] (Barnes et al. 2001). With respect to technology, the tenets of Fordism helped to assure the constant and complacent work force necessary in staples production (Barnes 1996). All three elements of the triad came together during the long boom resulting in an accumulation process that saw the forests of B.C. liquidated at a frenzied pace (Barnes and Hayter 1992).

As is the nature with staples production, however, the good times in B.C. during the long boom were bound to end: the "peculiar space-time relations produced within staples production can be temporarily controlled by non-economic institutions … permitting stability and prosperity [long boom] … but it never lasts" (Barnes et al. 2001,

[21] Mackenzie, one of the research communities in chapter 5, is an example of these new resource towns.

2128). The manifestation of this change was the severe recession that took place in B.C. during the early 1980s – very powerful destructive forces were at play. With respect to the geographical component of the triad, there were two primary forces. First, as would be predicted by Clapp's (1997) resource cycle theory, there was a reduction in the resources base. Second, there was increased trade to Japan and the Pacific Rim, which only reinforced the staples trap (Hayter and Barnes 1990). Institutionally, the degree of external control of the core had increased, primarily because of consolidation and foreign buyouts, leaving the periphery even more vulnerable to the increasingly negative external shocks of a worsening world economy (Barnes et al. 2001). In addition, mega-projects continued to be the mainstay of provincial development policy (Savoie 1992). Finally, the provincial government, at the onset of the recession, reduced social spending in an attempt to reduce debt loads, as Hayter and Barnes (1990, 163) point out however, this only had negative consequences: "by significantly cutting expenditures on education, medicine, and other social programs, the government, in effect, dampened the prospect of diversification". Technologically, the worldwide shift away from Fordism and towards flexible production lowered the amount of labour required for staples production (Hayter 1996). The result was the opposite of the prosperity felt during the previous long boom: record corporate profits in 1979 turned into record corporate losses in 1981 and 1982 (Barnes and Hayter 1994).

In the conclusion of their article Hayter and Barnes (1990) go on to investigate, with the help of an empirical survey, changes to the B.C. economy after it had recovered from the deep recession of the early 1980s. Their finding was that instead of the recession leading to proactive change and diversification amongst communities in the province, the economy of B.C. had become even more staple dependent. The ratio of exports to sales had significantly increased from 40.1% in 1981 to 56.6% in 1986. The fact that the recession did not lead to positive change and diversification is no surprise considering the social (and institutional) underpinnings of a staples economy (see section 2.6). As Innis was well aware of over fifty years ago "the staples trap offers little hope of escape" (Barnes 1996, 55).

Barnes and Hayter, in various studies during the 1990s and early 2000s, used staples theory as a foundation on which to investigate the economic fortunes (or

misfortunes) of three coastal B.C. forestry dependent communities since the recession in the early 1980s: Port Alberni, Chemainus and Youbou. The coastal communities of B.C. were harder hit during the recession of the early 1980s than their interior counterparts. Compared to the interior, coastal mills were generally older and coastal resource stocks were lower (primarily because of dwindling old growth stocks) (Barnes and Hayter 1994). In Port Alberni's case, 3000 jobs at the mill were permanently lost after the 1980s recession, which resulted in devastating social repercussions for residents of the community (Barnes et al. 2001). Through this adversity, however, the town was able to come together in an attempt to alter its fortune. Some pertinent things can be gleaned from this research in relation to the body of staples theory. One is the benefit of staples theory being a 'theory on the margin' (Barnes et al. 2001). As a theory about the periphery, staples theory is better able to understand and criticize the assumptions of the prevailing core. Another important contribution of the article was its emphasis on the fact that no two staples are the same, one must treat every one of them differently. There is nothing natural about staples – they are not an ends in themselves – but rather it is the staples triad that is submerged within each staple that is of interest.

The initial economic misfortunes of Chemainus and Youbou are broadly similar to that of Port Alberni: economic downturns brought on by the 1980s recession resulting in devastating social consequences for the communities. Chemainus's sawmill closed down in 1983 and the community lost over 650 jobs; when it reopened two years later only 145 jobs returned (Barnes and Hayter 1992). The community reacted by trying to diversify its economy by trying to attract tourists with various large murals and a downtown artisan village. The reaction of Youbou to the recession was different from the other two communities in that it was not proactive in trying to diversify its economy. Barnes and Hayter (1994) partly explained this based upon its close proximity to the urban Victoria region, which made a transition from being a single industry resource town to a commuter town possible. Unfortunately, this option is not available to the vast majority of resource communities. Additional points of interest are that the size of a staple community is directly related to the size of its staple production (see section 4.2) and the necessity to not neglect community context (Barnes and Hayter 1994).

Chemainus was able to attract over half a million visitors a year to its downtown area after the murals and artisan market were built. Nevertheless, Barnes and Hayter (1994), in a later assessment of the community, were broadly pessimistic about not only its ability, but also Port Alberni's ability, to bring about long-term sustained economic diversification due to the nature of staples production. It is partly because of this difficulty in bringing about endogenous change that drives this research and the research of Markey et al. (2005) – the hope of finding a way out of the staples trap.

In the monograph *Second Growth*, Markey et al. (2005) use staples theory to help explain the economic history and current state of four forestry dependent communities in the interior of B.C.: Salmon Arm, Lillooet (First Nations), 100 Mile House and Bella Coola (First Nations). According to them, staples theory "helps to explain the historical conditions that contribute to the traditional social and economic dependency of resource-based communities" (Markey et al. 2005). The various processes and manifestations of economic restructuring since the recession of the early 1980s had severely affected the economic fortunes of these various staple dependent communities. These communities are in a poor position to bring about endogenous economic change because they lack a diversified and stable local economy. The researchers' investigated methods to reverse the historic direction of control within staples economies: the core dominating the periphery. To accomplish this, control needs to swing in favour of the local residents so that they may have more direct control over their own economic futures and fortunes. The precise mechanism of local control investigated was local development, specifically community economic development[22]. The researchers are interested in finding ways to build the necessary local capacity to permanently rid these communities of the staples trap, as difficult a task as that may be.

2.5 Understanding Rurality and Community

To make the discussion of rural resource communities more informed a critical analysis of the concepts of both 'rural' and 'community' is necessary. Defining rural is a complex and elusive task, as glimpsed in section 1.5. The same applies to community,

[22] These topics will be discussed further in section 2.8.

maybe even more so. This section will briefly describe this complexity and offer some tentative, temporally and spatially based definitions of each.

As discussed, one way of looking at the rural/urban dichotomy is to not view each as the antithesis of one another – as binary opposites – but to instead view them as ends of a continuum with a mix of conditions found in between (Cloke 1977). Bollman (1992) argues that a key reason why the concepts of urban and rural have been blurred recently is because of the growing similarity between urban and rural lifestyles through the shared cultural experiences of television, radio and satellite transmissions. Improved transportation and communication, made possible by economic restructuring and the globalization induced compression of space, has also lessened isolation (Markey et al. 2005). Isolation, however, is not merely a function of linear distance but of the potential to form relationships and social bonds with others and of the *perceived* distance to outside communities (Randall and Ironside 1996).

Although the concept of rural may have become blurred recently there are still some easily recognizable characteristics of 'rural': differences in population and population density; remoteness from major urban centres; reliance on primary economic activity; conflicts between preservation and a variety of economic interests; and the extent to which rural areas are not urban (Bollman 1992, 4; Markey et al. 2005, 22; Robinson 1990). Hoggart and Buller (1987, 9-18) and Robinson (1990, 13) draw three possible lines of distinction between rural and urban that can be used to define rural: socio-cultural – based on differences in behaviour and attitudes between large and small settlements, primarily in relation to concepts of community and a suspicion of change in rural areas; occupational – reliance on staple production; and ecological – rural communities are more adapted to environmental circumstances because they are small and surrounded by large areas of natural environments. Markey et al. (2005) argue that these three lines of distinction are not sufficiently able to define 'ruralness', although they can be useful analytical tools. This is partly because of the blurring of rural and urban.

Possibly the simplest definition of rural is based on population (Robinson 1990). Simplicity has theoretical shortcomings but practical benefits. The population of a community is also important as the allocation of public resources from government to communities and the relative attention that communities receive from government are

both dependent on it (Fairbairn 1998). Stats Canada defines 'rural' based on population and relative isolation, divided into four categories. *Census rural* is low density with population centres less than 1000. *Rural and small town* are population centres less than 10,000 located outside commuting zones. *Non-metro regions* are less than 50,000. *OECD* rural is less than 150 people per square kilometer. All eight qualitatively researched communities in this study are either rural and small town or non-metro regions.

Bollman (1992, 4) argues that the blending of rural and urban "may make distinctions between (the two) more misleading than informative". Using the term rural is still important, however. An important reason is that rurality is part of rural citizen's sense of identity, "which is rooted in a concern for the future as well as historic conceptions of rural …" (Cocklin and Wall 1997, 155). Rural residents thus view themselves as being rural and wish to maintain this while still pursuing new economic opportunities (Markey et al. 2005). The idea of rural is also an important part of a culturally distinct Canadian landscape (Randall and Ironside 1996). Rurality is likely best viewed as being found somewhere on the continuum from completely rural to completely urban based upon the particular time and space in question[23] (Markey et al. 2005). Thus, one arrives at the concept of 'degrees of rurality' (Du Plessis et al. 2002).

One possible definition of 'community' is of a social network of interacting individuals, usually concentrated into a defined territory or space (Johnston 2000). In a review of the literature, Stacey (1969) found that the concept of community was used in a large number of settings which resulted in a large number of (often implicit) definitions – some hundred definitions were noted. According to Stacey (1969, 135), there are two broad factions: "those who use 'community' for social relations in a defined geographical area, and those who stress the sense of belonging to a group which 'community' is said to entail". The latter conceptualization is manifested by groups who may not even be concerned with space, such as ethnic communities and cyberspace communities. Many see the latter as an opportunity to regain some of the positive aspects of community

[23] The completely rural and urban endpoints are likely idealistic constructions that would never actually be found in their true form in the real world. Hence rurality being found *along* the continuum.

(personal intimacy, moral commitment and social cohesion) that they feel are disappearing in space-based communities (Kitchin 1998).

Community, however, is employed in this research to mean more than just a group of people coming together (on their own) terms. Communities are inclusive, not exclusive and "are shaped by a sense of belonging to a place, a geographical location, by shared values, common struggles, traditions and history of location …" (Kitchin 1998, 88). The difficulties of a territorial-based definition of community are finding an appropriate geographical boundary based on the system of social relations in question (Stacey 1969). This problem has connections to locality research and its interest in the delineation of localities for research (Johnston 2000). Despite much research on the nature of localities many studies still use (arbitrary) statistically defined census divisions or various (arbitrary) government boundaries, such as those of regional districts and municipalities. The boundaries used to demarcate communities in this research are dependent on the entities being investigated: for the quantitative research, Local Area boundaries are used; for the qualitative research, municipal boundaries would seem most appropriate as the focus is on *municipal* planning entities.

2.6 Understanding Resource Communities

Theorizing about rural resource communities is important for multiple reasons. As the discussion of staples theory has shown, the export of staples is largely responsible for propelling the Canadian economy (Innis 1956). The backbone of all staples production is the rural resource community: it is the "fulcrum connecting shifting economic forces with the process of resource extraction on the ground" (Barnes 1996, 60). Resource communities, as varied as they may be, all posses unique features that differentiate them from other communities (Marchak 1983). The generally narrow economic base of most resource towns make them extremely sensitive to outside change – the ghost towns of western Canada are proof of this (Barnes 1996). Nevertheless, by one estimation taken in the 1990s Canada was still home to over 200 single-industry resource communities, of which 45 are in B.C., second only to Quebec's 58 (Randall and Ironside 1996, 2135). Bradbury (1987), using different criterion, estimated that in the 1980s there were over one hundred single industry towns in B.C. The rural population of

B.C., depending on the definition of rural, is substantial at approximately one third of the total provincial population (Markey et al. 2005). There are also economic reasons for investigating resource communities in B.C.: the incomes of rural areas of the province are 10%-15% lower compared to population centres in the province with more than 100,000 people[24]; rural areas have lower employment participation rates than urban areas; and rural areas have a higher reliance on transfer payments than urban areas (Markey et al. 2005). This section will seek to further elaborate upon the insights that staples theory has already provided for understanding the uniqueness of rural resource communities.

One of the first to look specifically at resource dependent communities in Canada was Robinson (1962) who investigated the new industrial towns of Canada's resource frontiers[25]. This was followed by Lucas (1971) and Siemens (1976) who were mostly interested in the planning of new resource communities, although they did emphasize the effects of isolation and boom-and-bust cycles in resource communities. Lucas (1971), who easily provided the most comprehensive account of social life and work patterns in single industry towns (Randall and Ironside 1996), argued that the development of single industry towns progresses through four phases: construction, recruitment, transition and maturity. Bradbury and St-Martin (1983) subsequently added two additional phases to the end of Lucas's model based upon the experience of Schefferville, Quebec: winding down and abandonment. The most visible manifestations of Lucas's model are instant towns (Marchak 1983). Many instant towns were created in B.C. during the long boom to access isolated resources. The very nature of instant towns results in a shallow sense of community, at least at the start, which could help explain some of the social ills that have been observed in some instant towns (such as depression) (Marchak 1983).

The classic models of Lucas, Robinson and Siemens have been critiqued on many levels. First, their models are simplistic and treat most communities (even ones with different primary staples) essentially the same (Randall and Ironside 1996). Community labour forces and economic structures are not uniform across resource communities.

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[24] The average incomes of many resource communities are comparable to high income urban areas of the southwest metropole (see chapters 4 and 5 for a more detailed discussion). The overall lower average income of rural B.C. compared to urban B.C. is partly attributable to the very low average incomes of First Nation peoples, who are more concentrated in rural B.C.

[25] As discussed, Innis investigated resource communities extensively but his focus was not so much about resource communities themselves as it was the larger forces at play shaping resource communities.

Resource communities are also located throughout all regions of Canada and not only in the far north. The classic models also neglect non-resource sectors of the economy, which are important even in resource communities (Randall and Ironside 1996). Lucas's model is also progressive and deterministic (Barnes 1996). The forces of economic restructuring interact differently within each resource community. This interaction is greatest during the maturity phase. The result is that most communities do not die, although they are greatly altered. Differences in internal responses to change and place-based institutional factors have also created unique community development paths (Barnes 1996). The classic models also generally ignore the role of women by stereotyping employment as being male-dominated (Randall and Ironside 1996). Restructuring has resulted in increases to both part-time and female employment in some resource communities (Hayter and Barnes 1992) and increased the amount of informal economic activity that takes place within resource communities (Ross and Usher 1986).

More recent investigations into resource communities have resulted in new insights and a broadening of our overall understanding of resource communities. Barnes and Hayter and others (see sections 2.3 and 2.4) have reinforced the place of resource communities in staples theory. The role of sustainability in resource communities has been explicitly considered (Pierce 1992) and there have been labour market and production adaptations to the resource community body of knowledge (Bradbury 1985). The role that the resource itself plays is explicitly considered in resource cycle theory. Much of the research on resource communities has focused on the difficulty of breaking free of the staples trap[26]. The economic consequences of a narrow economic base have long been known (Freudenburg 1992). The nature of staples production, however, has often prevented communities from heeding these warnings. Regional overadaptation or overspecialization often first occurs in an attempt to maximize production from sunken capital as resource stocks decline (Clapp 1998; Freudenburg 1992). Politicians, local resource managers and business often manipulate facts to achieve the short term benefits of prolonged staple production through what Hirt (1994) calls the *conspiracy of optimism*. This is often made possible through concessions by labour and the community

[26] This section discusses causes for the staples trap and for its stubborn permanency whilst section 2.8 discusses possible internal remedies for these.

or environmental and health and safety regulation exemptions because of the ambiguity of ‘exhaustion’ (Freudenburg 1992).

The end result is that the difficult decisions of how to diversify the economy of resource communities is often delayed even beyond the point when staple production is no longer economically profitable (Clapp 1988). Finally, precisely at the time of greatest need – when all the old growths are felled and no more concessions are possible – no money is left to diversify the economy. The end result is what Auty (1995) refers to as the *resource curse hypothesis*. Not only does resource dependence occur but local dependence as well. The latter is a more general dependence of local actors – firms, politicians and citizens – on the reproduction of certain relations within a certain area (Cox and Mair 1988; Randall and Ironside 1996). Freudenburg (1992) has gone as far as describing a *resource addiction* in which the vicissitudes of repeated boom-and-bust cycles create an intermittent positive reinforcement regime within the populations of resource communities. This is one of the most effective of all behavioural reinforcement schedules similar to what occurs with drug usage – pleasure at the start followed by debilitating conditions that result in withdrawals if discontinued. Overadaptation often means communities have experienced economic growth but limited social and human development, which further reduces a community’s chance of breaking their addiction (Freudenburg 1992).

Withdrawal is also made harder due to the historic legacy of top-down planning in Canadian resource communities, exemplified by 1980s megaprojects and B.C. instant towns (Bradbury 1987). This legacy has curtailed the ability of regions to build the necessary skills to bring about change internally as this knowledge has traditionally been held by external economic development ‘experts’ (Lucas 1971; Markey et al. 2005; Savoie 1992). The result is more dependency – this time on external planners – which reduces the confidence of locals (Markey et al. 2005) and results in an absence of local initiative (Barnes and Hayter 1994). This generally paternalistic environment, which emphasizes taking orders and relinquishing control to expert planners and company executives, also lessens the chances of entrepreneurialism (Barnes and Hayter 1994). The result is that an independent, managerial decision making and diversified

entrepreneurial class are often missing in resource communities, further decreasing the chances of a successful withdrawal (Barnes et al. 2001).

The increasing importance of the service sector in late capitalist societies also has disadvantages for rural areas (Markey et al. 2005). Even in resource communities, the service sector usually represents a bigger percentage of the workforce than primary activities (Randall and Ironside 1996). However, it is generally harder for resource communities to attract new service companies, often because of their isolation and small populations (Coffey 1996). Also, the ten largest Canadian metropolitan centres are home to 70% of the high remuneration FIRE (finance/insurance/real estate) service jobs (Markey et al. 2005). Resource communities thus have a disproportionate amount of lower paying service jobs than do urban areas, even though service jobs in general are lower paying and require higher levels of education compared to resource jobs (Freudenburg 1992), a difficult pill for resource communities to swallow. The increasing prominence of the service sector has also been heavily criticized because of the increase in consumption and resulting damage to the environment that it necessitates (Power 1996). The pessimistic outlook of service jobs coupled with the labour reducing tendencies of capital intensification paints a gloomy employment picture for resource communities. For example, forestry employment in B.C. has decreased despite the AAC continual rising: in 1961, 1000 cubic metres of wood supported two jobs but by 1991 this figure fell to 0.88, despite a 57% increase in AAC (M'Gonigle and Parfitt 1994). The near absence of a value-added industry in B.C. (Hayter 2000) and the decreasing quality of wood due to the effects of falldown further exacerbate the minimal output of jobs per unit of wood in B.C., which is amongst the worst not only in Canada but in the entire world (Markey et al. 2005).

Rural resource communities still represent a significant proportion of the population and contribute significantly to the GDP of both B.C. and Canada (Randall and Ironside 1996). Theorizing about resource communities is important because they have been underrepresented and generally ignored (considering their population and economic contribution) in the (urban) public conscious and in academia whose gaze has traditionally been fixed on only the core (as Innis was well aware) – "most resource peripheries, by definition, are remote, elsewhere, foreign, uncomfortable, expensive to

reach and sometimes dangerous" (Hayter et al. 2003, 17). However, resource peripheries provide new insights to the geography of the global economy that cannot be seen by looking at *only* the core (Hayter et al. 2003).

2.7 Regional Development and Economic Diversification

Regional development in Canada began during the middle of the twentieth century in response to the large regional income disparities brought about by the economic boom of the post-war period (Savoie 1992). During this time, economic growth was predominantly centred on urban regions at the exclusion of rural regions (Brodie 1990). The dominant focus of regional planning in Canada during most of the last century was top-down (Savoie 1992). This is in large part due to the nature of staples economies in which power and control is held by a few externally based entities (Brodie 1990; Markey et al. 2005). Strategies during this era were generally technical, and often couched in scientific terms that were meant to give a level of (likely undue) immunity and virtue to them[27]. Examples of key strategies included growth-pole theory and shift-share analysis (Polese 1999), and specifically in the case of Canada, the federal governments weakness for megaprojects during the early 1980s (Savoie 1992). Common during this time was the proclivity of governments for 'smokestack chasing', whereby large companies were wooed by politicians to relocate (often unrealistically) to small rural areas.

During the 1970s, and especially during the 1980s, the top-down focus of traditional regional development began to be questioned because of its inadequacies (Coffey and Polese 1985). Some growth-pole centres experienced growth; however, the opposite effect was experienced by outlying rural areas. More importantly, these strategies more often than not continued the dependency of rural regions on a staples economy (and all of the negative consequences that that entails) and resulted in little, if any, economic diversification within communities (Savoie 1992). As a result of the inadequacies of traditional top-down regional development, new approaches and strategies arose in the 1980s and 1990s (Polese 1999). Often the focus was on creating more local control (see next section) and on reversing the economic specialization of

[27] See Savoie 1992 and Markey et al. 2005 pp. 110-115 for a detailed discussion of these strategies.

staples economies via the opposite effect: economic diversification. The remainder of this section will discuss key concepts and tools for achieving economic diversification via local control.

A key difference in more recent economic development strategies is their focus away from the unrealistic smokestack chasing prevalent earlier towards a focus on improving the performance of existing firms and supporting the growth of new enterprises within communities (Unruh 1991). Specific strategies to accomplish this include: development of physical infrastructure and human resources; maintenance and improvement of the local environment; improvements to community amenities; creation of specific sectoral development strategies (e.g. tourism) (Markey et al. 2005, 221). Flora and Flora (1991) draw attention to the importance of promoting both economic *and* social infrastructure. The former includes man-made structures, economic institutions and economically significant locational characteristics. The latter include intangible social characteristics such as culture, quality of social interaction, social equality, education and leadership (see below). The ultimate goal of these strategies is to make communities more appealing thus increasing both local and outside investment.

Some argue that rural areas have certain innate characteristics that make them appealing for outside investment. Characteristics that were thought to play a key role in the smokestack chasing era were the relatively inexpensive costs of rural land and labour (Robinson 1990). Other more intangible characteristics include the belief that there is stronger 'work ethic' in rural areas. There is no consensus on the validity of these statements amongst researchers in rural studies (Robinson 1990) and whatever benefits these characteristics may bring are mitigated by the potentially unappealing characteristics of rural areas, which help to decrease the likelihood of outside investment. The most important unappealing characteristics are the isolation of rural communities from larger markets and population centres and their diminutive labour pools.

Amenities are another key concept in contemporary economic diversification theorizing. Important amenities include the quality of and access to social, cultural, health and education infrastructure within communities (pools, libraries, museums, museums, hospitals, colleges, etc…), the environmental characteristics of communities (including its climate), and the availability of recreational opportunities (Markey et al.

2009; Power 1996). The quality of life present in a community is also increasingly important for both the recruitment of new residents and economic activities (Halseth et al. 2003). Amenities alone are sometimes able to draw in new residents and development into communities, irrespective of the underlying economic situation of the community and the availability of jobs, a prime example being the mass migration of Americans from the rustbelt in the northeastern U.S. to the sunbelt in the southwestern U.S. and the American mountain west (Power 1996). The ability of amenities to attract new development runs contrary to orthodox economic development theory, such as economic base theory, which views people as migrating to employment. Amenities also help to increase tourism, which is one sector of the economy that has garnered a great deal of attention for its potential ability to foster economic diversification (Barnes and Hayter 1994). The increase in rural tourism in the industrialized world has largely been made possible by increases in car ownership and decreases in hours of work (Robinson 1990). Accordingly, road accessibility plays a key role in rural community diversification. In hinterland regions, tourism is mainly in the form of wilderness and scenic area viewing. Important for rural tourism is the need for multiple forestry land uses, and not just timber (Robinson 1990). The most common method to accomplish this is through conservation. Another possibility, particularly important in B.C. during the 1990s (see section 2.2), are resource boards.

Leadership is a key concept in contemporary economic development thought. The concept of leadership is both intangible – hard to define – and elusive; nevertheless, it is a very powerful tool in bringing about endogenous change (Walzer 1991; Markey et at 2005). A leader can be thought of in generalized terms as one who influences others, but whose authority comes from their followers (Hustedde 1991). Leadership is thus a collective endeavour – leaders need followers – for without the latter there could not be the former. Furthermore, leaders and followers need to be equals. Important is the difference between leaders and managers, the former are willing to take risks and are less interested in organizational structure and rules than the latter (Hustedde 1991).

Capacity building, “enhancing the potential of local people to solve problems” (Hustedde 1991, 111), is one method of creating leadership. Most often, “capacity building programs involve recruiting new leaders and working with outside agencies”

(Hustedde 1991, 112) to solve local problems and to create homegrown opportunities. A B.C. example of this process is the Forest Communities Project (see Markey et al. 2005 for details). Rural leaders face several challenges: limitations imposed by small organizational size; minimal specialized staff and access to consultants because of limited financial resources; isolation from major knowledge bases (Hustedde 1991, 111). As is evident from these challenges, the smallness and isolation of resource communities greatly affects their ability to promote endogenous leadership. Closely related to leadership is the concept of entrepreneurialism, which will be discussed in the next section.

The role of education in promoting economic development and diversification has been broadly investigated from two different viewpoints (Crihfield 1991). On the one hand, public school education of the general population has been investigated. The argument is that a well educated community is better able to endogenously create and attract outside economic development because: (1) it increases the amount of basic research in public universities and (2) it helps make communities more desirable, helping to attract and maintain investment (Crihfield 1991, 84). The evidence, however, suggests that this first broad interpretation of education has little impact on economic development and diversification. On the other hand, research on the role of education in directly promoting leadership has revealed a discernable link to economic development and diversification (Hustedde 1991). Community leaders can enhance their own competence and that of others (primarily their followers) through educational tools, such as: seminars, workshops, publications and educational videos. Increasing the education of rural residents is also necessary if they are to take full advantage of the benefits of higher paying FIRE service sector jobs (Markey et al. 2009).

Certain individuals within communities have also been observed to play key roles in bringing about endogenous economic development and diversification. Indeed, Walzer and Gruidl (1991, 97) have noted that “in most successful small communities, public officials are vital participants in development activities”. And likely the most important public officials within a community with regards to economic development are local economic development officers (EDOs) and their staff and colleagues (Markey et al. 2005; Walzer and Gruidl 1991). Unfortunately, many small rural communities do not

have sufficiently large population bases, and thus revenue bases, to create and maintain an EDO (Walzer and Gruidl 1991). In such situations, the role of economic development is usually the responsibility of the mayor, who often does not even have economic development on his/her radar. Another group of individuals who have been observed to play a critical role in promoting economic development and diversification are local community activists, especially retired citizens (Flora and Flora 1991). According to Walzer and Gruidl (1991, 101), "quite often, the availability of a retired or semi-retired resident who is willing to make business contacts makes all the difference".

The principal economic tools through which a community can achieve its economic development and diversification initiatives are through various funding sources (Walzer and Deller 1991). The principal funding source in communities is property taxes. The ability of communities to promote economic development by increasing property taxes is muddled as an increase in the local tax burden is likely to both scare off outside investors and prevent new local investments from occurring. Additionally, the tax base of rural communities is so small that a property tax increase (even a modest one) is likely to only result in minimal revenue increases. Additional local revenue sources include charges or fees for services, development fees and license fees (Walzer and Deller 1991, 69). User fees are also problematic for small rural communities because these become more effective as population increases. Another key source of local revenue is government assistance, which in the U.S. often comprises more than one-third of the revenue source of rural communities (Walzer and Deller 1991). Regardless of the amount of revenue that a community is able to procure there is no reason to assume that it will be spent on local economic development, hence the importance of local public officials and the general population being supportive of economic development.

The contracting out of economic development plans and report writing is another economic development and diversification tool available to communities (Walzer and Gruidl 1991). This can be especially appealing for small communities who often do not have the population base to support full time EDO staff. Once again, however, small communities are less able to take advantage of the benefits of contracting out development services compared to larger communities because of their relatively small revenue bases. Additionally, small communities are often unaware or unable to take

advantage of potential government funding and programs directed towards economic development and diversification because their small size limits the amount of municipal staff available to search out, discover and apply to them (Unruh 1991). One possible solution to the handicap of smallness that some communities have attempted is to pool their resources together. In conclusion, economic diversification necessitates "flexibility, improved access, and communication between local actors (private and public) and government" (Unruh 1991, 126). And the benefits of economic diversification can be great as they "provide communities with much-needed flexibility and security, which are necessary in order to maintain a positive climate for internal and external investment" (Markey et al. 2005, 159).

2.8 Local Development

Jean (1989, 6) defines local development (LD) as "from the roots up, development that is endogenous and self-centred". Synonymous terms include indigenous, native and bottom-up development as well as development from below (Coffey and Polese 1984). The 'local' in LD is meant to signify change originating from within a region (Coffey and Polese 1984). The ambiguity of both change and region is important: there is no fixed size limit to the region and change can mean several things, as will be seen. LD policy is necessarily based on the assumption that regions can develop comparative advantages based upon indigenous enterprises. There is general agreement in regards to the definition of LD – there is less agreement over the precise mechanisms by which it occurs (Barnes and Hayter 1994). This leads to multiple interpretations and visions of LD from disparate ideologies, three of which will be discussed here. A brief history of LD will be discussed first.

Local development was taken up seriously in the late 1970s[28] and throughout the 1980s as an alternative to the unsuccessful top-down development strategies prevalent before then (Barnes and Hayter 1994; Jean 1989; Polese 1999; Reed and Gill 1997). Also in the 1980s (and continuing to this day), governments in the West looked to download responsibilities, hence the appeal of LD for higher levels of government (Markey et al. 2008; Philip et al. 1993). The wide political appeal of LD, with advocates

[28] The term *local development* was first coined in the 1940s (Lotz 1987).

on both sides of the political spectrum, has also helped raise its profile (Polese 1999). The appeal for the right is the lack of government interference and redistribution, and emphasis on local initiative and small business. The appeal for the left is the promise of solidarity, community and co-operative development. LD is appealing from a community perspective because of the promise of development, democracy and control (Trist 1979). The rising awareness of environmental decline in resource regions in the 1980s also boosted LD (Markey et al. 2000). This awakening necessitated the consultation of local people through new public involvement methods, such as co-management initiatives, local resource boards, local round tables and community based action programs, which are prerequisite tools for the implementation of local development (Halseth and Booth 2003; Markey et al. 2000, 342; Reed and Gill 1997).

One view of LD, best exemplified by Coffey and Polese (1984, 1985), focuses on local entrepreneurs who are able to internally propel a region's economy, provided the right kinds of incentives are present. This can be viewed as an optimistic and neoclassical perspective (Barnes 1989). This perspective is avowedly economic in focus. Development is viewed only in 'hard' economic terms as being "sustained and irreversible economic growth" measured solely by increases in income (Coffey and Polese 1984, 1). It takes the current market economy as a given, along with the possibility for high levels of economic interaction amongst regions. Thus, LD supplements and plays a principal role but does not completely replace traditional (exogenous) forms of development. The local entrepreneur plays a key role in this model through innovation. Regions, especially remote resource communities, lack entrepreneurs because of limited access to information: "in cold economic terms, information costs – the efforts required to obtain information – are infinitely (sic) higher in the periphery than they are in the centre" (Coffey and Polese 1984, 89). Government can correct this imbalance through funding, the promotion of education and skill training of the local population (including persuading residents to remain in place) and social animation, in increasing order of complexity. The state thus plays an active role. LD organizations are also important and act as "information brokers, disseminators of ideas and innovations, and as catalysts for local projects and initiatives" (Coffey and Polese 1984, 89). If entrepreneurialism takes hold in a region, the success of which is based on

local characteristics, then economic success is guaranteed as the region progresses through four stages of development[29] (Coffey and Polese, 1984).

This first perspective places emphasis on the local, individual entrepreneur at the expense of ignoring larger structures and processes present in a capitalist economy. A second view of LD, best exemplified by Cox and Mair (1988, 1991), specifically emphasizes larger structural relations. This can be viewed as a pessimistic and neo-Marxist perspective (Barnes 1989). This perspective hinges on the concept of 'local dependence' introduced in section 2.6. The local dependence of firms, politicians and people is nested in broader national and international relations that are disrupted during periods of restructuring (Barnes and Hayter 1994). These disruptions force communities to compete against each other in an attempt to lure footloose capital. This is achieved through bottom-up planning through local coalitions of non-business factions, including local government and formal labour organizations. This development ultimately fails as the source of development is external capital flows and community groups are "marginalized because they were only able to participate through a narrow set of formal channels controlled by business interests" (Barnes and Hayter 1994, 295).

Both of these models suffer serious shortcomings (Barnes and Hayter 1994; Markey et al. 2000). As section 2.6 highlighted, specific historic conditions have resulted in a general lack of individual initiative in resource communities that may prove more difficult to overcome than Coffey and Polese imply. Cox and Mair, for their own part, place too much emphasis on structures: empirical evidence suggests that local agency can have discernable impacts on local economies (Barnes and Hayter 1994; Reed and Gill 1997; Markey et al. 2005). Resource communities also have context specific characteristics that negate some of the influence of structural forces: a history of militant unionization; a greater chance of resisting the hegemony of capital because of a lack of external business interests locally and minimal influence of outside capital in the quotidian function of resource communities (decision makers are located outside of the region); and difficulty in persuading outside investment (Barnes and Hayter 1994). There might also be situations in which co-operation, not competition, between communities is

[29] This perspective, similar to Lucac's community typology and Rostow's theory of economic growth, is thus deterministic.

mutually beneficial, such as is often the case with tourism, also discussed above (Markey et al. 2005). Often, regional cooperation is an important prerequisite for successful economic development (Markey et al. 2009). The upshot is that both agency and structures are important to LD (Barnes and Hayter 1994).

Community economic development (CED) is an ideal form of LD that builds upon the inadequacies and errors of previous LD perspectives (Markey et al. 2005). LD and CED are often used interchangeably in the literature but there are distinct differences between them (Reed and Gill 1997; Markey et al. 2005). CED is a practical undertaking concerned with improving, in a quantitative *and* a qualitative manner, the economic *and* social and environmental condition of communities. Development is thus not only viewed and measured in purely economic terms as in LD. CED is contextually grounded by addressing the specific conditions of communities, including appropriate goals and limitations (Galaway and Hudson 1994). CED is much more participatory than LD (Reed and Gill 1997): CED "seeks involvement of, participation by, and accountability to community members on decisions about overall strategy formulation and project implementation" (Reed and Gill 1997, 266) and CED requires the local articulation of community goals and values in the form of a community vision. The scope of participation should be wide and include actors from various ethnicities, socio-economic statuses, genders and ages (Markey et al. 2005; Midgley 1986). An authentic scale of participation is also desired, rather than the pseudo-participation of LD (Midgley 1986). LD often has a tenuous and shallow relationship with the community focusing on select elite individuals resulting in less overall community participation (Markey et al. 2005). CED addresses the inherent market failures[30] of capitalist systems whereby the market performs disutility to select individuals, the environment or society as a whole, which cause deficiencies in traditional LD perspectives (Markey et al. 2005).

Specific principles guide the practical application of CED: participation (discussed above), sustainability, asset-based planning and community self-reliance. The environment sustains our economy: without the former the latter cannot exist (Pierce 1992). Thus, the social health of communities is also intimately dependent upon the

[30] Key market failures from a CED perspective are externalities, space economies, lack of markets and self-interest (see Markey et al. 2005 pp 105-110 for a detailed discussion of each). For a feminist critique of market failures, see Barker and Kuiper 2003.

vitality of the environment. Falldown and resource exhaustion are consequences of *not* properly addressing sustainability. Traditional LD is needs-based: experts assess critical weaknesses within a community and *then* design programs and policies (Markey et al. 2005). CED inverts this perspective by being asset-based: weaknesses are not ignored but planning starts by looking at a community's strengths and building upon 'community capital'[31]. An underlying goal of CED, indeed, of LD in general, is to seize some measure of control over the local economy (Boothroyd and Davis 1991; Gill and Reed 1997, 1999; Polese 1999). The level of ideal self-reliance within a community varies. An extreme interpretation preaches for a complete (or very near) detachment from the outside: local needs are met through locally managed production and all external leakages are eliminated (Markey et al. 2005; Schumacher 1973). None of the eight qualitatively researched communities showed any evidence of trying to accomplish this. A second, more moderate perspective, sees communities as being interdependent at regional, national and (increasingly) international scales, thus leaving a role for external levels of government in CED (Markey et al. 2005). This perspective seeks to reduce both the influence of external decision-making and economic dependency to build more locally-favourable external relationships. Thus, communities can interact with higher scales on their own terms and as equals. Once community success factors have been assessed a community can then proceed to the final CED process step[32].

Both LD and CED share the same common desire to situate control, albeit to varying degrees, locally – to transfer the locus of traditional decision-making and power from external bodies[33] (business and government) to local bodies. In neo-classical LD, decision-making and power is held locally by a few elite entrepreneurs whereas in CED it is (ideally) located equally throughout the entire population of the community. LD is not without its strengths, however. Its focus on entrepreneurship, creating locally grounded businesses attraction plans and concern for local infrastructure and competitiveness are valuable contributions to the ultimate goals of locally-based development that are often lacking in CED (Markey et al. 2005). The focus of neo-Marxist LD on the forces of

[31] Asset-based planning is assessed and implemented through several success factors based upon human, economic, social and ecological capital (see Markey et al. 2005 chapter 6).
[32] For details see chapter 7 of Markey et al. 2005 and also chapter 5 of this thesis.
[33] This level of external dominance, as the discussion has shown, is very strong in a staples economy – especially in triply peripheral B.C. resource communities.

external structures is also an important contribution. Consequently, LD and CED are not contradictory terms but rather complement and reinforce one another: “there is much to be gained from developing a conceptualization of local development that merges the insights of each” (Reed and Gill 1997, 268). In this thesis ‘local development’ is used to refer to a merged LD/CED perspective combining the benefits and shared objectives of both. Bottom-up and top-down planning co-exist in B.C. today (Halseth et al. 2007).

2.9 Summary

The history of forestry in the province of British Columbia was investigated and then interpreted by employing staples theory. Staples theory is an appropriate school of thought to use in this thesis as it is a powerful tool in helping to explain the causes of dependency in B.C. forestry communities. Local development coupled with economic diversification was investigated as a potentially efficacious method of reversing the negative effects of dependency. The central roles of community and rurality necessitated an investigation of these concepts. The literature review and the academic insights that it produces play vital roles in all of the following chapters. It is through the literature review that the selection of appropriate variables to be used in the statistical analyses of chapter 4 can be accomplished. Explanation in case study methodology is based on theoretical insights generated through the literature review. These insights can then be tested against the empirical results of chapter 4 in the hopes of achieving literal or theoretical replication. The proceeding chapter (chapter 3) will explain these points in greater detail by investigating the specific methodologies that will be used in this thesis.

CHAPTER 3.
Research Methods

3.1 Introduction

As the literature review has shown, there is a historically long and contextually rich body of knowledge investigating both forestry and rural economic development in the province of British Columbia: from the classic work of Marchak (1983) through to the 1990s and the reinvigoration of staples theory by Barnes and Hayter applied to coastal B.C. forestry communities up to the present CED focus of Markey et al. (2005) applied to interior B.C. forestry communities. The research process of this thesis was grounded in this body of knowledge. Mixed-method research – statistical analyses and a multiple-case study – was employed to analyze various theoretical propositions generated by investigating this body of knowledge. The research is explanatory in nature with the goal of adding new insights to this existing body of knowledge. This chapter will cover the research design and methods used in this thesis. The application of this research to other cases, potential complications and ethical considerations will also all be discussed.

3.2 Research Design

Of the three primary purposes of research – exploration, description and explanation (Babbie 2001) – explanation was the focus of this research. As such, a mixed-method research design was selected, which through the combination of both quantitative and qualitative analyses can be a powerful explanatory research design (McKendrick 1996a, 1996b; Philip 1998; Smith 2000; Yin 1994). The quantitative and qualitative components of this thesis' mixed-method research design help answer the principal research question and its sub-questions. By including both quantitative *and* qualitative analyses in the research design, contextually-rich explanations become possible, which are impossible if one uses only statistical analyses (Yin 1994).

The focus of the quantitative chapter is answering the quantitative research sub-questions. These address the relative importance of the three dependent variables (all

different measures of diversification) to the independent variables. One of the sub-questions involves the appropriate selection of independent variables based upon the research objectives. This was initially addressed through an investigation of potential independent variables in chapter 2. To a large extent, the final selection of independent variables was determined by data availability. This resulted in the selection of easily available variables that are contextually complex because they act as surrogate variables for numerous forces. The selection of more narrowly focused independent variables would be preferred. However, this is not possible given the constraints of data availability. The final selection of independent variables and the concept of surrogate variables will both be discussed in greater in chapter 4. The remaining quantitative sub-questions were addressed by performing both single and multiple linear regressions of the dependent variables to the eleven independent variables. Linear regression, if certain assumptions are met (see below), is a powerful tool for establishing correlations between independent and dependent variables (Pedhazur 1982). The spatial units for all of the linear regressions were based upon the local regions used in Horne's analyses.

The focus of the qualitative chapter is answering the qualitative research sub-questions. The latter addresses *how* resource communities are currently dealing with the forces of economic restructuring and to establish reasons *why* some communities have been able to negotiate these forces more successfully than others. A case study of several interior B.C. forestry communities was chosen as a case study is the preferred social science research tool when one is asking 'how' or 'why' questions, the time period in question is contemporary and one has little control over the events being investigated (Yin 1994). An embedded case study design in which multiple units of analysis are investigated was chosen over a holistic case study design that uses only one unit of analysis as the former decreases the likelihood that a potential change in the nature of the study will negate the results of the case study (a phenomenon referred to as *slippage*) (Yin 1994, 43). A multiple case study design in which eight different communities were investigated was chosen over a single case study design as the former results in more robust explanatory powers than the latter (Yin 1994). According to Yin (1994, 46), each case in a multiple case study must be carefully chosen so that they either (i) predict similar results (literal replication) or (ii) produce contrasting results but for predictable

reasons (theoretical replication). The choice of communities was to a large extent based upon minimizing differences between the communities, thus literal replication was the explanatory focus. Nevertheless, some important differences between communities were present and became important tools for achieving theoretical replication (see chapter 5 for details). Besides the interviews, relevant documents and archival records were also used as empirical data sources. See appendix G for a schematic summary of the mixed-method research design utilized in this study.

The research design in this thesis involves the observations of changes within a population over time and can thus be labeled a longitudinal trend study (Nachmias and Nachmias 1992). Specific time boundaries are needed to define the beginning and end of a longitudinal study (Yin 1994). The beginning time boundary of the study was based on the historical availability of key documents, namely the first Horne analysis, which investigated the economic diversification of B.C. communities based upon 1991 census information. The end time boundary of the study is to the time of thesis writing. Chronologically, the interviews took place in early 2008 before most of the statistical analyses were performed in mid-2008. Performing the interviews after the statistical analyses were completed could have potentially enhanced the construction of the interview questions. The interview results, however, help to identify an independent variable that correlated strongly with the dependent variables.

3.3 Research Methods

3.3.1 Introduction

The research methodology of this thesis not only encompasses qualitative and quantitative research methods, which can both be used in a single case study (Babbie 2001), but also mixed-method research that combines two very different types of social science research tools: linear regression analysis and case study analysis. Linear regression and case study methodology will both be discussed independently. As mixed-method research has not been employed regularly by social scientists an independent section will also be dedicated to mixed-method methodology. The data collection methods of both the quantitative and qualitative halves of the research methodology will also be discussed including conceptualizations of each research tool.

3.3.2 Quantitative Research: Linear Regression

The quantitative research section of the thesis (chapter 4) is centred on the analyses of various variables. The three dependent variables, economic diversification, forestry dependency and nonbasic income ratios, were all drawn from Horne's studies of the economic diversification of B.C. communities. The choice of independent variables was primarily based upon findings from the literature review and on data availability constraints. Economic diversification was related to the effects of the causal independent variables through the use of scattergrams and bivariate least-square regression analysis (Millward 2005). The individual contribution of each of the independent variables was discerned through the use of multiple regression analyses. This study primarily employs Pearson's product moment correlation to assess the strength of relationships between independent and dependent variables.

For linear regressions to be valid certain assumptions need to be met: independent variable is a fixed variable; all variables measured without error; relationships between independent and dependent variables are linear; simple random sampling; continuous interval data; homoscedasticity (Pedhazur 1982; Babbie 2001). Due care has been exercised to assure that these assumptions have been met (see chapter 4 for details). The choice of the geographical unit of analysis is subject to a modifiable areal unit problem "with respect to the data and subsequent statistical results" (Millward 2005, 182). This can result in spatial autocorrelation in which the results of neighboring units converge. The chances of autocorrelation occurring increase as the size of units decrease (Millward 2005). Methods exist to address the effects of autocorrelation, such as autocorrelation indices like distance-weighted bivariate spatial autocorrelation (Baily and Gatrell 1995). However, this approach would greatly increase the complexity of the analysis and "complicate interpretation of results and would lack the clarity and familiarity of conventional correlation" (Millward 2005, 185) and will thus not be attempted here.

3.3.3 Qualitative Research: Case Study

To best answer the qualitative research questions a multiple, embedded case study was chosen. Defining 'case study' has proved difficult for social scientists, likely due to

the general and widely applicable nature of case studies (Babbie 2001; Nachmias and Nachmias 1992). Case studies differ from ethnographies and participant-observation even though case studies are often included as a subset of these in larger research methods texts (for example, see Babbie 2001). Case studies can be viewed as empirical inquiries of important contextual conditions in which the context is to be maintained (Yin 1994). This differs from experiments in which the 'context' is deliberately controlled (Babbie 2001). Case studies rely on multiple sources of evidence (see section 3.3.6) to test theories based upon prior development of theoretical propositions (Yin 1994). Consequently, case studies are neither a "data collection tactic or a design feature alone but are a comprehensive research strategy" (Yin 1994, 12).

Case study methodology begins with a review of the appropriate literature of the research question at hand (Yin 1994). From the literature review, theoretical propositions can be made. The goal of an explanatory case study is to assess these theoretical propositions by testing them against evidence collected from the various research tools employed in the case study. For a case study to be valid it must be logical (Yin 1994). This is accomplished by making sure measures are operationalized correctly and without error (construct validity) (Babbie 2001). Relationships are causal and not spurious (internal validity) (Yin 1994). The domains to which a study's findings can be generalized are established (external validity). A thorough literature review helps achieve the latter two. And the results of the study are well documented so that the study can be repeated by someone else with the same results (reliability) (Yin 1994).

3.3.4 Mixed-Method Research

Mixed-method research, the blending of qualitative and quantitative research techniques, has not been extensively practiced in human geography. Currently, most research in human geography is entirely, or at least mostly, qualitative in nature (McKendrick 1996a; Philo et al. 1998; Philip 1998). Some progress has been made combining qualitative and quantitative methods. Most of this 'combining' however has not been within the same research project; instead of combining a more appropriate label might be influencing. Thus, qualitative methods have been *influenced* by quantitative thinking in the formers recent trend towards using coding of qualitative data (Crang et al.

1997; Hinchcliffe et al. 1997; Smith 2000). And quantitative methods have been *influenced* by qualitative thinking in the formers recent trend towards integrating politics, culture, social-relations and power-relations within their research designs (Barnes 2000). During this time, some geographers have attempted and argued for the increased use of legitimate mixed-method research in geography (Hepple 1998; McKendrick 1996a, 1996b; Philip 1998; Philo et al. 1998; Pratt 1995; Smith 2000; Yeung 1997). Research would thus combine both qualitative (field-work, in-depth interviews, ethnography, and so on) and quantitative (statistical analysis, model building, and so on) research methodologies within the same research project.

There is no rule why more than one strategy cannot be employed in any given study (Yin 1994). Indeed, Hepple (1998, 232) argues, "social science will remain (and to the pragmatist should remain) a conflicting medley of perspectives", and Smith (2000, 662) presages, "research which combines different qualitative methods and exploits the complementarity of qualitative and quantitative findings looks poised to gain a new respectability within the discipline [of geography]". Possibly the biggest benefit of using mixed-method research is that the explanatory potency of research findings is enhanced through the corroboration of methods (methodological triangulation) (Yin 1994). Despite this benefit and the growing literature on mixed-method research, mixed-method research remains on the margins of current human geography research[34]. This research hopes to showcase the benefits of mixed-method research.

3.3.5 Data Collection Methods: Quantitative

The quantitative phase of this study was based primarily upon reviewing the existing academic literature and to a lesser extent on the preliminary findings from the interviews, which were performed before the majority of the statistical analyses took place (see appendix G). This identified potential candidates to be included in the statistical analysis as independent variables. To simplify the analysis, only economic, spatial and demographic variables were considered. As such, no social, cultural or

[34] This resistance to statistical analysis in human geography is largely a byproduct of the continued backlash against these methods since the 'cultural turn' of the 1970s and 1980s. Before this time, quantitative methods dominated geography (and most social science). The supremacy of quantitative methods started in the 1950s and 1960s during the 'quantitative revolution' (see Barnes 1998).

ecological variables were considered, although the body of research on the importance of these to local development is extensive and continually growing[35]. Variables were included or excluded from the analysis based on data availability and conformity to the necessary assumptions of the general linear model, of which regression analysis is one particular type.

The data for the dependent and independent variables originated from three sources (see figures 4.1 and 4.2). First, the three dependent variables (diversification, forestry dependency and nonbasic income ratios) and two of the independent variables (government and public dependency ratios) are derived from Horne's 2004 study into the economic diversity of rural B.C. (see section 4.3 for a discussion of Horne's analyses). Second, the three spatial independent variables measure the following three distances for each research region: distance to nearest regional centre; distance to the Southern Transportation Corridors[36] and distance to Vancouver. Third, the remaining six independent variables are derived from data from the 2001 Canada Census. This includes the three demographic independent variables analyzed: overall regional population, the population of young adults aged 20-29, and the population of seniors; and the three remaining economic independent variables: per capita median income, unemployment rate and government transfers. The average value of variables for each overall region was used. All of the figures used were parametric variables (interval or ratio) thus facilitating the use of linear regression (Pedhazur 1982). For a more detailed discussion of each variable, including their constructions, see chapter 4.

3.3.6 Data Collection Methods: Qualitative

Case studies are able to incorporate a large range of evidence types, including: documents, artifacts, interviews, direct observations, participant observation and archival records (Yin 1994). Furthermore, case studies can include either single (holistic) or multiple (embedded) units of analysis. Good case studies use as many sources of evidence as possible (see below). For this research, an embedded case study was

[35] For a thorough discussion of key non-economic factors, see Markey et al. 2005 chapter 6.
[36] The Southern Transportation Corridors includes Highway 1 (Trans-Canada Highway) through the mainland of the province, the Coquihalla Highway (Highway 5 between Kamloops and Hope) and a short section of Highway 3 between the southern terminus of the Coquihalla Highway and Hope.

employed with its primary units of analyses being (in decreasing order of importance) interviews, documents and archival records. The selection of units of analyses was based on the literature review and, to a lesser extent, on the findings of the statistical analyses (see appendix G).

The design of case study interviews need to be open-ended (Yin 1994), which differs greatly from the rigid set of questions used in questionnaires (Babbie 2001). By using open-ended interviews, case studies are able to maintain contextuality, a key requirement of case study research (Yin 1994). Thus, even though the interviews used in this research were phone-based, the questions were extremely general in nature so that the interviewees could provide extensive facts and personal opinions. Interviewees were asked to propose their own insights into certain situations that could then be used to ask further questions. No time limits were set so that interviewees did not feel rushed while answering questions. Separate interviews were performed with each of the EDOs from the eight research communities. To facilitate comparisons amongst the results of the eight interviews (one of the research sub-questions), each interview was performed using the same questions. The eight interviews were conducted during the first half of 2008.

The benefits of using interviews are that they are targeted by being able to focus directly on the case study topic and are insightful by revealing casual inferences (Yin 1994). Care must be exercised, however, to make sure that good questions are constructed (base upon the literature review), response bias is minimized and that the interviewee answers the questions thoughtfully and with appropriate effort. For reference, the interview questions can be viewed in appendix A. Verbal consent from all participants was received before interviews started. Detailed notes were taken for each interview and all were electronically recorded for future references (thus enhancing reliability). All interviewees were informed before the interview started that the interviews would be recorded. The final results of the research will be shared with the interviewees.

The primary use of documentation and archival records in case study methodology is to augment and corroborate evidence from other sources, primarily interviews (Yin 1994). The primary documents used were written reports, administrative documents and electronically-based information from various websites. The benefits of

documents and archival records are very similar and include being stable, unobtrusive, exact and extensive coverage (Yin 1994). Potential pitfalls include low retrievability, bias selection of documents by researcher and poor access. Furthermore, it is vital that the information retrieved from documentation and archival records are not viewed as fact – all evidence must be carefully scrutinized (Yin 1994).

Information from the documents and the archival records influenced the interviews (Nachmias and Nachmias 1992) (much in the same way as the literature review influences the interviews). All three sources of evidence in this case study (interviews, documents and archival records) were then analyzed based upon previous theoretical propositions generated from the literature review. This material can then be summarized and analyzed to uncover any potential literal and theoretical replications (see chapter 5). If such replications are made explanation is accomplished (Yin 1994). Alternatively, if replication is not met reasons for it can be proposed. By using multiple sources of evidence the development of convergent lines of inquiry is possible (Babbie 2001). The corroboration of data sources (data triangulation) thus "addresses the construct validity because multiple sources of evidence essentially provide multiple measures of the same phenomenon" (Yin 1994, 92)[37]. Both literal and theoretical replications in case studies (similar to scientific experiments) can be generalized to theoretical propositions and not to populations or universes (Babbie 2001). In case studies, the explanatory goal of the researcher is "to expand and generalize theories (analytical generalization) and not to enumerate frequencies (statistical generalization)" (Yin 1994, 10). Finally, the results of the research are only applicable over the domain of the research, based upon the time period in question and the internal validity afforded by the study (Yin 1994). Thus, as the analytical periphery of the study is reached the results of the study have increasingly less significance.

3.5 Potential Complications and Ethical Considerations

Case studies and statistical analyses are both examples of empirical research and as such they share some similar complications. These include inaccurate observations

[37] As noted in section 3.3.4, corroboration of methods (methodological triangulation) also increases the explanatory power of research.

and measuring errors, overgeneralization, selective observation and illogical reasoning (Nachmias and Nachmias 1992). Care must be exercised to prevent these from occurring. Additionally, errors in reasoning about causation can occur, such as provincialism, questionable cause and suppressed evidence (for details see Babbie 2001, 81-84). Social scientific research seldom completely satisfies all of the strict assumptions of the general linear model. Thus, care must be exercised in assessing the results of regression analyses (Pedhazur 1982). This is especially true when one tries to extrapolate results beyond the data range of the study (Babbie 2001).

Perhaps the greatest critique of case studies is that they lack rigour (Nachmias and Nachmias 1992). To overcome this, researchers must strictly adhere to a predetermined case study methodology that guides their research and researchers must report all evidence fairly (Yin 1994). An additionally forceful critique of case studies is that they lack explanatory power (Babbie 2001). As the prevision section discussed, however, there are case study methodologies that can yield robust explanatory power. Case studies also have the potential to become very time consuming and overly lengthy, which can result in massive, unreadable documents (Yin 1994). Once again, by creating a well thought out case study methodology one can do a "good case study without leaving the library and the telephone (!)" (Yin 1994, 11).

Embedded case studies can become overly focused on one or more subunits of inquiry (Yin 1994). To avert this, researchers must be continually cognizant of the larger research question, if only mentally. While doing interviews, the interviewer "needs to be cautious of interpersonal influences – frequently unidentifiable" (Yin 1994, 84) – that the interviewee may have over them. This can be especially common in situations in which the interviewee is viewed as having more expert knowledge than the interviewer (Babbie 2001), as is arguably the case in this research. While writing the report, the greatest error that the researcher can make is to compile the final report from an "egocentric perspective" (Yin 1994, 132). This can be avoided by paying close attention to ones audience and the literature review.

The principal ethical issues in social science research include involuntary participation, harm to participants, anonymity and confidentiality (Babbie 2001). All participant participation was completely voluntarily and all participants were informed of

any foreseeable harms (thought they were negligible) that may result as a consequence of their participation. Ethics approval was granted for this research by the ethics board of Simon Fraser University. Anonymity, in which not even the researcher knows the identity of participants, was not possible. Confidentiality, in which the researcher knows the identity of participants but they are not revealed to anyone else, was partially maintained: the names of participants were not revealed although the positions of interviewees were revealed as was their community of employment. Although case studies should ideally be free from confidentiality and anonymity (Yin 1994), partial confidentiality was maintained in this research as it was thought that it may increase the likelihood of economic development officers agreeing to the interview.

3.6 Summary

In summary, a mixed-method research methodology was employed in this thesis. Quantitatively, key economic and demographic statistics, together with spatial measures acted as the independent variables and were analyzed using linear regression analyses against three different independent variables from Horne's analysis of B.C. hinterland communities. Qualitatively, an embedded, multiple case study was employed. The interview of economic development officers in eight B.C. interior forestry dependent communities was the primary evidence source. Less important evidence sources included documentation and archival records. The focus of the qualitative research is explanatory and thus literal and theoretical replications are to be attempted. These, combined with data triangulation and corroboration, have the potential to yield powerful analytical generalizations. A mixed-method methodology further increases the potential for corroboration through the use of methodological triangulation. Due care must be exercised so that any of the potential complications and negative ethical considerations discussed are averted.

CHAPTER 4.
Results: Quantitative Research

4.1 Introduction

The causes of dependency and community economic health are complex and variable. As a single measure of community prosperity, economic diversification ratios are able to somewhat simplify this variable menagerie. The same is true for forestry dependency ratios, which are a measure of community malaise. The intent of this chapter is to investigate the correlation of various spatial, demographic and economic variables (independent variables) to economic diversification, forestry dependency and nonbasic income ratios (dependent variables) using linear regression. The choice of independent variables was based primarily upon the literature review and data availability. By no means is the choice of variables meant to be exhaustive of the causes of diversification and dependency. First, to simplify the analysis so that it is manageable given the limited amount of time and space available here, no social, cultural or ecological variables are being investigated. Second, the inclusion of an excessive amount of independent variables leads to overfitted issues with the multiple linear regressions. The three dependent variables are a theoretical manifestation of economic base theory. As such, the next section will introduce this body of knowledge. The proceeding section will discuss applications of economic base theory in B.C. Next, the operationalization of the independent variables will be covered. Finally, the results from the statistical analyses will be investigated.

4.2 Basic and Non-Basic Sectors of the Economy

Economic base theory divides a regional economy into two sectors (Bendavid-Val 1991; Coffey 1996; Davis 1990; Glickman 1977; Loveridge 2004; Power 1996; Shaffer et al. 2004). The first, or *basic* sector, exports its goods and services, either to

surrounding areas outside of the local region or to tourists within the local region (Shaffer et al. 2004). The key factor is that the origin of the income used to purchase the good or service is external to the local region. The second, or *nonbasic* sector, sells its products within the limits of the region to local residents or businesses. *Direct* changes originate exogenously to the region and affect the basic sector. These direct changes are then circulated through the local economy as *indirect* (intermediate local products used in the basic sector) and *induced*, or *final-demand* changes (spending of income by local residents generated through the basic sector) (Horne 2004; Kresge et al. 1984). The basic sector comprises both direct and indirect effects (Glickman 1977).

The basic sector is said to 'propel' or be the 'engine of growth' of the regional economy by creating injections into the local economy (Coffey 1996; Davis 1990; Glickman 1977; Loveridge 2004; Shaffer et al. 2004). These injections, through the circular flow of income within the local economy and (Keynesian) multiplier mechanisms, create additional local growth (Glickman 1997; Plummer 2000; Shaffer et al. 2004). In other words: changes in the basic sector (originating as direct effects), after circulating through the regional economy (as both indirect and induced effects), result in changes to the overall economy that are greater than the initial direct change in the basic sector. It is only basic sector stimuli – direct effects – that ultimately influence the regional economy (Bendavid-Val 1991; Davis 1990; Glickman 1997; Shaffer et al. 2004). The nonbasic sector, on the other hand, is never the origin of change in the magnitude of the local economy. The nonbasic sector exists solely to support the basic sector; without the latter the former could not exist (Davis 1990; Glickman 1977).

Economic base theory uses several assumptions (Davis 1990; Glickman 1977; Loveridge 2004; Shaffer et al. 2004). As discussed, direct effects act as the only stimulus for change in the local economy. In addition, the ratio of the basic sector to the nonbasic sector is constant over time. The marginal propensity to consume locally, that is, the ratio of goods and services purchased locally, is constant over time and not related to changes in income (Glickman 1997; Shaffer et al. 2004). The amount of local income generated by each dollar of local spending is constant. The relative prices of capital and labour do not change, not even as their demand and supply change. Capital and labour are instantaneously available after an increase in the basic sector, thus there exists a "pool

of underutilized resources" (Davis 1990, 13), and the wages and profits of capital and labour are constant and unrelated to changes in the economy (Bendavid-Val 1991; Davis 1990; Glickman 1977). The economic structure of a community in the past will predict its economic structure in the future (Shaffer et al. 2004). Interregional feedback, whereby trade is enhanced between regions because of trade linkages between the two regions, is nonexistent (Davis 1990). Finally, the import of basic goods and services does not occur – a region is either exporting its basic goods (and consuming out of that all of its local needs) or importing everything else not produced by its basic sector (Glickman 1977; Shaffer et al. 2004).

The numerous assumptions of economic base theory discussed above have the potential to greatly limit its application in economic base *models*. Indeed, many of the assumptions of economic base theory are unrealistic. Most obvious, regions are not static and aspatial entities. It is a truism that regions are constantly experiencing change. One example being change that originates from within the nonbasic sector that can be caused by: transfer payments from subnational or national governmental bodies (general government spending, social assistance payments and employment insurance); population changes not related to changes in the magnitude of the basic sector (non-market-stimulated – for example, the migration of Americans to the sunbelt); investment income from local residents that can create infusions into the economy, increasing both the basic and nonbasic sectors (Davis 1990; Glickman 1977; Loveridge 2004; Shaffer et al. 2004). In the long-run, the numerous assumptions of economic base theory limit the usefulness of economic base models. In the short-run, however, these assumptions, in relation to their affect on economic base models, are likely tenable (Glickman 1977; Bendavid-Val 1991). Time horizons and the accuracy of economic base models are thus inversely related.

A distinction needs to be drawn between the use of economic base models to analyze certain specific situations and the purposeful pursuit of public policy based upon the 'logic' of economic base theory. As discussed in the literature review, economic development policy that focuses exclusively on exports (the basic sector of the economy) often results in staples dependency and a specialized, and thus vulnerable, economic base. This can be especially true in small communities. However, the application of

economic base models to study the impact of exogenous basic sector changes may be appropriate in some quite restrictive situations (such as for resource dependent communities when using recently calculated multipliers) (Bendavid-Val 1991). Similarly, the application of economic base models to calculate up-to-date diversification and dependency ratios may also be appropriately used.

4.3 B.C.-Based Analyses: Horne and the Dependent Variables

Since the 1990s, Gary Horne and fellow researchers at BCStats have created a sophisticated economic base model that incorporates recent improvements in economic base models (Horne and Powell 1995; Horne 1999, 2004)[38]. In Horne's model, the province of B.C. is divided into sixty-three regions, termed *local areas*, constituting the majority of the province[39]. Seven of these local areas (LAs) are further divided into seventeen geographically smaller sub-regions. The basic sector for each LA is divided into two components: basic employment income and basic non-employment income. The former is further divided into basic direct employment and into basic indirect employment. Basic direct employment is composed of ten component industries: forestry, mining and mining processing, fishing, agriculture and food, tourism, high-tech, public sector, construction, film production and other. To incorporate basic non-employment income into the model, income is converted to the amount of jobs it would support in the basic industry based upon the specific characteristics of each region. Basic non-employment income is itself divided into two components: transfer payments and other non-employment income. In total there are thus twelve basic sector components in Horne's model. By taking into account multiple basic industries and basic non-employment income the accuracy of the model is greatly increased.

The overall basic sector was demarcated using a combination of indirect (assumption and location quotients) and direct methods (by tracing actual industry linkages using the BC Input Output Model and survey and interview data) (Horne 2004). Again, by using multiple methods to demarcate the basic sector the accuracy of the model

[38] This is not the only application of economic base models in B.C. Another example dealing specifically with resource communities quantified resource strengths and assessed "tools that quantify the relative ability of opportunities to be implemented" for the Mount Waddington Region on northern Vancouver Island and a large area of the adjacent mainland (Synergy Management Group Ltd. 2003, 2).

[39] The lower mainland was excluded as it is an urban area with a highly developed nonbasic sector.

is enhanced. The regional dependence of each of the sixty-three regions on each of the twelve different basic sector components was then calculated. Based upon these dependency percentages, diversification ratios (Div) were calculated. A region with a diversification ratio of 100 has a basic sector that is divided equally between all twelve basic sector components (each contributes 8.3%). A region with a diversification ratio of 0 has a basic sector that is entirely composed of a single basic sector component. From the forestry income dependency (F_Dep, see chapter 5), a Forest Vulnerability Index (FVI) was then calculated for each region. The LA with the highest dependency on forestry was arbitrary assigned a value of Fmax=100. The region with the lowest dependency on forestry was assigned a value of Fmin=0. The Forest Vulnerability Index (FVI_i) for a region with a forestry dependency of F_Dep_i is then:

$$FVI_i=100*(F\_Dep_i-Fmin)/(Fmax-Fmin)$$

The final dependent variable (DV), nonbasic income ratios, is total nonbasic income divided by total basic income (all after-tax)[40].

Table 4.1: Dependent variable (DV) definitions.

DV Name	Dependent Variable Definition	Source
Div	Diversification Ratios	Horne
For/FVI	Forest Vulnerability Index	Horne
NB_Inc	Non-Basic Income Ratios	Horne

Four of the LAs were excluded from this study: Victoria, Matsqui-Abbotsford, Pitt-Meadows-Maple Ridge and Mission. The reasons for this are broadly similar to why Horne excluded the (majority) of the Greater Vancouver region from his original analysis: these four regions are much more urban in composition than rural and consequently the assumptions of economic base theory are arguably not met. Furthermore, staples theory conceptualizes these regions as being part of the urban southwest metropole. This then leaves a data set of 59 LAs plus 17 sub-regions. The LAs and sub-regions used in Horne's analyses were exclusively created for these studies and are different in composition from other statistical regions used by BCStats and StatsCan. They are generally smaller in size than the regional districts used in B.C.

[40] The three dependent variables are all closely related concepts derived from the same data set using the same model. This explains why each has been treated as only dependent variables in the analyses and not as independent variables of each other as that would result in excessive collinearity.

(though a few are coterminous) but still incorporate several different communities and other census-subdivisions. This creates data issues and difficulties with cross-census comparisons. As such, all data used in the analysis is from 2001, the year of the most recent Horne study at the time of data analyses. These data issues will be discussed further in section 4.6.

4.4 Independent Variables and Proxies

Table 4.2: Independent variable (IV) definitions.

IV Name	Independent Variable Definition	Category	Source
Van	Distance to Vancouver, per 100 km	Spatial	n/a
R_C	Distance to Regional Centre, per 100 km	Spatial	n/a
STC	Distance to S.T.C., per 100 km	Spatial	n/a
Pop	Total Regional population, divided by 1000	Demographic	Census
Sen	Percentage of pop. 65 years of age and older	Demographic	Census
P_20_29	Percentage of pop. between 20 and 29 years old	Demographic	Census
Gov	% of income dependent on total government	Economic	Horne
Pub	% of inc. dependent on public administration	Economic	Horne
U_E	Unemployment Rate	Economic	Census
Inc	Median personal income, divided by 1000	Economic	Census
Tran	% of income from government transfers	Economic	Census

Notes: n/a = not applicable; S.T.C.=Southern Transportation Corridors; pop.=population; inc.=income.

The independent variables (IV) used in the statistical analyses can be broadly grouped into three categories: spatial, demographic and economic[41]. The distance from Vancouver to each region is the first spatial measure of the effects of isolation [Van] [42]. The distance of each region to its closest regional centre is the second spatial variable. The regional centres are: Vancouver, Victoria, Kamloops, Kelowna, Nanaimo, Prince George – and two Albertan cities – Lethbridge and Calgary. All LAs with populations greater than 75,000 were considered regional centres[43]. Finally, proximity to the main thoroughfares of the province, the Southern Transportation Corridors, seemed to play a key role based upon the findings of the interviews, to be discussed in the next section,

[41] The abbreviated names for each variable used in the statistical analyses will be shown in square brackets.
[42] In calculations, all spatial variables were divided by 100 and rounded to one decimal place.
[43] The choice of 75,000 is somewhat arbitrary. There are some regions with populations over 50,000 that arguably could also be included as regional centres. However, these latter regions are all adjacent to one of the seven regional centres and thus their inclusion would have minimal effects on the overall calculations.

and is thus the third spatial variable [STC][44]. Distances were measured from the city centre of the most populous community within each region[45] to the nearest city centre (regional centre/Vancouver) or intersection with the nearest S.T.C., depending on the variable. Where ferry rides were necessary, a conversion of one hour of ferry time to 80km of road travel distance was used (approximate highway speed) for ocean plying ferries[46] and a flat 30km equivalent road travel distance for interior freshwater ferries.

Three demographic variables were also calculated. Overall population investigated the effects of smallness [Pop][47] on the DVs. Senior citizens can sometimes play an important role in diversification, thus the percentage of seniors (persons 65 and older) to the total population was included [Sen]. Conversely, the presence of a comparatively large cohort of young adults can also be a key catalyst for regional prosperity and economic diversification. To investigate this, the percentage of the population of young adults between the ages of 20 and 29 to the total population was calculated [P_20_29][48]. Finally, five economic IVs were investigated. Two measures of income dependencies calculated in Horne's analysis were investigated: total government (local government plus other government) [Gov] and public administration (total government plus health and education) [Pub]. The other economic variables were calculated using census data: unemployment rate [U_E], median total income [Inc] and the percentage of total income derived directly from government transfers [Tran][49]/[50].

Sen, P_20-29, U_E, Inc and Tran were calculated by summing population-weighted averages from each of the different Census Sub-Divisions (CSD) within each LA. The census information is sometimes incomplete in smaller CSDs. Generally in this situation, the overall population of the LA region is significantly larger than the

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[44] See footnote 35.
[45] For the seven LAs with sub-regions, distances were calculated by population-weighted averages of the distances from the city centre of each sub-region.
[46] An additional 30 minutes was added to account for time spent waiting in ferry queues. An additional 2.5 hours of ferry queue time was added to the Skidegate (Queen Charlotte Is.) to Prince Rupert ferry to take into account the very low ferry service on this route.
[47] In calculations, overall population was divided by 1000.
[48] In calculations, Sen had zero decimal places while Pop and P_20_29 each had one decimal place.
[49] Tran includes welfare payments, Old Age Security pensions, Guaranteed Income Supplements, Canada Pension Plan, Employment Insurance benefits, Federal Child Tax benefits and thus differs from the Gov and Pub variables calculated by Horne.
[50] In calculations, Gov and Pub each had zero decimal places while all other economic variables had one. Median total income was divided by 1000.

combined populations of the data-deficient CSDs and thus the effect of the latter on overall LA-based variable calculations is insignificant[51]. Consequently, of the 76 LAs and sub-regions investigated here, 65 of them had 95% or higher of their populations included in the census-based IV calculations. A further 6 included between 90% and 95% of the total population. Consequently, only 5 regions had census-calculated values based on less than 90% of their populations[52]. These five regions (Hazelton, Lillooet, Penticton, Queen Charlotte Islands, Stewart) all have relatively small overall populations comprised of multiple small population sized First Nations settlements.

The three dependent variables in this analysis are all specialized measures of the structure of regional economies derived from the principles of economic base theory. These variables have a direct correspondence to the concepts that they were chosen to measure. On the other hand, the eleven independent variables in this analysis are much more generalized and thus their potential application is much broader. For this study, the IVs were chosen to measure specific concepts that were shown in the literature review (and in the results of chapter 5) to influence the DVs. For example: the spatial IVs and total population attempt to measure the effects of larger urban regions on more bucolic regions and the effects of agglomeration economies in the parlance of growth-pole theory [R_C] (Millward 2005); median income measures overall financial well-being; and unemployment measures the opposite. The selection of more specialized IVs that are direct measures of concepts elucidated in the literature review would be ideal. Unfortunately, this is not possible given data constraints. The IVs that were selected thus act as proxy, or surrogate, variables chosen to represent these underlying forces.

4.5 Statistical Analysis of Key Indicators

Four different sets of single linear regressions were performed. Each set had one of the four different dependent variables regressed individually against all eleven independent variables. For all regressions, including multiple, the usual F criteria of 0.05 to enter and 0.10 to remove was employed. The raw data used in all computations is in

[51] For this reason, very small population sized CSDs within much more populous LAs were ignored as their effects on the overall computations is negligent.
[52] For a complete list of the population for each LA included in their census calculations see the P% column in appendix B.

appendix B. The results of all 44 regressions are in table C1 in appendix C and bivariate scatterplots for each are in appendix D. In the first set of analyses, the dependent variables were the diversification ratios for all 76 LAs and subregions (Div_A). Medium correlations (r between 0.3 and 0.5[53]) with strong significance (less than 0.01) existed between Div_A and Pop_A, Sen_A, Inc_A, Pub_A, U_E_A and Gov_A and small correlations (0.1 to 0.3[54]) with moderate significance (0.05 to 0.01) existed between Div_A and all three spatial measures. The results of the Div_A regressions, however, were strongly influenced by three outliers (Port McNeil, Port Alice and Houston). Each outlier was a sub-region with a small population (less than four thousand), very low diversification ratio (under 50) and high income (average 31.1). As a result of these outliers the assumptions of linearity, and especially homoscedasticity, are not clearly met for the Div_A analyses.

To overcome the Div_A regression assumption violations, the diversification ratios were regressed once more against the eleven independent variables using only the 59 LAs (dependent variable, Div_B). Div_B showed stronger correlations with higher significance for the majority of independent variables compared to Div_A. The noticeable exceptions, not surprisingly, were Pop and Inc. In these two cases, the low populations and high incomes of the outliers strongly skewed the results, though not strongly enough to change the signs of either correlation. To eliminate the difficulties encountered by including the subregions, the other two dependent variables investigated, Forest Vulnerability Indexes (For) and nonbasic income ratios (NB_Inc), were only regressed against the 59 LAs (see next section for a discussion of the results).

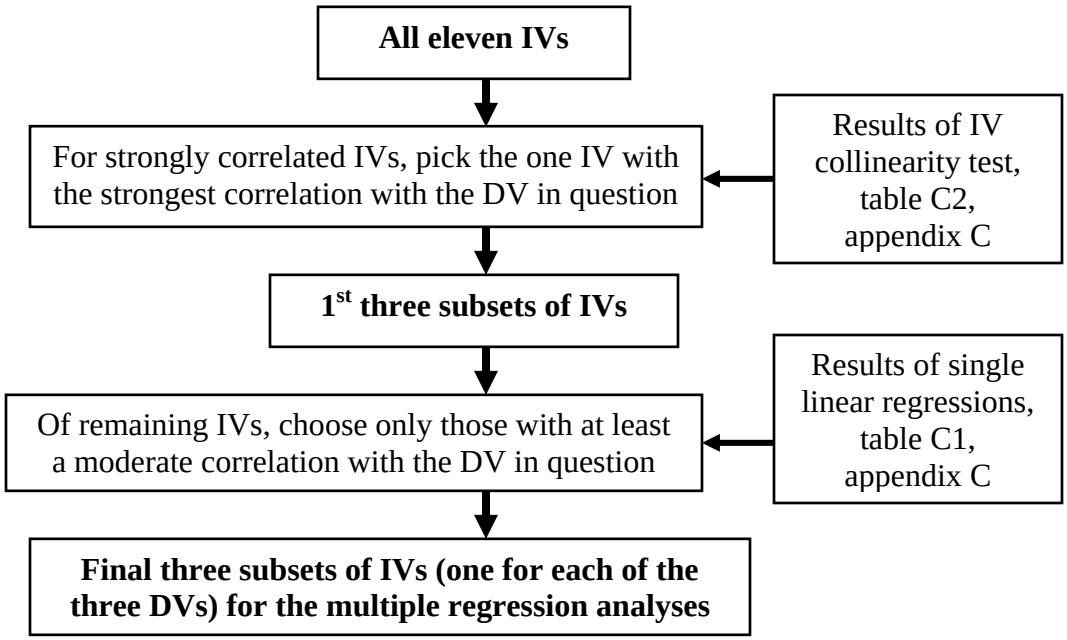
Multiple linear regressions were run between the dependent variables and the independent variables. To overcome the difficulties encountered by including the subregions only the 59 LAs were included, thus the dependent variables were Div_B, For_B and NB_Inc_B[55]. Correlations between all eleven IVs were calculated to test for excessive collinearity (table C2 in appendix C). Excessive positive collinearities

[53] All correlation strengths discussed are Pearson product-moment correlation coefficients and all correlation significances are for the corresponding Pearson correlation in question (unless otherwise noted).
[54] This study employs the common social science references for the strength of correlations: 0.1-0.3, small; 0.3-0.5, medium; greater than 0.5, strong (Green and Salkind 2005).
[55] The remainder of the chapter will primarily focus on only the 59 LAs and thus the '_B' variable suffix will be dropped, unless Div_A is being discussed.

(correlations over 0.800) exist between all three spatial measures. As they are all measuring the same phenomena, distance and isolation, this comes as no surprise. Excessive correlations also existed between Pub and Gov (positive; Gov constitutes part of Pub), Inc and Tran (negative; lower incomes result in higher transfer payments), and Sen and P_20_29 (negative; intuitively makes sense as a higher percentage of seniors necessitates that the remaining population cohorts be correspondingly smaller). Interestingly, Tran was not correlated strongly with either Pub or Gov, even though the three variables are, at least superficially, similar measures.

For strongly correlated sets of independent variables, the one variable with the strongest correlation and significance with the dependent variable in question was chosen over the other variables. This prevents excessive collinearity, which also helps prevent overfitted issues (an excessive number of independent variables). However, the initial set of independent variables for each multiple regression is quite high (eleven) and eliminating strong correlations from the analyses still results in excessive variables. Thus, only independent variables with at least moderate correlations were included in the analyses (see figure 4.1 and appendix C, tables C3 to C5, for results).

Figure 4.1: Selection criterion for IVs used in the multiple regressions.



Source: Researcher, 2008.

4.6 Discussion of Results

The discussion of the results will be organized into three parts. First, the single linear regressions will be discussed. Emphasis will be placed on elucidating correlations between each of the three principal categories of independent variables – spatial, demographic and economic – amongst all of the dependent variables (similar to the organization of table C1 in appendix C). For example, the regressions of For_B against the eleven IVs will not be discussed together; instead, the regressions of Van_B against the three DVs will be discussed together. The reason for organizing the discussion this way is twofold. First, this allows for easy comparisons between the effectiveness of each of the three related dependent variables at accounting for variation in each of the independent variables. Second, the individual discussion of the correlations between the three DVs and the eleven IVs will be the focus of the multiple linear regression analyses, which will constitute the second part of this section. Finally, the section will conclude with some general comments. Once again, only data for the 59 LAs will be discussed here. The results of Div_A were briefly discussed in the previous section, and as noted then, the inclusion of sub-regions results in general linear model assumption violations and should thus be avoided.

The three spatial variables analyzed in this study, Van, R_C and STC, had statistically significant correlations of small to moderate strength with all three dependent variables. The correlations for Div and NB_Inc were all negative. Thus, as isolation increased, diversity and nonbasic income ratios declined, as was expected. The opposite is true for For, which increases with increasing isolation. As higher FVI values necessarily result in less diversified economies, this correlation is also in the expected direction. Amongst the DVs, For had the lowest correlations (0.12 and 0.23) and significance (0.05 to 0.19) while Div had the highest correlations (-0.30 to -0.44) and significance (0.01 to 0.00). Furthermore, the 95% confidence interval for all For crossed zero whilst this never occurred with either Div or NB. Interestingly, of the three spatial IVs, the distance to the Southern Transportation Corridors was the most effective, overall, at accounting for variation. STC had higher correlations, compared to R_C and Van, with both For and NB_Inc; NB_Inc had the strongest correlation with R_C. This is

an example of the power of methodological triangulation: the validity of a tendency that was observed using one method of research, case studies, was strengthened using another, very different method of research, linear regressions.

The three demographic IVs showed less overall correlation with the DVs than did the three spatial IVs. However, Pop and Sen both had statistically significant correlations of small to large strength, which were all in the same direction, with all three DVs (Div and NB positive/For negative). Thus, as overall population and percentage of seniors increase so too does diversification and nonbasic income ratios, while forest vulnerability decreases. The positive correlation between diversification and overall population is a principal tenet of both economic base theory and staples theory, and it thus comes as no surprise. However, the strength of the correlation was small for both diversification (0.28) and forestry dependence (-0.22). On the other hand, the correlation between overall population and nonbasic income ratios is very significant (<0.001) and very large (0.79). Once again, this is fully inline with economic base theory, which postulates larger nonbasic sectors (both overall and in percentage terms) as population increases. The root cause of the positive correlation between diversification (negative with forest vulnerability) and the percentage of seniors, however, is much less clear. Attributing this positive correlation to a few active seniors in the community, as the literature suggests is an important cause of diversification, is not possible. This correlation could equally be attributed to the diversified needs (health care, shopping, leisure, etc…) that a large and, at least, moderately wealthy retired population have[56]. Nevertheless, a large pool of seniors does increase the chances that at least a few of them *will* become involved in the community. This is important given the larger amount of free time retired seniors have compared to younger residents, whom generally have greater employment and domestic responsibilities.

The results of the linear regressions for the other demographic IV, P_20_29, are less powerful. The correlation between a young adult population and nonbasic income ratios was negligent (0.03) and not significant (0.42). Contrary to prior expectations, the correlation between the percentage of young adults in a region and diversification was negative (-0.20), though not strongly significant (0.07). A plausible explanation for this

[56] This is a common characteristic of southern interior communities.

could be the tendency for young adults (primarily males) to be attracted to regions that have abundant well-paying staples jobs[57] (such as forestry communities, hence the moderately positive correlation between For and P_20_29 (0.22)). If these well-paying staples regions specialize in a few staples (as most do), then they will necessarily have relatively low diversification ratios. Although the correlation between For and P_20_29 was slightly stronger and more significant than for Div, the 95% interval for For was much larger (-0.38 to 4.10) compared to Div (-0.98 to 0.13).

The percentage of total government income dependencies, Gov, and the percentage of total public income dependencies, Pub, were both negatively correlated with all three DVs. Gov and Pub both showed strongly significant (both <0.01), moderate correlations with Div (-0.39 and -0.32, respectively). Consequently, higher dependencies on government, health and education correlate with lower dependency ratios. The causes of this correlation are complicated. However, some points here can be mentioned. Pub and Gov are two of the twelve basic sectors used in Horne's analyses to calculate dependencies. Consequently, large values for Pub and Gov necessitate correspondingly smaller values for the other ten basic sectors, decreasing overall diversification. The fact that Gov and Pub are also negatively correlated with For (-0.14 and -0.20, though not significantly), even though For is a measure of *un*diversification, could also be related to the composition of basic sectors: a high Gov and Pub necessitate lower basic sector values, which include forestry. In addition, the regions with the highest Pub and Gov values generally have low populations with high unemployment ratios. Pop, as mentioned, has a strong positive correlation with diversification, and U_E, as will be discussed shortly, has a strong negative correlation with diversification. Exemplary LAs of this type include Hazleton (Div:59/Pub:32/Gov:14/Pop:6.6k/ UE:28.8%), Stewart (59/41/23/3.2k/33.2%) and Stikine (58/42/35/1.3k/18.1%)[58].

Transfer payments, Tran, unlike Gov and Pub, had a positive correlation with Div (though small [0.11] and insignificant (0.21). Consequently, the effects of transfer payments on diversification can be considered negligible. However, like Gov and Pub, Tran had a negative correlation with For, but unlike Gov and Pub this correlation was

[57] As will be discussed later, income and diversification are negatively related
[58] Notable LAs that are exceptions to this are high population, low unemployment areas near Victoria. Although these regions (necessarily) also tend to have low diversification ratios.

both moderate (-0.32) and significant (0.01). One possible explanation for this moderate correlation could be the moderate correlation between income and forestry dependency (0.22) and the very strong negative correlation between Tran and Inc (-0.83 and significance <0.001). Thus regions with high forestry dependencies tend to have relatively high incomes that necessitate relatively low transfer payments (especially in terms of welfare payments and EI benefits)[59]. Gov and Pub having such different correlations compared to Tran, a variable that is *prima facie* closely related to the former two, is an interesting discrepancy likely worthy of research in its own right.

The final two economic DVs, U_E and Inc, both had negative correlations with Div. U_E and Div almost have a strong correlation (-0.46) that is very significant (<0.001). Diversification increasing as unemployment decreases is what one expects based upon the diversification literature. The same is not so easily said for the small, negative correlation between Div and Inc (-0.12). Although this correlation is low (0.19), the direction of it nevertheless seems to run contrary to the diversification literature that postulates 'prosperity' with diversification. A potential explanation for this can be found in staples theory: staples production has the potential to generate very high incomes, economic busts aside. This high income and diversification correlation contributes to the difficulties regions and communities experience as they try to diversify. This latter point, discussed in chapter 2, will be discussed further in the next chapter. Furthermore, diversification is concerned with not only growth but also development. While the former is only concerned with economic prosperity the latter incorporates not only this but many other values, such as social, cultural and ecological prosperity (Markey et al. 2005). Finally, U_E and Inc both had small positive correlations with For (0.20 and 0.22, respectively) that were of moderate significance (0.07 and 0.04, respectively). As For is an inverse measure of diversification, these results are congruent with the *negative* correlations between U_E and Inc and Div. Consequently, the causes are likely similar.

NB_Inc had a large, negative correlation with U_E (-0.47) that was very significant (<0.001): an increase in basic sector ratios correlates with a decrease in unemployment. The very strong correlation between NB_Inc and Pop (0.79) and the

[59] Also, For and Sen have a moderate and significant correlation (-0.46, <0.001) and Sen and Tran have a strong and significant correlation (0.72, <0.001).

moderately negative correlation between Pop and U_E (-0.24, significance of 0.04) may help explain this. Thus large regions tend to have high nonbasic income ratios and low unemployment – the opposite of small population staples regions with generally low nonbasic income ratios and moderate unemployment. Unlike U_E, however, the relationship between Inc and NB_Inc was positive. This also runs contrary to the other correlations between the other two DVs and Inc and U_E: Div had the same direction of correlation with both U_E and Inc (negative) as did For (positive). Inc and NB_Inc having a significant (0.001) and moderate correlation (0.39) help explain this discrepancy. This change in direction of correlation can also be partly explained by the moderately negative correlation between Inc and U_E (-0.40, significance 0.001).

The first set of multiple linear regressions was run with Div as the DV against five IVs (see figure 4.1 for the selection criterion process): STC, Sen, Pop, Gov and U_E. The results of the regression were statistically significant ($F(5,53)=5.078$, $p=0.001$) and strongly correlated with diversification ($R=0.569$, $R^2=0.324$). The interpretation is that just under one-third of the variation in diversification is accounted for by these five variables. The direction of correlation between each IV and the DV is in the same direction as in the single linear regressions: STC, Gov and U_E all have negative correlations; Pop and Sen both have positive correlations with Div. The contribution that each IV makes to the overall variation in Div, not surprisingly, is uneven. The only IV with a statistically significant correlation is U_E (0.060), which is moderately strong (beta=-0.26, partial=-0.26). The second-place variable, STC, has beta and partial weights (-0.19 and -0.18, respectively) that are only slightly less than U_E, but its significance is much lower at 0.20. The third-place variable is Pop, followed by Sen and finally Gov (the latter two being of similar importance).

The second set of multiple linear regressions was run with For as the DV against six independent variables: STC, Sen, Pop, Pub, Tran and U_E. The results of the regression were statistical significant ($F(6,52)=5.155$, $p<0.001$) and strongly correlated with the Forest Vulnerability Index ($R=0.611$, $R^2=0.373$). The interpretation is that over one-third of the variation in the FVI is accounted for by these six variables. The direction of correlation between each IV and the DV is in the same direction as in the single linear regressions: Pop, Sen, Pub and Tran all have negative correlations; STC and U_E both

have positive correlations with For. The individual IV with the most statistically significant correlation is Pub (0.002) and it shows strong correlation (beta=-0.47, partial=-0.42). The second-place variable is a tie between Sen and U_E as their partials and beta weights suggest they are of equal value. The fourth-place variable is another tie, this time between Pop and STC; however their partial and beta weights and significance are much lower compared to the corresponding values for the top three variables. The last variable, Tran, had a beta weight higher than both Pop and STC, but its significance and partial weight were much lower compared to the latter two.

The third set of multiple linear regressions was run with NB_Inc as the DV against five independent variables: R_C, Pop, Gov, U_E and Inc. Of the three sets of multiple linear regressions, the results for NB_Inc were the most statistically significant ($F(5,53)=28.565$, $p<0.001$) and the most strongly correlated ($R=0.854$, $R^2=0.729$). The interpretation is that nearly three-quarters of the variation in the nonbasic income ratio is accounted for by these five variables. Of the five IVs, Pop had both beta and partial weights (0.72 and 0.77, respectively) that were much higher than the other four IVs and its statistical significance was strong at less than 0.001. The second-place variable, U_E, was also statistically significant (0.004) and had moderately high beta and partial weights (-0.28 and -0.39, respectively). The significance of the third place variable, Inc, was low (0.26) as was its beta and partial weights (0.10 and 0.15, respectively). The last two variables, R_C and Gov, were not statistically significant and had very low beta and partial weights, especially Gov whose contribution was negligible (beta=0.01, partial=0.01). The top three variables (Pop, U_E and Inc (in order)) correlations with NB_Inc were all in the same direction as their single linear correlations with NB_Inc. The correlations between R_C and Gov, however, were in the opposite direction compared to their respective single regressions. The fact that these two variables made minimal contributions to the multiple regression analysis assuages this discrepancy.

The single and multiple linear regressions discussed in this section have elucidated many interesting and powerful correlations between the three dependent variables and the eleven independent variables. Most of the correlations were as expected, although some ran contrary to what the literature review would initially suggest, for which possible explanations were given. The results of these regressions,

however, could have arguably been more powerful and interesting had the composition of the local areas been different. By combining several communities within each LA, as was overwhelmingly the case, potentially interesting differences in the DVs and IVs in these communities are eliminated within regional Local Area (LA) averages. As an example, consider the census data for the Fernie LA region:

Table 4.3: 2001 Census data for the Fernie Local Area (LA) region.

CSD	Pop	Sen	U_E	Inc	Tran	P_20_29
Elkford	2.6	5	6.5	40.0	6.3	9.3
Sparwood	3.8	9	10.3	23.6	10.8	10.4
Fernie	4.6	11	9.8	20.3	10.9	13.9
E. Kootenay A	1.8	8	10.9	24.0	8.3	11.7
E. Kootenay B	1.8	9	12.4	17.6	12.5	10.4
Averages:	14.7	9	9.8	24.8	9.9	11.5

Note: CSD = Census Sub-Division. Averages are population weighted, and thus the same as those used in the regression calculations for the Fernie Region. Source: 2001 Census of Canada.

As is clearly evident, large variances between the individual communities (and districts) have been blurred by the overall averages. One can only speculate on the range of individual diversification values that would exist for these five communities had they been calculated (the average is 61). If diversification ratios were available on a community basis rather than a regional basis then these differences could be incorporated into the statistical analyses. Although a decrease in the size of areal units is likely to increase the degree of spatial auto correlation it has the benefit of increasing the degree of bivariate correlation (Millward 2005). When performing regression analyses a compromise thus needs to be reached between the benefits of larger units (lower spatial auto correlation) and smaller units (higher bivariate correlation). In this case, by decreasing the size of units from LAs to communities a better balance between these forces would arguably be accomplished[60].

4.7 Conclusion

[60] The large geographic size of the LAs is understandable: the Diversification Ratios and Forest Vulnerability Indices were not created specifically for the purposes of performing linear regressions.

Three spatial IVs were analyzed to investigate the role of isolation and, conversely, centrality. Isolation is a key tenet of staples theory and this was supported in the findings by the statistically significant correlations of the DVs to Van and STC. Three demographic variables investigated the influence that overall population size and the demographic composition of communities have on the three DVs. The demographic variables, however, not only have numerous and complex influences on each other but also on the economic IVs and on the DVs themselves. This interconnected complexity is even greater for the five economic IVs. The IVs, especially the demographic and economic ones, can thus be conceptualized as surrogates for numerous forces. Pop, for example, plays a key role in scale economies and on the composition of a community's economic structure (hence the very strong correlation between Pop and NB_Inc).

The selection of the independent variables was primarily based upon previously investigated correlations between each of them and the DVs, as discussed in the literature review. The complex, surrogate nature of the IVs, however, necessitates caution when drawing conclusions regarding their affects on the DVs. For example, median income is dependent on numerous other forces and as such is more of an end product than it is an independent variable in its own right. The results support this: Inc had insignificant correlations with both Div and For. An attempt was made to unravel and discuss some of the complex interconnections and surrogate nature of the IVs. Finally, it is important to remember that this chapter has primarily focused on discussing *correlations* between DVs and IVs. The regressions in this thesis were not carried out using a controlled environment that can account for spurious relationships, as is done in scientific experiments (Green and Salkind 2005). As such, nothing can be said with certainty regarding the *causation* of the correlations discussed here. This has not prevented discussions of *potential* causations that may help explain these correlations. With this more powerful objective of causation in mind we now turn to the penultimate chapter.

CHAPTER 5.
Results: Qualitative Research

5.1 Introduction

This chapter investigates the second component of the mixed-method research strategy utilized in this thesis: a case study of eight B.C. interior forestry dependent resource communities. The principal empirical research method is interviews of the research community's EDOs, which were designed to investigate various theoretical propositions generated in the literature review. If the empirical results corroborate with the theoretical template then analytical generalization can be achieved (Yin 1994). Where corroboration is not present, possible explanations can be discussed. The first section of the chapter will highlight the community settings for each of the eight research communities. The next three sections will specifically focus on an investigation of the interview results. Similar communities were selected for investigation, thus reducing differences and facilitating literal replication (see chapter 3) amongst the selected communities. Explanations for differences in the empirical results among communities will be developed based upon the theoretical framework of the literature review (theoretical replication) and from the results of chapter 4 (methodological triangulation). The remaining sections of this chapter will primarily investigate the reproducibility of the empirical results. The discussion will focus on the interactions and linkages of the various agencies involved in economic planning, economic differences between southern and northern communities, internal community resistance to diversification and issues surrounding funding and smallness.

5.2 Community Settings

This section briefly highlights the community settings of the eight research communities. The general geography of each community will be mentioned, including a discussion of the three spatial independent variables (see table 5.1). The historical

economic context of each community will also be discussed. Additional IVs and the diversification ratio will also be elaborated upon for each community. Instead of looking at the Forest Vulnerability Index (For), as we did chapter 4, this chapter will focus on Forestry Income Dependencies (F_Dep)[61]. F_Dep better facilitates comparisons between different census years as it is a community specific measure, unlike For, which is based on other LAs forestry dependency values. Also, the focus of each community's economic development agency will be profiled. All of the data discussed are from the years of the four most recent censuses and data for all of the variables discussed for each community are tabulated in appendix E. Emphasis will thus be placed on the various variables analyzed in chapter 4. The analysis of communities here is less inclusive compared to a community profile analysis. The latter includes not only spatial, demographic and economic variables but also social, cultural and ecological variables (Markey et al. 2005). Space, the large number of communities involved and the particular emphasis of this research preclude a more inclusive community profile analysis for each community. Finally, a few words of caution are required regarding the data in appendix E. Census-based variables (Pop, Sen, P_20_29, U_E, Inc and Tran) are calculated for each community and not for their overall LA. Horne-based variables (Div, F_Dep and Pub) are calculated for the corresponding LA and thus include additional communities and their data[62]. Consequently, census-based data (community specific) in appendix E will be different from census-based data (LA specific) in appendix B[63].

Table 5.1: Spatial variable distances and regional centre locales.

IV		Lillooet	Merritt	Castlegar	Revelstoke	Golden	W.L.	Quesnel	Mac.
Van		2.5	2.7	6.2	5.6	7.1	5.5	6.7	9.7
R_C	Distance	1.7	0.9	3.0	2.0	2.6	2.4	1.2	1.8
	Location	Kamloops	Kamloops	Kelowna	Kelowna	Calgary	P.G.	P.G.	P.G.
STC		0.9	0.0	2.8	0.0	0.0	2.0	3.2	6.3

Notes: IV=Independent Variable (see chapter 4 for Van, R_C and STC definitions); W.L.=Williams Lake; Mac.=Mackenzie; P.G.=Prince George; distances are per 100 kilometers.

Lillooet

[61] F_Dep is the percentage of nonbasic income dependent on forestry and is used in the calculation of For.
[62] See chapter 4 for details.
[63] Revelstoke and Golden both have economic planning agencies that are congruent with their respective LAs (see below). Thus the census-based data in appendix E is the same as that in appendix B.

The District of Lillooet is both the smallest community that was chosen for interviews with a population of 2300 in 2006, the year of the most recent census, and the closest community to Vancouver at 250km. Lillooet is located on the Fraser River on the lee side of the Coast Mountains, which gives it an arid climate[64]. It is within the Squamish-Lillooet Regional District. The community's origins date back to the B.C. Gold Rush of 1860 when it was the second largest community west of Chicago. Before this time the area was inhabited by the St'àt'imc First Nations people. First Nations people continue to play a vital role in the region today and comprise approximately 50% of the regions population. Forestry dependency (F_Dep) in 2001 was 20 and has been declining, although its diversification ratio (Div) in 2001 (67) is lower than it was in 1991 (73). Over the timeline of this study, the proportion of seniors (Sen) in the area is similar to provincial averages while the unemployment rate (U_E) is higher and median personal income (Inc) lower than provincial averages. Economic development (ED) is centred on the areas natural beauty through the promotion of tourism and on its favourable growing climate and access to water for irrigation.

Merritt

The City of Merritt is the second closest community to Vancouver at 270km. Its population in 2006 was 7000, 600 people fewer than in 1996. Merritt is located in the arid Nicola Valley at the intersection of two major transportation routes: the Coquihalla Highway and the Coquihalla Connector[65]. It is thus arguably less isolated than Lillooet, even though the latter is slightly closer to Vancouver. It is located within the Thompson-Nicola Regional District. The community's origins date back to the late 1800s when it was developed as a service centre for nearby ranching operations. The region also has a strong First Nations presence with multiple reserves within the LA. Forestry now plays a key role in the economy of the region and F_Dep in 2001 (24) was higher than in 1991 (19). Div in 1991 was very high at 80 but has declined steadily since and was 68 in 2001. Sen and P_20_29 are similar to provincial averages, while Inc, though steadily increasing since 1991, was still below provincial averages in each census. U_E dropped

[64] The information for the eight community specific setting are from each of the community websites as per the specific references in each part, except for IV and DV data (from Horne and censuses, see chapter 4) and unless otherwise specified. As such, the former information in this paragraph is from the District of Lillooet website: www.lillooetbc.com

[65] Info in paragraph from the City of Merritt website: www.merritt.ca; see footnote 64.

significantly from 2001 to 2006 when it was just above the provincial average. ED is focused on tourism promotion and green technologies, such as co-generation.

Castlegar

The City of Castlegar is 620kms from Vancouver and 300kms from Kelowna, its regional centre. Its population has been fairly stable since 1996 at around 7000. Castlegar is located in the Selkirk Mountains at the confluence of the Kootenay and Columbia Rivers. It is located within the Kootenay Region of the southern interior in the Central Kootenay Regional District[66]. The community is home to a large number of Doukhobors whom were largely responsible for its initial development in the first half of the 20th century. Before this time the area was home to the Sinixt and Ktunaxa First Nations, although today there are no reserves within the Castlegar LA. The area around Castlegar is surrounded by many small communities, such as Blueberry, Brilliant, Robson and Raspberry. Forestry is a key component of the economy: F_Dep was 25 in both 1991 and 2001, temporarily rising to 30 in 1996. From 1991 to 2001 Div fell from 74 to 69. Sen for each census year was relatively high, compared to both the other research communities and provincial averages. Conversely, P_20_29 is below provincial averages. U_E has been consistently above provincial averages while Inc has been consistently close to provincial averages. ED is centred on enhancing the regional commercial importance of Castlegar, attracting new business, downtown improvement and promotion and expansion of its regional airport.

Revelstoke

The City of Revelstoke is 560kms from Vancouver and 200kms from Kelowna, its regional centre, and only 400km from Calgary, Alberta. The population of the city and surrounding region for which the local ED agency is responsible for has steadily declined during the time period of this investigation from 8700 in 1996 to 7900 in 2006. Revelstoke is located on the banks of the Columbia River in a valley between the Selkirk Mountains to the east and the Monashee mountains to the west[67] and is surrounded by numerous provincial and national parks. It is located within the Columbia-Shuswap Regional District. Revelstoke was founded in the 1880s during the construction of the

[66] Info in paragraph from the City of Castlegar website: www.castlegar.ca; see footnote 64.
[67] Info in paragraph from the City of Revelstoke website: www.cityofrevelstoke.com; see footnote 64.

Canadian Pacific Railway (CPR). Mining was a key component of its early economy but with time its importance has given way to forestry while the CPR has continued to be a key industry in the region. The construction of the Highway 1 in the 1960s made the region much more accessible, especially for tourism. Revelstoke was one of the first communities in the province to receive a community-owned Tree Farm License in 1995-7 (Cashore et al. 2001). F_Dep has increased from 16 in 1991 to 21 in 2001. Div has increased slightly from 71 in 1991 to 73 in 2001. Sen has been slightly below provincial averages since 1996 while P_20_29 was exactly the provincial average in 2006. U_E has been above provincial averages in every census since 1996, although the difference has been decreasing, while Inc has been very close to provincial averages. ED has a long history in the region dating to the 1980s and is extensively integrated with other local agencies like the Chamber of Commerce and the local Community Futures organization. Current projects include strengthening forestry, tourism and transportation (primarily CPR), which are the three most important sectors of the economy, supporting local business and the self-employed, city hall access and efficiency of approvals, supporting the Revelstoke Mountain Resort and developing an inventory of community members with specific business skills.

Golden

The Town of Golden is 710kms from Vancouver, but only 260kms from its regional centre, Calgary. The population of the town and surrounding region for which the local ED agency is responsible for has decreased slightly from 7300 in 1996 to 6900 in 2006. Golden is located at the confluence of the Columbia and Kicking Horse Rivers in the Columbia Valley, a regional subsection of the much larger Rocky Mountain Trench[68]. Similar to Revelstoke to the west, Golden is surrounded by numerous provincial and national parks and is also located in the Columbia-Shuswap Regional District. The history of Golden is also broadly similar to Revelstoke, having its origins in the construction of the CPR. Today, the CPR and forestry are the pillars of the local economy, though tourism has been increasing steadily. F_Dep has decreased significantly from 33 in 1991 to 25 in 2001 while tourism dependency has increased from 13 in 1996 to 17 in 2001. Sen has been significantly less than provincial averages

[68] Info in paragraph from the Town of Golden website: www.town.golden.bc.ca; see footnote 64.

throughout the timeline of this study while P_20_29 was slightly greater than the provincial average in 2001. U_E has dropped from 14.2 in 1991 (4.4 higher than provincial average) to 5.4 in 2001 (0.6 below provincial average). Inc has been similar to provincial averages in each of the census years investigated. ED is performed through the Golden Area Initiative (GAI) and has focused heavily on supporting: the development of the nearby Kicking Horse Mountain Resort, new housing developments, highway improvements. The main focuses of the GAI continue to be forestry, the CPR and tourism.

Williams Lake

The City of Williams Lake is 550kms from Vancouver and is thus closer to Castlegar, Revelstoke and Golden. It is the largest community between Prince George 240kms to the north, its regional centre, and the next closest regional centre, Kamloops. The population greater Williams Lake between 2001 and 2006 declined from 25,100 to 18,800[69]. Williams Lake is located in the Cariboo District of south-central B.C. – an intermontane plateau region between the Coast Mountains to the west and the Rockies to the east and is just east of the Fraser River[70]. Like Lillooet to the south, Williams Lake was founded as a result of the Cariboo Gold Rush, specifically as a service centre for the confluence of two gold rush trails. The region before this, however, and continuing to the present, is home to First Nations people with over 30 populated reserves in the Williams Lake LA. Today, the principal industry is forestry: F_Dep was 27 in 1991 and slightly higher in 2001 at 30. Div has decreased from 1991 when it was 72 to 67 in 2001. Sen is below provincial averages, though decreasingly so in 2001 compared to 1991. U_E went from 13.7 in 1996 (5.2 above the provincial average) to 8.7 in 2001 (only 2.7 above the provincial average). Inc is similar to provincial averages. ED is focused on tourism promotion, including website development, marketing campaigns and print ads.

Quesnel

The City of Quesnel is 670kms north of Vancouver and 120 kilometers south of Prince George, about equidistant from the latter and Williams Lake. The population of greater Quesnel dropped slightly from 2001 (24,400) to 2006 (18,800). Quesnel, like Williams

[69] The population figures for Williams Lake and Quesnel are for their respective census agglomeration areas, which are approximately twice as large as their municipal populations.

[70] Info in paragraph from the City of Williams Lake website: www.williamslake.ca; see footnote 64.

Lake to the south, is located in the Cariboo District of south-central B.C. and was also settled as a result of the Cariboo Gold Rush, specifically as a commercial centre[71]. Before this time the region around Quesnel was home to First Nations people who continue to play a key role in the region today, with seven reserves within the Quesnel LA. Today, the region is heavily dependent upon forestry with an F_Dep of 43 and 45 in 1996 and 2001, respectively. This is higher than any of the other six research communities for which forestry dependency figures are available. Not surprisingly, diversification is comparatively low (and declining): its Div went from 63 in 1991 to 57 in 2001. Sen and P_20_21 are both close to provincial averages. U_E has consistently been higher than provincial averages but it declined sharply from 2001 to 2006 (13.7 to 8.7, respectively). Inc climbed from slightly below the provincial average in 1996 and 2001 to slightly above in 2006. Despite this high forestry dependency (or possibly because of this), Quesnel is very active in ED planning through the Quesnel CED Corporation (QCEDC). The QCEDC has branded Quesnel the 'Woodsmart City' and aims to: maintain the regions high income and quality of life; promote entrepreneurialism; and develop a stable economic base to prevent economic busts. It has a specific community economic vision, Quesnel in 2020 (slogan: connected, green and active), that has diverse economic, social, and environmental well-being objectives. The QCEDC actively tries to solicit input from the community and works closely with local First Nation peoples.

Mackenzie

Of the eight research communities, the District of Mackenzie is the most distant from Vancouver at nearly 1000kms. It is, however, less than 200kms from Prince George to the south (its regional centre). Its population has steadily declined from 6000 in 1996 to 4500 in 2006. Mackenzie is located near the southern end of Williston Lake in northern B.C. and is within the Fraser-Fort George Regional District[72]. Mackenzie is a prototypical example of an instant town (Savoie 1992). The impetus for this young community was the creation of the adjacent Williston Lake that was formed by the damming of the Peace River between 1963 and 1967 (Marchak 1983). Mackenzie was

[71] Info in paragraph from the City of Quesnel website: www.city.quesnel.bc.ca; see footnote 64.
[72] Info in paragraph from the District of Mackenzie website: www.district.mackenzie.bc.ca; see footnote 64.

built from unspoiled forest land as a service centre to access the vast area of resources that were opened up because of the dam and lake. Unfortunately for this study, Mackenzie is included within the Prince George LA. Prince George is nearly fifteen-times more populous than Mackenzie and thus the use of Prince George Horne figures specifically for Mackenzie is not appropriate[73]. Though F_Dep and Div figures are not available, the community continues to be heavily dependent on forestry and other resource-intensive activities. Sen is very low: only 3 in both 2006 and 2001. Inc is very high: 38.3 in 2006, despite an U_E nearly four percent above the provincial average. These are all common characteristics of an instant town (Marchak 1983). The ED strategy of Mackenzie is the maintenance of large industry within the region and the promotion of small endogenous businesses. The outdoor tourist potential of the region is also actively promoted.

5.3 Local Economic Planning Entities and Business Entities

The interviews of the eight community EDOs involved a variety of questions, dealing not only with the economic development actions of the entities they represent but also those of external levels of government and local citizens. This section will primarily discuss the results of questions dealing specifically with the actions of the EDOs and their agencies. Three main areas will be investigated, based on the interview questions: previous and current economic development strategies; problems; local funding. As will be discussed below, the level of community involvement in economic development can be conceptualized as a continuum. At one end there is inclusive community participation exemplified best by community development corporations; at the other end there is exclusive community participation, presently exemplified best by chambers of commerce and the actions of local business elites. To incorporate this, the economic development actions of local business actors will also be discussed in this section.

All of the economic development officers (EDOs) interviewed felt that their local government (including their own organizations) were either very (three communities) or

[73]As noted, with the exception of the Revelstoke and Golden LAs, the five other research communities in this study were not coterminous with their respective LAs. Like Mackenzie, these other five LAs also included additional communities that were not interviewed. However, unlike Mackenzie, these research communities were all the most populous community and constituted a large percentage of the population within their respective LAs thus increasing the applicatory prowess of the Horne figures.

extremely (five) involved in economic development. This is not surprising considering all of these communities have made the effort to create and finance EDOs. The relationship of each EDO with their respective community is not uniform, but can be simplified into two types: direct employment and accountability to community; an arm's length subsidiary. Differences in the internal-structures of the economic development agencies and in their relationships to their respective municipal governments did not appear to have any major influence on economic development or diversification[74].

The particular economic development strategies and foci of the research communities varied. Nonetheless, there were large similarities among them. The most common strategy amongst the communities, shared by all, was tourism development and promotion. As a basic sector, tourism has the potential to draw in external money to the community. Tourism, when compared to more traditional basic sectors like forestry, mining or manufacturing, is also more environmentally benign (Power 1996). Particular strategies utilized by the communities include website development and enhancement (Lillooet, Golden and Mackenzie) and print advertisements (Golden and Williams Lake). Merritt, with its centralized location and close proximity to the Coquihalla Highway, has actively tried to attract bus tours as has Lillooet (the closest community to Vancouver). Lillooet has also created a DVD to promote the tourism potential of its region to overseas tourists. The localized success of tourism, however, is dependent on many internal community variables (Robinson 1990). The most salient variables in the research communities appeared to be accessibility and natural environmental endowment. Thus, the more centralized communities, primarily Lillooet, Merritt, Revelstoke and Golden, allot a greater proportion of their economic development focus to tourism promotion compared to the other communities. Only Lillooet mentioned the potential of the 2010 Olympics, possibly because it is closest to Whistler. All of the research communities actively promoted the natural resource endowment of their communities in relation to tourism. This was especially true in Revelstoke and Golden. These two communities are easily accessible (both on the Southern Transportation Corridors), surrounded by numerous parks and near two new major winter sports facilities.

[74] This was not a major area of focus. A more detailed investigation of this may yield more fruitful results. Also, see chapter 6.

Several of the communities were also actively involved in trying to find ways of reversing, through the promotion of economic development, the devastating consequences of the mountain pine beetle infestation. Particular strategies include the promotion of pine infested lumber and the conversion of beetle-infested wood into pellets to be burned as a fuel source. The communities with the strongest beetle focus were Williams Lake, Quesnel and Merritt, which corresponds to the areas hardest hit by the beetle. Another area of focus for some of the communities was airport-related economic development initiatives. This was particularly the case in Castlegar and Lillooet: the former looking to build a gaming centre at the airport and to use the airport to enhance the regional importance of the community (another area of focus); the latter using it to promote tourism accessibility within the region.

The maintenance and diversification of existing basic sector industries was a major focus of many communities, primarily Williams Lake, Quesnel, Mackenzie, Golden and Revelstoke. Not surprising, the most important industry for these communities was forestry and forestry-related value-added industries. From the perspective of supporting existing businesses, a common local development strategy, this makes perfect sense. Considering their large natural resources, it is also a practical strategy for these communities, compared to unrealistic smokestack chasing, for example. This 'comparative advantage strategy', however, still results in dependency (even if it is mitigated by forestry diversification) on basic sector industries and all of the negative consequences that this entails (Power 1996; chapter 2). Tourism, as discussed, is also a basic sector and is very important to all of these communities' economic development strategies. When the importance of tourism is included, the continued basic sector focus of these communities is even greater.

Each community's impediments to local development also varied. Some common problems included the uncertainty of land claim issues and the softwood lumber dispute. The importance of potential outside investors understanding the local culture of communities was highlighted by Merritt where the need to conserve and allocate water use was vital to the community's success. Competition from larger and relatively nearby communities was a key issue for Quesnel. Inadequate infrastructure was a major problem for Lillooet, Mackenzie and Castlegar. Inadequate external funding also inhibited local

economic development in all of the communities, especially in Quesnel and Williams Lake. Local government funding was considered either very (two communities) or extremely (six communities) important by the EDOs interviewed. Furthermore, over the period of the study local government funding of economic development had increased in four communities and had been constant in three. The most important source of funds for the economic development agencies was from municipal general revenues. Provincial grants also contributed a significant source of revenue, especially for Castlegar. Some additional economic development funding mechanisms were a regional district opportunity fund in Revelstoke and Golden (from the damming of the Columbia River) and the management of a tourist centre in Williams Lake. A hotel tax has been pursued in Quesnel, but with little success due to resistance from various levels of government.

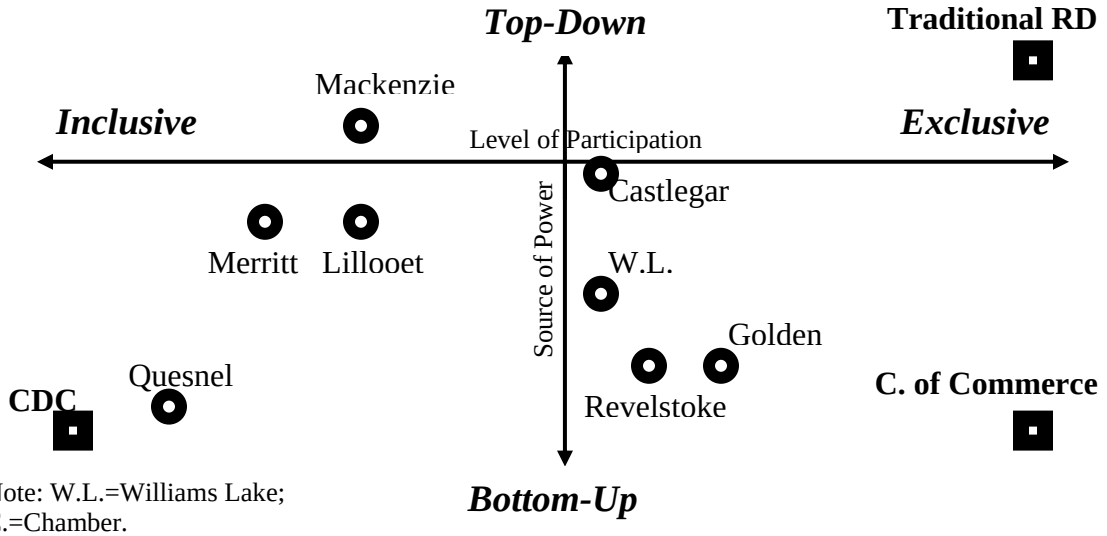
From the perspective of the eight EDOs interviewed, the involvement of local businesses and local business organizations in economic development was not nearly as strong in the communities as was the involvement of the municipal entities discussed above. Only one EDO felt that local business was extremely important to economic development, the others thought it was very important (three), somewhat important (two) and not very important (one). The trend in the involvement of local business in economic development had greatly increased for one community, increased in two and been constant in three. The monetary support that local business provided to local development was minimal in three communities and absent in two. The most important business entity in all of the research communities was the local chamber of commerce. Downtown business improvement areas were important in Quesnel and Merritt while the local Rotary was also important in Merritt.

The specific economic development promotion strategies of local businesses were largely oriented around the usual objectives of a chamber of commerce – business retention and support. Local strategies that were unique included the tourist-oriented support of sports tournaments, art events and sidewalk sales in Revelstoke and strong collaborations with First Nations people in Merritt. The EDOs in both Lillooet and Golden made a concerted effort to network with as many local businesses as possible. In general, the support of local business was project specific. This creates one of the largest problems facing the promotion of economic development by local business: each

business has a different economic development vision based upon their individual needs and desires (see section 5.8). Similar to the local economic development agencies, local businesses also have minimal funds to directly support general community economic development.

The level of economic development participation within a community can range from being exclusive at one end of a continuum to being inclusive at the other end. The ideal in CED (see chapter 2) is to have full community participation and is thus inclusive. This is contrasted with a chamber of commerce where the type of involvement is almost exclusively oriented around business-elites. Classic 1970s regional science, in which only experts were involved in decision making, is another example of exclusive ED. Another important continuum in economic development involves the source of funding and power in decision making (see chapter 2 and section 5.4 below). At one end of this continuum all decisions and money originate from external bodies whilst at the other end decision-making power is held locally: top-down versus bottom-up decision making, respectively. In reality, a particular community lies between the extreme points on each of these continuums. An economic development plane can thus be created by arbitrarily assigning the source of power continuum as the y-axis and the level of participation continuum as the x-axis. The approximate locations of each research community within this plane, based upon the limited findings from this thesis, are shown in figure 5.1.

Figure 5.1: Economic development plane with the locations for the eight communities.



Note: W.L.=Williams Lake;
C.=Chamber.
Source: EDO Interviews, 2008.

A community located in the top-left of the plane would be representative of 1970s top-down, expert driven economic development. The bottom-right corner would be a community in which all economic development originates from one local group of people, such as the local chamber of commerce. The bottom-left corner represents the ideals of CED – inclusiveness with local control[75].

Participation in CED is ideally inclusive of all members and groups of a community (Markey et al. 2005). This has many benefits, as discussed in the literature review. Most importantly, this incorporates the opinions of all members of the community and thus results in economic development policies that are representative of the community as a whole[76]. Whether the inclusion of so many disparate points of view is possible is another matter, especially given the difficulties similarly-minded business communities encounter when trying to reach an economic development direction consensus. Another, potentially more troubling, issue with the inclusive focus of CED is the time and resources necessary to achieve full community participation. This has the potential to draw away focus from the primary task at hand – economic development and diversification planning. It is conceivable that a more exclusive economic development agency that is thus able to focus more on only economic development could yield better results compared to a CED agency. Quesnel arguably has the most inclusive form of CED out of the eight research communities yet it has had the lowest diversification ratio in every census year of this study. Golden and Revelstoke, on the other hand, were tied for the highest diversification ratio for the last census (2001) and before then had relatively high diversification ratios, even though their economic development is less inclusive than in Quesnel[77]. This is but one example, however, from which concrete conclusions regarding the effects of inclusiveness on economic development cannot be drawn. There are many other factors that could potentially explain this apparent

[75] The chance of a real community occupying the top-left corner of this plane is much less common than it is for the other three corners as this type of arrangement – external, inclusive control – is not common.
[76] 100% community participation is likely an ideal never accomplished in reality. For one, some members of a community may be uninterested in participating. For two, some may be unable to participate (for any number of reasons). It is the latter group of people that CED must strive hardest to include.
[77] Neither Revelstoke nor Golden's economic development agencies are completely exclusive. Instead, they are simply located further to the right than Quesnel (see figure 5.1).

discrepancy, such as the more isolated nature of Quesnel, the inertia of high forestry dependency and local politics[78].

5.4 External Economic Planning Entities

The eight EDOs interviewed were also asked questions concerning the *influence*, if any, of external economic-planning entities on local economic development. Influence is used here broadly to apply to both externally originated economic development plans (as was common with growth-pole schemes in the 1980s) and externally originated funding for local economic development. The importance of external bodies to local development varied among the communities: three EDOs thought it was very important, two somewhat, one not very and another not at all important. The results were also mixed regarding the importance of external funding: two EDOs thought it was extremely important, two very, one somewhat, and two not very important. All of the EDOs interviewed, however, were unanimous that the role of external governmental bodies should be limited to providing funding, project assistance for specific projects when needed at the discretion of local communities, and checks and balances. Thus, the communities all felt that decision-making power for local economic development should rest firmly within the local community – planning should be bottom-up only. This contrasts sharply with the traditional top-down planning common during the 1970s and early 1980s. External governmental bodies, for their part, appear to be supportive of this and have been steadily decreasing their direct influence in local economic development policy since the 1980s, including eliminating and reducing provincially-controlled regional economic development agencies. The root cause of this decrease of provincial influence on local planning is less clear, however. An optimistic perspective could attribute it to a realization by external government of the benefits of locally-controlled economic development planning. A less charitable perspective would attribute it to a downloading of services by higher levels of government, as has been a common occurrence since the shift to the right in the 1980s.

The most important contribution that higher levels of government made towards local economic development within the research communities was the provision of grant

[78] It is possible that without an inclusive CED focus Quesnel could have an even lower diversification ratio.

money. These grants are generally given in a single installment and for specific projects and are either sector- or land-based. External money did not contribute significantly to any of the operating budgets of the EDOs interviewed. Specific examples of grants that were mentioned by the EDOs include: mural projects and tourist centre in Merritt; tourism-promotion in Revelstoke; beetle funds for the regions hardest hit by the infestation; website improvements in Castlegar; agricultural fund in Williams Lake; grants for reports in Williams Lake, Revelstoke and Mackenzie. Grants were especially important for Mackenzie where they helped pay for cluster analysis and asset mapping studies that the local EDO did not feel their community could have afforded on their own. Higher levels of government also played a key role in the provision of infrastructure, such as in Merritt and Castlegar where the Ministry of Transportation helped fund improved highway signage. The Ministry of Economic Development was in communication with the EDOs, especially in Williams Lake and Mackenzie, but did not actively participate in policy creation in any community. Interestingly, the only EDO that mentioned the importance of their local MLA was in Mackenzie. Community Futures agencies are another set of important locally-based economic development agencies (for details, see section 5.6). Communities faced major obstacles trying to access governmental funding (the primary contribution of external agencies). These obstacles were related to smallness and will be discussed in section 5.10.

5.5 Local Citizens

The final set of questions that were give to the EDOs concerned the influence of community-based organizations, excluding business organizations (discussed in section 5.3), and community volunteers on local economic development. Overall, the EDOs felt that community-based organizations were fairly involved in local economic development (one deemed them extremely while five others thought they were very important). One community, however, thought they were not very involved (Williams Lake). Several of the communities had the same types of community organizations involved in economic development. The most commonly active across the eight was downtown business improvement bodies, active in Castlegar, Lillooet, Merritt, Quesnel and Williams Lake. Heritage societies were important in both Castlegar and Lillooet. In Quesnel and

Lillooet, First Nations groups played a key role in economic development in conjunction with their respective local EDOs. In Revelstoke, an economic development commission composed of community volunteers was a key community player. Due to its small size and limited resources, the only community-based organization dealing specifically with economic development in Mackenzie was the local chamber of commerce.

The principal role of community-based organizations in economic development, according to the EDOs, was that they provided input and support for plans originating from within the municipal economic development office. In Golden, networking amongst the various active economic development bodies (see section 5.6) and membership and professional development were also important. Specific projects that were tried in the various communities include a park and trail study in Castlegar and a winter lights festival in Quesnel. Once again, the biggest problem that these community-based organizations confronted when trying to participate in economic development was a lack of people and resources[79] (see section 5.10).

The EDOs felt that volunteers were either extremely important (three) or very important (three) to economic development. When asked if there were any common characteristics amongst the volunteers within their communities' the replies of the EDOs were quite variable. In Castlegar, Williams Lake and Merritt, it was principally seniors that were most active. In the last community, the local economic development agency actively recruited seniors. The large percentage of senior leadership in Castlegar is likely attributable, at least in part, to the very high percentage of seniors within the community (17% of total population, the highest of all research communities and 3% higher than the provincial average). In Revelstoke, Golden and Mackenzie – three communities with relatively low senior percentages, especially Mackenzie – the leading characteristic was their strong business background. Lillooet had the most diversity in leadership characteristics[80]. Common amongst the myriad characteristics of community leaders was that citizens need to be interested in the specific project if they are to become volunteers.

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[79] One caveat is that the Golden EDO felt community groups should play no direct role in economic development as it is not their mandate. Instead, they should only contribute to economic development by providing their feedback and input into plans originating from the economic development office.

[80] Many other groups of people, including young adults, were also active in the communities, but to a lesser extent than either seniors or business people.

The EDOs were asked if their specific organizations or the municipality itself did anything to promote leadership within their communities, such as leadership seminars or workshops (see section 2.7). Overall, municipalities and economic development agencies did little to directly promote leadership. Generally, the EDOs felt their communities indirectly promoted leadership through extensive and meaningful interaction with the citizens of their communities. This includes being considerate of the opinions and thoughts of the populous for which the EDOs represent. Additionally, Lillooet and Merritt both felt they promoted leadership by recruiting the right people for the specific project at hand. This is similar to the importance of community activists being interested in projects for their participation to be beneficial (discussed above). Merritt also actively tries to give ownership to community volunteers, an important aspect of successful leadership discussed in the literature review (Hustedde 1991). Mackenzie was the only research community that directly promoted leadership. This was done in-house through a program started by the Ministry of Forests.

The EDOs were also asked if they were aware of any other organizations within their communities that actively promoted leadership. In all communities, save Williams Lake, local schools and colleges were felt to be the most active in the promotion of leadership. In Golden, Quesnel and Mackenzie, the local chamber of commerce also actively promoted leadership within their members. In Lillooet and Revelstoke, and conceivably in the other communities as well to the extent that it is necessary, volunteer training is performed for specific projects. In Quesnel, leadership training was also provided through the Leadership B.C. program from 2006 to 2007. According to the Leadership B.C. website, it is "a community based program that brings stakeholders together to create projects to meet their specific needs" [81]. Leadership B.C. is the responsibility of the B.C. Chamber of Commerce and is implemented through local chambers of commerce upon demand and for a fee. It runs programs only once per year and was started in 2006. In total, only six communities (including Quesnel) have taken advantage of this program and although its success remains to be seen it has the potential to enhance leadership if expanded (see section 5.10).

[81] www.leadershipbc.ca.

The most important local citizens in relation to economic development in the eight research communities were public officials, namely the EDOs. As all of the research communities had public officials whose specific job was the promotion of economic development this is not surprising and is what was expected from the literature review (Walzer and Gruidl 1991). The apparent preeminent importance of EDOs could also be attributable to response bias by the EDOs. An investigation of this potential bias would necessitate empirical research that was not part of the research design of this thesis, such as interviews of other economic development agents. On the other hand, all of the research communities also stressed the importance of having active citizenry involvement (to varying degrees) in their economic development strategies and projects. Given the importance of leadership to the success of community involvement (Walzer 1991; Hustedde 1991) it is somewhat surprising, with the exception of Mackenzie, that none of the communities actively and directly promoted the leadership of their residents.

5.6 The Interactions and Linkages of Economic Planning Entities

Many other entities, besides the municipally-based economic development agencies discussed above, play important roles in the rural economic development of British Columbia. EDOs, arguably the most important local economic development entity (when present of course), were the focus of this research via eight open-ended interviews. The purpose and mandate of EDOs and their agencies specifically address the issues of local economic development. Although important economic development entities other than municipal agencies were not the direct focus of this thesis' primary research (they were not interviewed) they were nevertheless still investigated indirectly through questions given to the EDOs (see sections 5.3 to 5.5). Other key entities are involved at many different spatial scales ranging from other locally-based entities to regional, provincial and finally federal agencies. In this section, emphasis will be placed on elucidating these other entities and the linkages and interactions of all economic planning entities.

Arguably the first and second most important locally-based economic development entities are EDOs (and their agencies) and local chambers of commerce, respectively (section 2.3). At geographically higher levels many other entities become

involved in rural economic development. The most important at the regional level are the various Community Futures B.C. (CFBC) (previously known as the Community Futures Development Association of B.C.) regional offices located throughout the province[82]. The primary objective of the CFBCs is to provide business loans to current or prospective entrepreneurs who may have trouble accessing capital from traditional lenders[83]. The CFBCs give specialized loans to entrepreneurs with disabilities, and promote the principles of CED by acting as a "facilitator bringing together diverse groups to develop a locally driven vision for their (the communities) future and integrate community resources into a long-term sustainable strategy" [84]. CFBC accomplishes its goals through a variety of program funding, partnership in-kind support and development and specific committees. The primary financial supporter of CFBC is Western Economic Diversification Canada (WD). Currently, the CFBC primarily provides support through three initiatives. Community Economic Adjustment Initiatives (CEAIs) are designed to assist rural communities that are adjusting to changes precipitated by economic restructuring. They have facilitated in the delivery of over $125 million in program funding. The Rural Economic Diversification Initiative (REDI-BC), which runs from October 1, 2008 until March 31, 2012, was created to directly address the restructuring issues facing B.C. communities discussed in the literature review and will provide $3 million in funding. The Community Economic Diversification Initiative (CEDI) is a component of the federal government's Mountain Pine Beetle program and is providing $33 million in direct investment for communities affected by the mountain pine beetle.

Table 5.2: Regional CFBCs for the eight research communities.

CFBC Name	Interviewed Participating Community	Other Larger Participating Community	Total Participating Communities
Sun Country	Lillooet	Hope	> 10
Nicola Valley	Merritt	n/a	5
Central Kootenay	Castlegar	Nelson	> 30

[82] Both provincial and federal Community Futures entities exist and it could thus be considered as a provincially- or federally-based entity. However, the provincial body was founded in 1992 "by local BC Community Futures Chairs to facilitate organizational capacity of individual members to strengthen their ability to deal with change (see next footnote)"; ultimate power still rests with the local chairs.
[83] www.communityfutures/ca/provincial/bc.
[84] Ibid.

Revelstoke	Revelstoke	n/a	2
East Kootenay	Golden	Cranbrook	> 30
Cariboo-Chilcotin	Williams Lake	n/a	> 35
North Cariboo	Quesnel	n/a	5
Fraser Fort George	Mackenzie	Prince George	> 10

Note: all of the CFBC names here start with 'Community Futures' (e.g., Community Futures Sun Country), except for the North Cariboo, which starts with Community Futures Development Corporation. Source: www.communityfutures.ca/provincial/bc.

Table 5.2 lists the names of the specific CFBC regional boards that are responsible for the eight research communities. Clearly, with the exception of Revelstoke, all of the CFBCs are based on geographical regions that are larger than the planning areas of the EDOs interviewed. Five of these regional CFBCs are responsible for greater than ten communities while in three their mandates extend to over thirty communities. Furthermore, in four of these CFBCs other communities have larger (or comparable) populations than the research community – especially in Mackenzie. Not surprisingly, all of the research communities had interactions with their local CFBCs and had taken advantage of CEAIs. Communities affected by the mountain pine beetle had also utilized the CEDI. However, none of the EDOs stressed the importance of regional CFBC agencies to the success of their own objectives and mandates. This could partly be attributed to the more business-oriented focus of the CFBCs, which emphasize direct support for entrepreneurs rather than detailed economic development strategies. The geographically extensive mandates of the regional CFBC agencies could also explain this relative lack of interaction. Finally, competition for scarce funds between local EDOs and regional CFBCs could also be responsible.

The B.C. provincial government is involved at the regional level in economic development planning through the Regional Economic Development Branch of the Ministry of Technology, Trade and Economic Development (MTTED)[85]. Regional offices are located in Nanaimo, Courtenay, Kamloops, Cranbrook, Prince George and Smithers. In 2005, the MTTED started the Regional Economic Initiative (REI). This is currently a pilot program designed to "establish regional economic alliances with local governments and the private sector … in an effort to develop a more complete economic

[85] www.gov.bc.ca/tted/.

development 'tool box'"[86]. The REI currently has three pilot alliances in the South Peace, Vancouver Island/Coastal Areas and the East Kootenay (Kootenay Rockies Regional Economic Alliance (KRREA). At the provincial level, the B.C. government is also involved in economic development through the Ministry of Small Business and Revenue[87]. None of the EDOs discussed these entities as being exceptionally important, although the Golden EDO mentioned a positive and productive relationship existed between the GAI and the KREEA, both of which include Golden. The federal government's main interaction with local economic development is through Western Economic Diversification Canada (WD)[88]. WD provides funding to local projects based on their inclusion of at least one of the three inter-related priorities of WD: innovation, entrepreneurship, CED. The primary investment programs through which funds are channeled to rural communities are Western Diversification Programs (WDPs) and Western Economic Partnership Agreements (WEPAs). WD plays a vital role in financially supporting the CFBC and in providing funding for specific projects utilized by the EDOs (section 5.4). Finally, the not-for-profit Small Business B.C. society provides business services and support and thus helps foster entrepreneurialism within the province[89]. All of the entities discussed in sections 5.3 to 5.6 and the key linkages between them in relation to their importance to local economic development are mapped in appendix H.

5.7 The North-South Divide

Based upon the results of the interviews, a distinct economic bifurcation was evident amongst the research communities. At the time of interviews in early 2008 the economies of the more southern communities – Lillooet, Merritt, Castlegar, Revelstoke and Golden – were all relatively more prosperous compared to the more northern communities – Williams Lake, Quesnel and Mackenzie. The economies in the southern communities, according to the EDOs, were all booming, especially in Merritt, Revelstoke and Golden. In Revelstoke, for example, there was a lack of affordable housing brought

[86] www.tted.gov.bc.ca/RegEcDev/Pages/RegionalEconomicAlliances.aspx.
[87] www.gov.bc.ca/sbr/.
[88] www.wd.gc.ca/eng/home.asp.
[89] www.smallbusinessbc.ca.

on by a precipitous increase in local housing prices. This had resulted in over 20% of local residents being forced to rent accommodations from their employers. The proximity of both Golden and Revelstoke to Alberta increases these communities ability to leverage Alberta tourists and their investments, the best examples of this ability being the recently constructed tourist-oriented ski-hills in each of these communities. This proximity helps explain these community's strong and diversified economies. While in Merritt the economy was so strong that there was a labour force shortage in the community with the Merritt municipality actively trying to persuade local citizens, especially retirees, to enter the workforce[90]. This is contrasted with the more northern communities whose economies were all experiencing relatively slower economic growth. The economic plans of the EDOs in the northern communities seemed to be more urgent and to be more vulnerable when compared to those in the southern communities. This was especially true in Mackenzie which was likely in the weakest economic position of all eight communities. At the time of the interview, the local forest industry there was in turmoil: mills were closing, workers were being laid off and the continued operation of the remaining active mills was uncertain.

The causes of this economic dichotomy are complex; however, some comments can be made. The unemployment ratios (U_E) in the northern communities are comparable to those in the southern communities, while the median personal income (Inc) in the northern communities is slightly higher, especially in Mackenzie (see appendix E). As discussed, the relatively high income of the northern communities is likely attributable to the high remuneration common in basic sector employment. Consequently, the explanatory power of these two economic statistics is inconclusive. Larger differences exist between the northern communities in their diversification ratios (Div) and Forestry Income Dependencies (F_Dep). In 2001, Quesnel had the lowest Div value of all eight research communities while Williams Lake was tied for second lowest with Lillooet (a community that was arguably 'booming' the least of all southern communities)[91]. Even larger differences in the 2001 F_Dep values exist between the northern and southern communities: Quesnel and Williams Lake are the highest of all

[91] Unfortunately, as noted earlier, Horne figures are not available for Mackenzie.

eight (43 and 30, respectively, next highest are Castlegar and Golden with 25). Although an F_Dep value is not available for Mackenzie, based upon the research findings of this thesis, its value would likely be comparable to the other two northern communities' values, if not greater. The higher forestry dependency of the northern communities likely helps explain at least some of the geographical economic differences between the communities, especially when one considers the changes that have taken place since the most recent calculations of the various Horne's figures. Since this time, various forces, primarily the mountain pine beetle infestation, the soaring Canadian dollar, the softwood lumber dispute and the sagging world economy, have had an overall negative impact on the B.C. forest industry. The northern communities are especially vulnerable to these negative repercussions due to their relatively high forestry dependencies.

The high forestry dependency of the northern communities helps explain why the economies in these three communities have been underperforming compared to the five southern communities. However, although lower than the northern communities, the forestry dependency of the southern communities is still relatively high compared to the provincial average. Indeed, a high forestry dependency was a key part of the community selection criterion. Consequently, other forces must be present to explain the boom (at the time of the interviews) in the southern communities. One possible avenue of explanation is the geographical component of this duality: economic differences between southern and northern communities may be partly explained by the relative location of the communities. The three communities with the strongest economies – Merritt, Revelstoke and Golden – are all located on the main provincial transportation corridors (see footnote 36). This correlation was tested in chapter 4 by the STC variable. The statistical analyses results were congruent with the interview results: the unemployment ratio and the Forest Vulnerability Index are both positively correlated with STC (0.38 and 0.23, respectively) while the diversification ratio is negatively correlated with STC (-0.44).

The geographical location of the southern communities makes them more accessible to the southwest metropole compared to the northern communities[92]. The more centralized location of the southern communities likely increases their ability to

[92] And for Revelstoke and (especially) Golden it makes them more accessible to the Calgary 'metropole'.

leverage the potential economic benefits (discussed earlier) of both tourism and a large senior population. Tourism is especially important in both Revelstoke and Golden whose tourism dependencies are by far the highest of the eight communities (16 and 17, respectively, next highest are Lillooet, Merritt and Williams Lake all tied at 6). During the EDO interviews in early 2008, large tourist-oriented ski hills had recently opened in Revelstoke and Golden (Revelstoke Mountain Resort and Kicking Horse Resort, respectively). The importance of these resorts to the local economy was noted by the EDOs in both communities. The three other southern communities have the highest percentage of seniors of the eight research communities, values which are all higher than the provincial average. The southern location of these communities makes them relatively closer to the large population centres of the province and to their amenities, including their health services and hospitals. The northern B.C. hinterland has also experienced greater decreases in health care provisions even compared to its southern B.C. hinterland counterpart (Halseth and Halseth 2004). These factors likely make the southern hinterland a more appealing destination for retirees looking to relocate from the southwest metropole compared to more isolated northern communities. The more temperate climate of the southern communities likely also plays a beneficial role in leveraging tourism and seniors.

5.8 Getting on the Diversification Bandwagon

Evidence of the 'addictive' nature of primary resource extraction discussed in the literature review (Clapp 1998; Freudenburg 1992) was found in both the quantitative and qualitative empirical results. The results of the statistical analyses of chapter 4 strongly support the primary positive reinforcement mechanism through which this addiction maintains itself: the high income generated through staples production assuages the misery of 'temporary' busts. For the non-metropole portion of the province, diversification was negatively correlated with median personal income while forestry dependency was positively correlated with income. In the eight communities whose EDOs were interviewed, the highest incomes were in the (northern) communities that were most dependent on forestry. Resistance to changing the economic composition of local economies (to economic diversification) was also strongest in the northern

communities, which supports the previous findings of rural B.C. researchers (Halseth 2005). This resistance was greatest amongst the portion of the local business community that had a vested interest in maintaining the status quo. As the principal industries in rural B.C. are staples oriented, this resistance to change is a formidable barrier to economic diversification[93]. At the time of the interviews, the economies of the more forestry dependent northern communities were performing worse than their southern counterparts, highlighting the downfalls of economic specialization, despite their overall higher incomes. As discussed in the literature review, the forces of economic restructuring that have negatively affected B.C. resource communities are not theoretically correlated with the typical vicissitudes of economic cycles. The forces of economic restructuring are resulting in *long-term* changes to the economy compared to the *temporary* busts of economic cycles. In addition, the resource cycle is also a long-term permanent force of change in the B.C. forestry industry. Consequently, the previously 'temporary' busts in staples production may become more permanent, further necessitating economic change and diversification.

Economic development officers also experienced difficulty promoting local development to the business community since the latter is generally significantly more concerned with their own particular interests – namely profit maximization – than they are with the overall health of the community as a whole. Local business often views local development as increasing the amount of competition, which out of self interest for their own survival they are unsupportive of[94]. Some local citizens have very little knowledge of local development. Furthermore, for those members of the community that are cognizant of local development, a great deal of confusion still surrounds it. Many businesses' understanding of local development is based on the unrealistic smokestack chasing 1970s and 80s version of LD. As a result, the EDOs in the eight communities – but especially so in Lillooet, Golden, Williams Lake and Quesnel – have attempted to educate their citizens to the more modern version of LD that they practice. Contemporary LD, especially the version promoted in the eight communities, focuses first on laying a solid foundation for business to grow from within the community and

[93] This is in addition to other key barriers, such as relative location and population size.
[94] The business community also frequently sees the EDOs as outsiders as they are often not from the community. This creates suspicion that is only compounded by the historical failures of previous LD.

secondly on trying to attract new outside income (primarily tourists dollars). A further complication in trying to achieve community support for LD, mentioned in the context of Quesnel but conceivably also experienced in the other communities to varying degrees, is the generally conservative political nature of rural B.C. that results in skepticism and outright resistance towards intervention in the local economy of communities.

5.9 Securing Funding and Experiences with the Southern and Northern Development Initiative Trusts

The direction of control in economic development has become less top-down and more bottom-up over the time period of this study (see chapter 2). Consequently, the *direct* control of external agencies in local development has declined. Nevertheless, the funding that these bodies provide to internally-derived initiatives is still important[95]. In all eight of the communities investigated, this funding was essential for financing specific projects and reports but not for their operational budgets, which were primarily financed by funds from the local municipality. Local Community Futures Agencies were also important in securing outside funding: EDOs, especially in Revelstoke and Williams Lake, would often bring nascent LD projects to the attention of the local Community Futures Agency who would then petition higher levels of government for the required funding. In the communities investigated, the funding provided by higher levels of government, although significantly large, was often seen (not surprisingly) as being insufficient by the EDOs. Communities generally had to petition higher levels of government to access funding opportunities on a project-specific and temporary basis. The fugacious nature of external funding consequently creates local uncertainty in the continued availability of external funding. This uncertainty has a negative impact on the medium- and long-term planning ability of EDOs. There was also a political element in the EDOs accessibility to external government funds. Fortunately, the political nature of external funding in some of the communities had been noted to have decreased over the time period of this study.

The political element of accessing external government funds is highlighted by the EDOs' experiences with the Southern Development Initiative Trust (SDIT) and the

[95] See sections 5.4 and 5.6 for a discussion of the external governmental agencies involved.

Northern Development Initiative Trust (NDIT). The SDIT and NDIT are both recent initiatives of the provincial government with the common objective of promoting economic diversification in rural B.C. SDIT was created in February 2006 with a $50 million endowment while the NDIT was created in October 2004 with an initial $135 million endowment that was increased by another $50 million in December 2005. These two trusts are governed through a combination of locally chosen government officials (primarily mayors) and members-at-large chosen by the provincial government. The eight EDOs experiences with these two trusts were mixed, somewhat surprising given the large quantity of money seemingly available. Two communities – Golden and Castlegar – had not attempted to utilize the SDIT at the time of the interviews. Three of the other communities – Lillooet, Merritt and Mackenzie – all had very positive experiences with the SDIT (first two) and the NDIT (last one). In these communities, the two trusts had provided grants and funding to offset the costs of temporary research assistants. The last three communities – Revelstoke, Williams Lake and Quesnel – all had negative experiences with SDIT (first one) and the NDIT (last two). For these three communities, the trusts had provided mostly loans rather than direct funding and where funding had been given numerous loopholes existed when additional funding was requested. One of these EDOs felt that the trusts were more concerned with making a profit than they were with their supposed objectives of fostering the economic vitality of communities through the promotion of economic diversification. Another EDO went as far as describing their experience with their appropriate trust as “brutal”. It would thus appear that there is a strong political element to the ability of communities to access funds from their respective trusts. Indeed, the mayor of one of the communities that had had a very positive experience with their trust was one of the local chairs on their trust.

5.10 Issues with Smallness

As the research has clearly shown, the various manifestations of smallness have a large and enduring impact on many facets of B.C. rural resource communities. The impacts that a small population has on the ability of communities to diversify are extensive. A key element of diversification is the expansion and growth of indigenous nonbasic employment and income within communities (Power 1996; Watkins 1963). A

large nonbasic sector helps prevent internally generated money from being spent by locals outside of their community (economic leakage) as additional services become more locally viable as the population base increases. An increase in population and a concomitant increase in nonbasic services also increase the economic linkages within communities, further decreasing economic leakage. Evidence from chapter 4 highlights the very strong correlation between nonbasic services and population: NB_Inc and Pop had by far the strongest correlation of all 33 correlations calculated (Pearson correlation of 0.79 with significance less than 0.000).

The impact of smallness on economic diversification was also mentioned frequently by the EDOs during the interviews. A small service sector restricts the projects that are feasible within communities as necessary services for larger projects may not be available. Furthermore, the small population base results in a small labour pool that also reduces the size of projects that are feasible with only local labour. Smallness also appears to affect the leadership enhancement potential of communities. All of the communities that have taken advantage of the Leadership BC program have had at least moderate populations (over 10k). It is quite possible that smaller communities are unable to take advantage of this program because they cannot afford the necessary fee. Another key manifestation of smallness is that a small population base generally results in smaller local government staffing levels, including economic development staff, than would be possible with a larger population. This leads to uncertainty and fragility in the governance of local institutions (Markey et al. 2009, 219). This obviously has an impact on the quantity and quality of economic development planning that is possible. Possibly more important, at least from the EDOs perspective, is that limited staff levels decrease the ability of local economic planning agencies from accessing external funding opportunities. External government funds may thus be available without local EDOs even being cognizant of them. If they are known, limited time and resources often make accessing these funds impossible. The impact of limited staffing on accessing external funds was mentioned specifically by the Lillooet, Merritt, Williams Lake and Mackenzie EDOs. The relatively difficult economic conditions in the northern communities compared to their southern counterparts also had significant repercussions for Williams Lake. The operating budget of the local economic

development agency and their project funding and support staff had all been reduced at the time of the interview. Thus, in a time when the importance of economic diversification had increased, the ability of an EDO to accomplish their primary objective was greatly decreased.

Smallness is a defining characteristic of rurality. An increase in the population of rural communities helps to negate the negative ramifications of smallness but it equally helps to decrease a community's rurality. The citizens in small communities are generally proud of their community's bucolic foundations and of its positive characteristics (Cocklin and Wall 1997; Markey et al. 2009; Roinson 1990). In Canada, there is a long history, dating back before the 1980s, of rural citizens actively trying to maintain and enhance their community's existence (Bryant and Joseph 2001). At some population threshold, however, one begins to question the economic vitality of rural communities. The ability of *very* small communities to create internally-derived change is severely limited by their small populations. As has been mentioned, small communities often altogether lack an economic development agency. Some small communities do have economic development agencies, including one of the communities investigated in this chapter, Lillooet (population of only 2300). Overall however, smallness translates into human capital deficits.

5.11 Summary

In summary, the emphasis of this chapter has been on an investigation of the empirical results of the multiple case studies. The primary data source for the case study was the interviews of EDOs in eight forestry dependent communities in the interior of British Columbia. Secondary data sources included documents, publications and the websites of various agencies involved in economic planning. Results from the statistical analyses in chapter 4 were also employed to help validate arguments put forward in this chapter. The objective of this chapter was to achieve analytical generalizations by comparing the empirical results of the case study against theoretical foundations generated through the literature review.

The primary diversification focus of the communities was tourism and the maintenance of the staples industries that have historically brought them success.

Emphasis was placed on developing local economies from within by focusing on the needs of local businesses. The first and second most important community agents were the EDO and the local Chamber of Commerce, respectively. The location of each community on an economic development plane was plotted using two axes: sources of power (bottom-up vs. top-down) and level of participation (inclusive vs. exclusive). It is quite possible, as evident from this research, that a very inclusive economic development strategy (as utilized in CED) may be less effective at accomplishing its primary goal (economic diversification) compared to a less inclusive, though more focused, strategy. External government had little direct control over the EDOs, but did provide important funding, especially for specific projects. Local citizens' role in economic development was generally minor and focused on providing input to the plans generated by the EDOs. Given the important role (from the literature review) that community volunteers can have in economic development it is somewhat surprising that the EDOs did very little to support leadership training.

Many agencies are involved in the process of economic development planning and the interactions and linkages of these various entities was discussed and graphed. Important differences in the economies of the three more northern research communities compared to the other five more southern communities was noted. The greater forestry dependence and isolation of the northern communities were given as possible explanations to help explain this geographical dichotomy. The addictive nature of staples production was clearly evident, both in chapter 4 and 5. Income is negatively correlated with diversification and resistance within communities existed towards diversification, especially by those industries involved in staples production. A lack of understanding within the community towards the modern perspectives of LD also hindered the ability of EDOs to implement their plans. The temporary and project specific funding that external agencies provide both creates and increases uncertainty in the long-term plans of EDOs. The political nature of external funding also raises questions, highlighted by the very different experiences of the communities to the SDIT/NDIT. Finally, the central role that smallness plays in rural communities was discussed, especially the role that small population bases have on the ability of communities to internally diversify.

CHAPTER 6.
Conclusions

6.1 Introduction

A mixed-method research design was employed to help answer the research question and sub-questions of this thesis. The comparative perspective that is possible with a mixed-method research design proved, overall, to be beneficial. The quantitative results generally corroborated with the theoretical results generated in the literature review. For example, diversification was found to be negatively correlated with isolation and positively correlated with population. Diversification, however, was negatively correlated with income, which runs contrary to much of the diversification literature that equates increased prosperity with diversification. Possible explanations were given for this apparent discrepancy, including the timing of boom-and-bust cycles and the differences between growth and development. The quantitative results were also powerful in helping to strengthen many of the arguments in the proceeding qualitative chapter. Many insights were also drawn from the qualitative results, examples include: the continuing strong resistance of the business community towards local development; the numerous interaction and linkages of the various entities involved in LD that have arguably not been fully appreciated in previous research; the political nature of LD funding; and differences in the economic fortunes of northern rural communities versus their southern counterparts. The strong influence of smallness on the ability of rural communities to diversify was particularly insightful. This chapter will review these insights in greater detail. This review will be organized around the three themes of dependency, change and agency. Finally, a few policy recommendations and some reflections on the efficacy of the research design of this thesis will be discussed.

6.2 Summary: Dependency, Change and Agency

The origin and the effects of the dependency of resource communities on staples production was the initial focus of the literature review. This was achieved through the investigation of several different bodies of knowledge. The forest industry in British Columbia was reviewed first as it is the principal staple of the case study communities in this thesis. The scale and the scope of the contribution of forestry to the provincial economy is immense. In 2008, forestry accounted for 6% of the provincial GDP and was the province's leading export industry, even though the importance of forestry to the B.C. economy has been steadily receding during the time period of this study (BC Stats 2008). Furthermore, in 2008, forestry still directly accounted for 4% of provincial employment. More importantly, for this study, it is the most important sector of the economy for the numerous forestry dependent communities distributed across all corners of the province. A healthy forestry economy is vital to the success and survival of these communities, so long as they remain dependent on forestry.

A clearer theoretical understanding of B.C.'s dependency on forestry production, and on resource production in general, was achieved through an investigation into staples theory. Staples theory highlights the dependency of peripheral regions on more powerful metropoles. B.C. is doubly peripheral to Ontario and Quebec, whom are in turn all peripheral to the U.S. (and to a lesser extent, Europe and Japan). It was argued that B.C. rural resource communities are themselves peripheral to the southwest Vancouver/Victoria region and are thus triply peripheral. Staples theory pays close attention to the technology, institutions and geography (the staples triad) of staple production within a particular region during a particular time and is thus a contextually rich and historical body of knowledge. This makes it a very powerful tool for investigating B.C. resource and forest industries. In an optimistic view of staples theory, regions will become diversified as the benefits of staples production are eventually distributed within the staples region itself. In a pessimistic view, staples regions will continually be dependent on the core as the benefits of production never flow back to the hinterland. The export mentality of domestic staple producers in B.C. and Canada also reinforces staples production and thwarts diversification. In B.C., both history and the empirical evidence from this research seem to favour the pessimistic view. Resource

cycle theory helps strengthen the geography spoke of the staples triad by highlighting the long-term decline of resource stocks, including renewable ones such as forestry.

A perfect combination of the staples triad during the so-called long boom from the 1960s until the late 1970s resulted in huge amounts of wealth being generated from the forests and mines of B.C. This wealth was not only enjoyed in the southwest core but was distributed throughout the entire province. In the late 1970s and early 1980s, the forces responsible for the long boom began to break down. A deep recession swept across the province. This recession brings us to the second theme of this thesis: change. Boom and busts have always been an integral component of staples production, and indeed (short and minor) busts existed during the long boom. These busts did not alter the overall long-term economic growth trend present during the long boom. However, the changes responsible for the 1980s recession were much broader and structural than the usual causes of previous busts and resulted in discernable long-term economic declines. These forces of economic restructuring continue to affect the economy of B.C. today and have increased the need for fundamental change to occur within resource communities if they are to prosper into the future.

The concepts of 'community' and 'rurality' were continually employed throughout this thesis. As such, a section of the literature review was dedicated to investigating the meaning of these two concepts. Both terms are complex and confounded concepts that belie simple definitions. The appropriate scale (if any) from which to demarcate the spatial boundary of a particular community is important both for community-studies and for the ability of resource communities to create change (the latter point will be discussed in greater detail in section 6.4). Also, instead of viewing rural and urban as opposites of one another, it is likely best to view these two concepts as endpoints on a continuum, with real world communities located somewhere along these two endpoints (and thus never at either of the extreme ends). This final point will also be discussed further in section 6.4.

Staples theory and resource cycle theory are very powerful tools for understanding the historic inertia of continued resource dependency in rural B.C. An investigation into resource communities, however, revealed additional mechanisms through which staples production continues to reproduce itself and resist internal change.

Arguably the most salient of these additional mechanisms is the addictive nature of resource production: high incomes generated during booms makes tolerable the misery of busts. This 'addiction' relies on a behavioural reinforcement mechanism whose addictiveness is very potent. In addition, local government and business, out of self-interest, often collude in resource communities to maintain the status quo: resource extraction. Communities are also relatively inexperienced at creating change from within (another form of dependency) due to the legacy of historic top-down economic planning in Canada. Nevertheless, the continuing long-term nature of economic restructuring has increased the demand from within resource communities to take control of their own economic destinies, as difficult as this may be. This desire for local control is clearly manifested through the establishment of economic development officers within the eight case study communities. The ability of communities to create change from within brings us to our final theme: agency.

The scale of economic planning has also shifted from being less regional-based to more community-based as the direction of economic development planning becomes less top-down and more bottom-up. As this occurs the unrealistic 'smokestack chasing' of earlier regional development schemes has given way to more realistic locally-tailored strategies. This often focuses on increasing the ability of existing firms to prosper while trying to attract outside investment that is appropriate for the particular community in question. Local amenities, especially in relation to tourism and health care, are key foci. Leadership is also a key factor in a community's ability to create change from within and is especially relevant to agency. The economic tools that resource communities can employ to alter their economic destinies are severely handicapped by their small populations. The effects of smallness also limit economic development staffing levels and the ability of communities to contract out services.

Local development (LD) was the final theoretical concept investigated in the literature review. LD is but one particular strategy through which change can occur, but it is arguably the most important for creating change through local agency. Three different LD perspectives were investigated. In one, the role of local entrepreneurs plays a key role in the ability of communities to create positive internal change. This is the general basis of the economic focus of a chamber of commerce. Another more

pessimistic perspective of LD focuses on how the competition between regions and the local dependency of actors (another form of dependency) prevents positive internal change. A third perspective of LD, community economic development (CED), builds upon the inadequacies and errors of these first two LD perspectives. CED is a practical undertaking that focuses on both the quantitative growth and qualitative development of communities through extensive and meaningful community participation. This thesis, while being cognizant of the different perspectives of LD discussed above, used LD as a blanket term that incorporates the benefits of these three LD perspectives.

The literature review generated hypotheses, or theoretical propositions in Yin's (1994) terminology (see appendix G), which were investigated in the two empirical chapters (4 and 5). A diversified economy is an important criterion for overall community stability and especially for a community's ability to survive periodic downturns in any one particular sector of its economy – a common occurrence in resource industries. As such, diversification ratios for 59 LAs and 17 sub-regions constituting all non-urban areas of B.C. were selected as dependent variables (DVs) and were regressed against eleven key independent variables (IVs). The IVs were primarily chosen based upon the findings of the literature review. The inclusion of the 17 sub-regions resulted in violations of the necessary assumptions of the general linear model and as such the import of these results is diminished. This problem was corrected by only using the 59 LAs in all subsequent regressions. Two other DVs were also regressed against the IVs: Forest Vulnerability Indices (an opposite measure of diversification) and nonbasic income ratios (another variable that plays a key role in community diversification). Some interesting insights were generated from the regression analyses. Of the three spatial variables, the one with the strongest correlation to the IVs was the distance to the Southern Transportation Corridors. This variable was included based upon the findings of the qualitative chapter and thus represents the power of mixed-method methodological triangulation. Based upon the literature review, one would have assumed that one of the other two spatial IVs would have been more important: the distance to the southwest metropole or the distance to regional centres.

The DVs were also regressed against three demographic IVs. Overall, the results from two of the three demographic IVs were as expected based upon the findings of the

literature review. Population was strongly correlated with nonbasic income ratios, more so than any other of the thirty-three LA regressions. Population and the ratio of seniors were both positively correlated with diversification and negatively correlated with forestry dependence, with the ratio of seniors showing stronger correlations in both cases. The correlation of the 20 to 29 population cohort to the DVs was also tested; however, the results of these analyses were surprisingly insignificant. The last set of single linear regressions involved five economic IVs. Both government and public administration income dependencies were negatively correlated with both diversification and forestry dependence. This is somewhat surprising as these two DVs measure opposite forces. These two economic IVs are components of the basic sector used to calculate diversification and forestry dependence ratios, which helps explain these surprising results. The results from the government transfer regressions were as expected (even though this variable is a similar measure to government and public dependencies): positive correlation with diversification and negative with forestry dependence. The results of the unemployment ratios were also as expected: negative correlation to diversification but positive to forestry dependence. The results of the final economic IV strongly supported the primary mechanism of dependency addiction: income was negatively correlated with diversification while positively correlated with forestry dependence. Multiple linear regressions were run for each of the three DVs against three different sub-sets of the IVs. The selection of IVs was based on a simplified stepwise regression scheme involving two steps (see figure 4.1). The results of the multiple linear regressions were similar to those of the single linear regressions.

The relative inability of regression analysis to generate concrete generalizations was addressed by performing a multiple case study on eight interior forestry dependent communities. EDOs, not surprisingly, played a key role in the LD process in all eight communities. The strategies of the EDOs were broadly similar, a tendency that has been observed by other researchers (Filion 1991; Markey et al. 2005). The EDOs focused on strengthening existing businesses, especially those that have historically been important (i.e. resource production), trying to attract appropriate outside investment, and tourism. These strategies are congruent with those of modern LD. Indeed, several communities mentioned their hostility to traditional LD and to smokestack chasing. Local chambers of

commerce were the most important LD business actors in the eight research communities. A continuum of the level of participation was discussed, with weak community involvement at one end (chamber of commerce) and strong involvement at the other end (CDC). The eight communities were then mapped on the continuum. A hierarchy of LD models thus becomes evident: idealized CDC on the top, followed by various EDO configurations, and chambers of commerce on the bottom. The efficacy of CDCs at creating diversification and positive development are stressed by Markey et al. (2005). The results of this research in relation to the relative position of the research communities on this continuum vis-à-vis diversification and development are less clear, however. The community with arguably the highest community participation of the eight research communities also consistently had the lowest diversification ratios and the highest forestry dependence. Conversely, the communities with arguably the strongest economies had comparatively lower levels of participation. Many factors, other than participation, could explain this discrepancy, however, some of which were discussed. What is clear is that community involvement is a vital component of LD in all eight of the communities, much more so than in either a chamber of commerce or in classic expert-driven regional development.

The direct impact of external governments on LD plans in the eight communities was minimal at best. This result is congruent with the recent withdrawal of external government involvement in regional and local planning, reaffirming the transition from top-down to bottom-up planning discussed in the literature review. External governments, however, still play a key role in the funding of LD in each of the eight communities. The role of community citizens in LD was also investigated. These results were mixed in relation to what was expected from the literature review. Most, but not all, EDOs deemed community participation vital to the success of LD. Most surprising, communities did very little to directly promote leadership, even though the importance of leadership to the success of LD has been stressed by various researchers.

At the time of interviews, the economies of the three more northern research communities appeared to be performing much poorer than the five more southern communities. The very low diversification ratios and very high forestry dependences of the northern communities helped to explain this geographic bifurcation. The southern

communities, however, all had forestry dependencies above the provincial averages *and* strong economies, even with the strong Canadian dollar and weak U.S. demand for housing during the EDO interviews in early 2008. A proposed explanation for this was the role that isolation and distance have played on the ability of communities to create and implement LD strategies. One would speculate that with the weakening of the provincial economy since the time of the interviews the high forestry dependency (compared to provincial averages) of the southern communities has likely resulted in the vagaries of economic specialization being experienced there to a greater extent.

A resistance to economic change was identified in the eight research communities, which often resulted in an ignorance and resistance to modern LD. This was especially the case with community citizens that had a vested interest in continued staples production. Others resisted change and LD because of a misunderstanding of the form of LD that is being practiced today versus traditional smokestack chasing LD. These two insights support the theoretical propositions of the literature review. An additional insight, not noted in this literature review, is the resistance to LD from some politically conservative residents. The funding that external governments provide to local development was found to be politically marred. This was exemplified by the research communities widely varied experiences with the Northern and Southern Development Initiative Trusts. Finally, the far reaching implications that smallness has on LD was discussed. Small populations hamper the growth of nonbasic services within communities: the nonbasic income ratio is strongly and positively correlated with population. The small populations of most rural communities also limit the number of economic development planning staff that can be economically justified. This has repercussions not only for the quality of work that is possible from EDOs and their offices but also on their abilities to access external funding opportunities.

6.3 Policy Recommendations

The political payoffs of local development are difficult to evaluate and take time to materialize, contrary to the immediate and substantial payoffs that were promised from most top-down regional development schemes in the 1970s (Coffey and Polese 1985; Markey et al. 2005). This has resulted in a historical government bias (especially in

higher levels) that favours mega-projects over more nuanced and smaller LD projects. This historical preference, however, has been on the wane, as is evident by various provincial and federal government policies that explicitly discuss the merit of LD and local control (see sections 5.6). Unfortunately, confusion still exists within the business communities of the eight research communities over the form of LD currently practiced in B.C. Local governments, due to their smallness, face difficulty articulating this new version of LD to their citizens. The greater reach and power of the provincial (or federal) government could be utilized to improve contemporary LD education in rural B.C.

The political nature of LD funding is also a concern to the proponents of LD and is another cause of internal resistance to LD (Markey et al. 2005). Fortunately, this element of LD was noted to have lessened in the research communities during the time period of this study. However, political tensions remain, as evident in the recently created provincial Southern and Northern Development Initiative Trusts (SDIT/NDIT). Of the six communities that had utilized these similar initiatives, half had positive experiences while the other half had negative. The latter largely contributing their poor judgments to politics. All levels of government need to work towards making LD funding and planning fair and neutral if LD is to have increased success and acceptance.

Another funding issue that dovetails with the smallness of resource communities for which higher levels of government can play a beneficial role is the accessibility and transparency of potential LD funding. Within the research communities there was a direct relationship between smaller population size and lower staffing levels. This limits the abilities of the smaller communities to search out and apply to funding. In one community, the funding of a temporary grant writer yielded very positive results. Higher levels of government can help (1) by decreasing the complexity of grant applications and (2) by funding (temporary) grant writers for communities (although the former lessens the need for the latter). Both higher levels of government and local government could also contribute to the success of LD by increasing leadership training within B.C. communities. This would help improve the ‘tool box of skills’ of local residents that is required if endogenous change is to occur. Higher levels of government could also be more cognizant of the vital influence that both health care, especially hospital services,

and road accessibility have on the ability of resource dependent communities to diversify (Markey et al. 2009).

6.4 Reflections

The research findings corroborated extensively with the theoretical propositions generated through the literature review (analytical generalizations). When discrepancies were encountered, potential explanations were given; in the case of the qualitative discussion this often involved using material from the quantitative analyses (methodological triangulation). Differences between communities were intentionally minimized during the community selection process and thus for the most part the results from the different cases of the qualitative work were similar (literal replication). Nonetheless, interesting insights were also noted between the cases, for which potential explanations were also discussed (theoretical replication). The results have also generated insights into other potentially interesting and useful areas of research, which will be discussed in the remainder of this section.

Several organizations, at varying levels, are involved in LD (section 5.6 and appendix H). Involvement ranges from purely monetary support (WD) to intensive levels of interaction (QCEDC). There are arguably two key ways in which organizations can influence LD: monetary and participatory. The interactions and linkages amongst the various LD organizations were investigated in this study through open-ended interviews of only EDOs and through the investigation of documents and web material. A much more detailed understanding of these linkages, however, could be accomplished by interviewing *all* of the various LD organizations. The methodological composition of such a study would likely involve fewer communities than this one if it is going to be practical. It would thus be more intensive and less extensive. This type of research design, however, was specifically not chosen for this research project.

The political structuring of community organizations whose *specific* mandate involves LD[96] has been a topic of interest amongst LD researchers (Markey et al. 2005). On the one hand, these researchers have argued that LD organizations need to be at arms-

[96] In this study, LD organizations were grouped together under the EDO moniker. However, as is evident in the level of participation continuum (x-axis) in figure 5.1, the structure of community involvement can vary from community development corporations, to EDOs, through to chambers of commerce.

length from both their municipality and council. This distancing ensures politics does not enter the day-to-day functioning of these organizations[97]. On the other hand, there is a need for these organizations to be responsible to the community that they are empowered to serve. Complete independence of LD organizations has the potential to lead to elitist and undemocratic institutions (bringing LD full circle to its smokestack chasing origins). The communities in this study all had some level of independence from council. Each community's level of independence, however, was different. This level of independence did not seem to have a major influence on the functioning ability or on the democratic representation of these institutions. A more detailed investigation of this topic would likely yield more interesting results that could have important consequences for the future success of LD.

Markey et al. (2005) conclude in their study of interior forestry dependent communities that in the future bottom-up and top-down planning may intersect. This coming together would change the traditional spatial scale of LD from the municipality to the region. The literature review and the results from this study, however, seem to indicate that the spatial boundary of community exists to a greater extent at the municipal level than it does at the regional level. This is the justification for using the term 'community' to refer primarily to the municipality of the various cities and towns researched in this study and not to the regional districts of the municipalities. Many of the organizations involved in LD today, however, are spatially involved at a regional scale (for example, the Community Futures organizations, see section 5.6). The inclusiveness of LD, and especially CED, could possibly overcome the lessened attachment citizens feel towards their region compared to their municipality if the scale of LD in the future did increase. Furthermore, the definition of LD (section 2.8) does not specify a fixed spatial limit for the region through which change is said to originate locally. Increasing the spatial scale of LD would necessitate increased cooperation amongst the individual communities in each LD region. However, rural communities in B.C. have minimal experience cooperating with one another, simply because there has never been a historical need to do so (Markey et al. 2009). The chances of the spatial

[97] Rural community councils are often overcome by the addictiveness of high staple production incomes (see chapter 2) and can thus be resistant to change and to economic diversification (Markey et al. 2005).

scale of LD increasing and the effectiveness of regional verse municipal LD are thus potentially interesting topics likely worthy of further research.

The use of diversification ratios derived from economic base theory yielded many interesting insights that were discussed. The limitations of economic base theory, however, restrict the usefulness of economic base theory-derived diversification ratios. Economic base theory views the basic sector as the primary driving force of the economy. This blinkered thinking has the tendency to reproduce staples dependency rather than promote diversification (Markey et al. 2005; Power 1996). For example, the service sector is a nonbasic sector in economic base theory and is thus not included as one of the twelve basic sectors in Horne's analysis and thus does not influence its diversification ratios. In addition, the service and health sectors are two vital components of both the new world economy and diversification (Power 1996). The complete exclusion of the service sector and the lack of a direct measure of the health sector from the diversification ratios are thus particularly unfortunate. Finally, the results of the multiple linear regressions in chapter 4 corroborated nicely with the single linear regressions. However, even more interesting results could likely have been achieved had more complex analyses been performed, such as principal component analysis. Unfortunately, space and time constraints precluded this option.

The winds of change have had a dramatic impact on the fortunes of British Columbia resource communities over the time period of this study. The ferocity of these winds has increased dramatically since the EDO interviews. This has once again highlighted for B.C. resource communities the negative consequences of dependency. Communities need change to better weather both this storm and future storms. Specifically, resource communities that are able to diversify their economic bases will be in better positions to weather future storms compared to more specialized communities. Change, however, is a slow process (Markey et al. 2009) and patience is thus a necessity. Local development and control is one potentially promising avenue through which positive change and economic diversification may be realized.

APPENDICES

Appendix A:

Interview Questions

Note: The interviews were partially structured as open-ended interviews, which is the typical case study technique. Consequently, the interviewees were not required to answer all of the questions listed below and could ask questions of their own. Also, not all of the questions were asked (depending on the progress of the particular interview).

How important do you feel your community as a whole (including all stakeholders) deems economic development planning?
- Extremely, Very, Somewhat, Not very, Not at all

Local Government Actors
What is the relationship of your employer to local government? Are you accountable to them or are you completely autonomous?

Presently, how involved is your local government (including your own organization) in economic development?
- Extremely, Very, Somewhat, Not very, Not at all

Briefly describe the current and previous involvement of local government in economic development. What specific projects have you previously attempted and are currently engaged in? What specific **tools** has local government used to promote economic development?

_____

What do you feel are some of the major problems local government face in promoting and implementing economic development? What are some potential solutions to these problems?

_____

Over the past ten to twenty years what has been the trend in the amount of involvement of local government in economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

How important is local government funding to economic development?
- Extremely, Very, Somewhat, Not very, Not at all

Does your local government employ any *specific* mechanisms to raise funds to support economic development or does funding come from general revenue only? If the former, briefly describe these mechanisms.

_____

Over the past ten to twenty years what has been the trend in the amount of funding provided by local government for economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

---

Externally-Derived Economic Development Initiatives

Presently, how involved are government and organizations from outside of your community in local economic development?
- Extremely, Very, Somewhat, Not very, Not at all

List the names, if any, of government programs and outside organizations currently involved in local economic development.

_____

Briefly describe the nature of the economic development initiatives that these outside groups are currently involved in, planning to be involved in or were recently involved in.

_____

Is your community taking advantage of the Southern Development Initiative Trust/Northern Development Initiative Trust? If yes, describe this involvement and your experience with the trust thus far.

_____

Over the past ten to twenty years what has been the trend in the influence of externally-derived economic development *initiatives* and *programs* in your community?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

How important is outside funding to local economic development?
- Extremely, Very, Somewhat, Not very, Not at all

Briefly describe the types of outside funding your community has in the past taken advantage of and is currently taking advantage of.

_____

Over the past ten to twenty years what has been the trend in the amount of externally-derived *funding* for local economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

Does local government currently believe in supporting externally-derived economic development initiatives? Did it in the past and has the level of support for it ever varied? If yes to any, briefly describe why this is the case and, if there has been a change in support, why this is so.

_____

Have there ever been issues with not being able to access externally-derived economic development funding or programs? If yes, briefly describe.

Local Business Actors

Presently, how involved is local business and local business organizations in economic development?
- Extremely, Very, Somewhat, Not very, Not at all

List the names, if any, of local businesses and local business organizations that are currently involved in economic development.

_____

Briefly describe the nature of the economic development initiatives that these businesses and local business organizations are currently involved in, planning to be involved or recently involved in.

_____

What do you feel are some of the major problems local businesses and local business organizations face in promoting economic development? What are some potential solutions to these problems?

_____

Over the past ten to twenty years what has been the trend in the amount of involvement of businesses and business organizations in economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

How much monetary support do businesses and local business organizations currently provide to economic development?
- Extensive, Minimal, Nothing, Unsure

Over the past ten to twenty years what has been the trend in the amount of funding provided by businesses and local business organizations for economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

---

Community-Based Organizations and Community Volunteers

Presently, how involved are community-based organizations and community volunteers in economic development?
- Extremely, Very, Somewhat, Not very, Not at all

List the names, if any, of community-based organizations that are currently involved in economic development.

_____

Briefly describe the nature of the involvement of community-based organizations and community volunteers in economic development.

_____

What do you feel are some of the major problems community-based groups and community volunteers face in promoting economic development? What are some potential solutions to these problems?

_____

How important do you feel community volunteers are to the success of community-based organizations involved in economic development?
- Extremely, Very, Somewhat, Not very, Not at all

Based upon your experience, are there any general trends in the backgrounds of community volunteers? For example, are they often professionals, retired, unemployed, etc…. If yes, briefly describe these trends.

_____

Based upon your experience, how significant is strong leadership in creating successful community-based organizations?
- Extremely, Very, Somewhat, Not very, Not at all

Does your local government do anything to promote leadership among its citizens? If yes, briefly describe these initiatives.

_____

Are you aware of any other community organizations (besides local government) that promoting leadership in your community? If yes, briefly describe.

_____

Over the past ten to twenty years what has been the trend in the amount of involvement of community-based organizations and volunteers in economic development?
- Greatly decreased, Decreased, Constant, Increased, Greatly increased

Do community-based organizations personally employ any *specific* mechanisms to raise funds to support economic development? If yes, briefly describe these mechanisms.

Appendix B:

Raw Data for Statistical Analyses

The following table contains all of the raw (pre-regression analysis) data for all single and multiple linear regression calculations performed in this thesis. See the notes below for full region and variable names and for an explanation of P%.

	DVs			Independent Variables											
Region*	Div	For	NB	Van	RC	STC	Pop	Sen	20/29	Gov	Pub	UE	Inc	Tran	P%
Gulf Islands	66	0	.14	2.6	2.4	2.6	13.6	23	6.1	5	18	6.2	20.8	16.8	100
Sooke	60	3	.20	2.5	0.4	2.5	13	12	8.4	24	42	7	22.6	14	96.7
Duncan	69	22	.18	2.4	0.6	2.4	51.2	16	8.6	10	26	9.5	21.3	15.5	99.3
Lake Cow.	63	48	.14	2.8	0.9	2.8	5.9	14	8.6	10	22	14.7	18.8	19.3	96.7
Ladysmith	69	25	.17	2.3	0.2	2.3	14.8	19	7.6	8	25	9	21.6	16.3	94.0
Nanaimo	69	13	.25	2.1	0	2.1	89.3	16	10.7	11	28	11.6	20.4	15.9	98.1
Parksville-Qualicum	67	9	.16	2.4	0.5	2.4	37.8	26	6	6	18	9.9	19.8	20.4	99.8
Alberni	65	45	.10	2.8	0.9	2.8	30.3	14	10.2	9	22	13.8	19.9	15.8	100
Courtney	70	17	n/a	3.1	1.1	3.1	18.3	16	11.1	13	27	13.3	19.7	19.5	100
Comox	63	9	n/a	3.1	1.2	3.1	11.2	19	6.8	13	35	7.8	25.8	15.4	100
Denman-Hornby	68	-1	n/a	3.7	1.8	3.7	2	19	6.6	13	22	9.6	18.3	18.8	100
Campbell River	70	34	n/a	3.5	1.6	3.5	28.4	11	10.7	8	20	12.7	21.3	14	100
Gold River	61	62	n/a	4.2	2.3	4.2	1.4	8	7.7	8	20	18.2	20.3	10.2	100
Tahsis-Zeballos	52	90	n/a	5	3	5	0.8	4	6.1	8	28	23.3	17.1	12.6	100
Bute Inlet	75	4	.10	4.5	2.6	4.5	3.7	11	9.9	9	22	10.6	15.8	16.3	93.5
Powell R.	67	36	.13	3.4	2.6	3.4	19.8	16	8	6	19	8.5	20.5	17.3	100
Alert Bay	65	10	.07	6.6	4.5	6.6	2.3	11	10.2	17	32	19.8	17.9	21.7	94.1
P. Hardy	65	42	n/a	5.9	3.9	5.9	4.6	5	13.6	7	29	7.6	26.1	9.9	100
P. McNeill	43	145	n/a	5.5	3.5	5.5	2.8	4	12.1	7	14	7.8	28.5	5.7	100
Port Alice	30	215	n/a	6.1	4	6.1	1.1	3	8	7	12	5	37.7	4.3	100
C. Coast	60	21	.08	10	6.9	6.5	3.8	7	12.7	19	39	20	15	17.5	100
Hope	71	16	.12	1.5	1.5	0	8.1	17	8	9	22	12	17.7	21.6	92.7
Chilliwack	70	6	.22	1	1	0	70	15	10.2	12	28	8.3	20	16.3	97.7
Kent	71	6	.11	1.3	1.3	0.1	8.2	15	10.7	18	28	9.3	17.9	18.5	97.7
Sunshine Coast	72	22	.18	1.3	1.3	1.3	25.6	18	6.8	7	21	7.2	20.3	16.4	100
Squamish	69	14	.19	0.7	0.7	0.7	28.7	6	18.5	8	21	7.1	26.3	7.7	96.6
Lillooet	67	28	.09	2.5	1.7	0.9	4.4	12	11	16	32	11.4	18.3	14.4	85.8
Princeton	65	40	.11	2.8	1.6	1.3	4.6	20	5.9	7	18	12.5	17.1	21.2	100
Oliver-Osoy.	66	7	.11	4	1.2	2.4	19.8	29	7	5	17	9.1	15.7	29.1	98.7
Penticton	68	6	.19	4.2	0.6	1.6	52.3	24	7.9	9	26	10.1	19.9	20.4	100

Ashcroft	76	17	.08	3.4	0.9	0	7.9	19	6.5	7	18	9.2	16.2	19.3	80.5
Merritt	68	32	.09	2.7	0.9	0	10.8	12	10.6	11	27	13.2	18.6	17.3	95.1
Kamloops	72	11	.23	3.5	0	0	92.1	13	13.1	12	29	10.4	21.3	13.6	99.3
North Thompson	61	65	.06	4.8	1.2	1.2	8.4	12	8.9	6	15	17.1	18.4	15.6	98.9
Peachland	73	4	.23	3.8	0.2	1.1	36.5	18	7.8	8	22	8.8	21.3	16.3	100
Kelowna	73	4	.26	3.9	0	1.1	111	18	11.5	6	24	8.9	21.4	15.1	100
Vernon	72	10	.22	4.4	0.5	0.6	56.9	17	9.8	6	24	11.1	19.7	17.9	99.2
Spallum.	75	12	.17	4.6	0.7	0.4	16.3	16	8.4	5	19	10.6	18.2	19.2	98.5
Salmon Arm	73	11	.17	4.6	1.1	0	32.9	20	7.5	6	18	11.2	18.6	19.5	97.8
Golden	72	28	.13	7.1	2.6	0	7.2	8	13.7	5	16	11.2	20.4	12.1	100
Revelstoke	73	23	.13	5.6	2	0	8.1	12	9.8	7	17	10.8	21.1	12.5	100
Fernie	61	12	.09	9.4	2.1	3.2	14.8	9	11.5	4	15	9.8	24.8	9.9	99.4
Cranbrook	72	17	n/a	8.4	3	2.5	18.5	13	11.8	9	26	10.7	20.5	14.5	100
Kimberley	73	11	n/a	8.7	3.3	2.3	6.5	19	9.1	9	23	10.3	23.4	15.2	100
Invermere	74	18	.13	8.3	2.7	1.2	8.8	12	11.3	6	18	6.5	22.5	12.2	96.1
Castlegar-Arrow Lks	69	31	.16	6.2	3	2.8	16.6	14	9.9	6	23	13.4	21	14.9	100
Nelson	69	15	.16	6.6	3.4	2.8	27.3	14	10.9	11	30	11.3	20.2	15.7	96.0
Creston	68	12	.14	7.4	4.1	3.5	13.1	22	7.4	7	23	9.3	16.6	24.6	99.1
G.F.	69	32	.12	5.2	2.1	3	12.2	19	7.8	6	20	8.6	17.1	19.6	100
Trail	63	3	n/a	6.3	3.2	3.1	7.6	25	9	6	20	12.6	20	19.7	100
Rossland	64	2	n/a	6.2	3.1	3.2	3.6	9	10.3	6	34	8.5	23	9.1	100
Williams Lake	67	42	.14	5.5	2.4	2	41.3	10	10.7	10	24	14.1	20.3	14	95.7
Quesnel	57	78	.14	6.7	1.2	3.2	24.2	10	10.7	5	21	13.6	19.4	13.1	97.9
Prince George	64	47	.24	7.9	0	4.5	91.4	7	13.5	10	28	11.1	25.3	9.8	98.7
McBride	68	40	.07	7.6	2.1	4	4	10	10.1	6	18	9	16.6	14.7	100
Q.C. Is.	62	52	.14	24.8	17	21.4	4.9	7	11.7	14	30	10.5	24.1	9.6	85.7
Prince Rupert	66	31	.16	15	7.2	11.6	16.8	8	12.2	14	30	18.7	20.9	14.6	98.2
Kitimat	60	29	n/a	14.1	6.3	10.7	10.3	7	10.1	11	17	11.8	29.7	7.3	100
Terrace	66	29	n/a	13.6	5.7	10.1	12.1	8	11.9	11	32	13.5	24	11	100
Hazelton	59	51	.08	12.3	4.4	8.8	6.6	8	12.2	15	32	28.8	16.3	22.2	85.3
Stewart	59	14	.05	14.8	7	11.4	3.2	6	12.2	23	41	33.2	16.2	20.6	67.4
Smithers-Telkwa	66	35	n/a	11.5	3.7	8.1	6.8	9	12.6	13	33	9.4	25.7	10.2	100
Houston	46	132	n/a	10.9	3.1	7.4	3.6	6	13.9	13	13	11.7	27	8.1	100
Burns Lake	60	61	.10	10.1	2.3	6.6	6.8	9	13	10	25	18.2	20.6	13	97.0
Vander.	56	81	.10	8.8	1	5.4	16.4	8	12.4	10	21	12.7	21	12.4	93.0
Stikine	58	1	.05	17.5	9.7	14.1	1.3	9	12.1	35	42	18.1	19.7	14.8	100
Dawson Creek	74	17	.16	11.9	4	8.5	25.4	9	11.5	8	25	11.2	21.2	12.4	99.8
F. St. John	70	8	.18	12.6	4.7	9.1	29.7	6	15.7	6	19	8.1	24.8	8.4	97.9
F. Nelson	68	41	.16	16.4	8.5	12.9	5.7	3	15.6	11	17	6.8	29.2	5.6	100

Courtney-Comox	68	13	.17	3.1	1.2	3.1	54.6	16	8.5	13	30	11.2	21.5	16.7	99.5
Campbell R. Region	70	36	.15	3.6	1.7	3.6	37.8	11	10	8	20	12.7	21.4	13.4	96.2
Port Hardy Region	52	100	.08	5.8	3.8	5.8	10.8	5	11.6	7	19	8.8	28.5	8.9	93.7
Cranbrook - Kimberley	74	14	.20	8.5	3.1	2.4	32.7	14	10.3	9	25	10.1	21.6	14	99.5
Trail-Rossland	66	3	0.15	6.3	3.2	3.1	19.6	17	8.7	6	23	10.2	21.8	14.3	100
Kitimat-Terrace	70	23	0.15	13.8	6.0	10.4	31.1	8	11.2	11	26	13.4	25.1	10.5	97.7
Smithers-Houston	63	53	0.16	11.3	3.5	7.8	17.7	7	11.7	13	26	9.9	25.1	9.3	97.0

Notes:

*Full Names of Regions: Sooke=Sooke-Port Renfrew; Lake Cow.=Lake Cowichan; Powell R.=Powell River; P. Hardy=Port Hardy; C. Coast=Central Coast; Hope=Hope-Fraser Canyon; Kent=Kent-Harrison; Spallum.=Spallumcheen; Castlegar-Arrow Lks=Castlegar-Arrow Lakes; Oliver-Osoy.=Oliver-Osoyoos; G.F.=Grand Forks; Q.C. Is.=Queen Charlotte Islands; Vander.=Vanderhoof; F. St. John=Fort St. John; F. Nelson=Fort Nelson; Campbell R. Region=Campbell River Region.

-DVs=Dependent Variables.

-Full Names of Variables: NB=NB_Inc; RC=R_C; 20/29=P_20_29; UE=U_E.

-P% is the percentage of the regions population that was included in the five census-based calculations (Sen/P_20_29/U_E/Inc/Tran).

Source: Div/For/NB_Inc/Gov/Pub – Horne (2004); Sen/P_20_29/U_E/Tran – 2001 Census of Canada.

Appendix C:

Additional Chapter 4 Tables

C1 Results for All 44 Single Linear Regressions.

Label			Significance Pearson			Significance B		95% Interval	
IV	DV	Pearson		R^2	B		Constant	Lower	Upper
Van_A	Div_A	*-0.215*	0.031	0.046	-.362	0.062	68.100	-.742	.018
Van_B	Div_B	***-0.336***	0.005	0.113	***-.374***	0.009	69.577	-.653	-.096
Van_B	For_B	*0.217*	0.050	0.047	.980	0.099	19.527	-.191	2.151
Van_B	NB_B	*-0.244*	0.031	0.059	-.003	0.063	0.160	-.006	.000
R_C	Div_A	*-0.249*	0.015	0.062	*-.722*	0.030	67.706	-1.371	-.073
	Div_B	***-0.300***	0.011	0.090	*-.554*	0.021	68.624	-1.022	-.086
	For_B	0.118	0.187	0.014	.882	0.375	23.514	-1.094	2.859
	NB_B	***-0.316***	0.007	0.100	*-.006*	0.015	0.158	-.010	-.001
STC	Div_A	***-0.371***	0.000	0.138	***-.722***	0.001	68.737	-1.140	-.303
	Div_B	***-0.439***	0.000	0.193	***-.559***	0.000	69.348	-.863	-.256
	For_B	*0.233*	0.038	0.054	1.206	0.075	21.135	-.127	2.538
	NB_B	*-0.245*	0.031	0.060	-.003	0.061	0.155	-.006	.000
Pop	Div_A	***0.328***	0.002	0.107	***.107***	0.004	63.449	.036	.179
	Div_B	*0.281*	0.016	0.079	*.060*	0.031	65.667	.006	.115
	For_B	*-0.223*	0.045	0.050	-.194	0.090	30.674	-.420	.031
	NB_B	***0.793***	0.000	0.629	***.002***	0.000	0.101	.001	.002
Sen	Div_A	***0.472***	0.000	0.022	***.616***	0.000	57.874	.349	.882
	Div_B	***0.374***	0.002	0.140	***.359***	0.004	62.402	.123	.595
	For_B	***-0.455***	0.000	0.207	***-1.77***	0.000	49.384	-2.693	-.852
	NB_B	*0.225*	0.044	0.051	.002	0.087	0.155	.000	.005
P/20/29	Div_A	-0.076	0.257	0.006	-.233	0.514	68.109	-.942	.475
	Div_B	-0.198	0.066	0.039	-.422	0.132	71.499	-.975	.131
	For_B	*0.216*	0.051	0.046	1.861	0.101	6.744	-.375	4.098
	NB_B	0.027	0.418	0.001	.001	0.836	0.137	-.005	.006
Gov	Div_A	-0.177	0.063	0.031	-.271	0.126	68.398	-.620	.078
	Div_B	***-0.388***	0.001	0.151	***-.379***	0.002	70.942	-.617	-.140
	For_B	-0.140	0.145	0.020	-.555	0.290	31.360	-1.595	.485
	NB_B	*-0.237*	0.036	0.056	-.002	0.071	0.166	-.005	.000
Pub	Div_A	0.055	0.317	0.003	.064	0.634	64.192	-.201	.329
	Div_B	***-0.320***	0.007	0.102	***-.264***	0.014	73.551	-.471	-.057
	For_B	-0.200	0.064	0.040	-.672	0.128	42.064	-1.543	.199
	NB_B	-0.005	0.484	0.000	-.000	0.967	0.144	-.002	.002
U_E	Div_A	*-0.196*	0.045	0.038	-.317	0.090	69.450	-.684	.050
	Div_B	***-0.456***	0.000	0.208	***-.502***	0.000	73.118	-.762	-.242
	For_B	0.196	0.068	0.039	.877	0.136	15.429	-.285	2.040
	NB_B	***-0.474***	0.000	0.225	***-.005***	0.000	0.204	-.008	-.003

Inc	Div_A	***-0.475***	0.000	0.225	***-.937***	0.000	85.613	-1.339	-.534
	Div_B	-0.116	0.192	0.013	-.202	0.383	71.305	-.663	.259
	For_B	*0.224*	0.044	0.050	1.592	0.088	-6.692	-.245	3.428
	NB_B	***0.386***	0.001	0.149	***.007***	0.003	0.007	.002	.011
Tran	Div_A	***0.394***	0.000	0.155	***.647***	0.000	56.137	.297	.997
	Div_B	0.107	0.210	0.011	.131	0.421	65.126	-.193	.455
	For_B	***-0.325***	0.006	0.106	*-1.62*	0.012	51.086	-2.870	-.370
	NB_B	-0.195	0.069	0.038	-.002	0.139	0.180	-.006	.001

Note: NB=NB_Inc; significance values less than 0.05 are in italics and values less than 0.01 are in bold and italics.

C2 Correlations between All Eleven Independent Variables with Significances.

Label	Pub										
Pub	1.00										
:Sig	-	Gov									
Gov	**.889**	1.00									
:Sig	.000	-	Pop								
Pop	.055	-.161	1.00								
:Sig	.339	.111	-	STC							
STC	.385	.466	-.275	1.00							
:Sig	.001	.000	.018	-	Sen						
Sen	-.267	-.350	.204	-.545	1.00						
:Sig	.020	.003	.061	.000	-	U_E					
U_E	.510	.490	-.236	.382	-.341	1.00					
:Sig	.000	.000	.036	.001	.004	-	R_C				
R_C	.340	.436	-.405	**.899**	-.474	.315	1.00				
:Sig	.004	.000	.001	.000	.000	.008	-	Van			
Van	.283	.360	-.286	**.915**	-.589	.383	**.884**	1.00			
:Sig	.015	.003	.014	.000	.000	.001	.000	-	Inc		
Inc	-.142	-.100	.232	.281	-.447	-.399	.174	.266	1.00		
:Sig	.142	.226	.039	.015	.000	.001	.094	.021	-	P_20/29	
P_20/29	.212	.249	.075	.405	**-.827**	.196	.338	.478	.489	1.00	
:Sig	.053	.028	.287	.001	.000	.069	.004	.000	.000	-	Tran
Tran	.077	.014	-.097	-.316	.724	.267	-.248	-.371	**-.831**	-.678	1.00
:Sig	.280	.457	.232	.007	.000	.020	.029	.002	.000	.000	-

Note: Sig=Significance; P_20/29=P_20_29; Significant, excessive correlations (greater than 0.800) are in bold.

C3 Multiple Linear Regression Results with Diversification Ratios (Div_B) as the DV.

Label	B	Beta	Significance	Partial
Gov_B	-0.108	-0.111	0.426	-0.110
Pop_B	0.027	0.126	0.295	0.144
STC_B	-0.242	-0.190	0.200	-0.175
Sen_B	0.113	0.117	0.397	0.117
U_E_B	-0.285	-0.259	0.060	-0.255

$R=0.569$, $R^2=0.324$; Constant=70.406; $F(5,53)=5.078$, $p=0.001$

C4 Multiple Linear Regression Results with Forest Vulnerability Index (For_B) as the DV.

Label	B	Beta	Significance	Partial
Pub_B	-1.565	-0.467	0.002	-0.418
Pop_B	-0.034	-0.039	0.771	-0.041
STC_B	0.295	0.057	0.697	0.054
Sen_B	-1.563	-0.401	0.184	-0.184
U_E_B	1.263	0.282	0.173	0.188
Tran_B	-0.296	-0.059	0.840	-0.028

$R=0.611$, $R^2=0.373$; Constant=73.783; $F(6,52)=5.155$, $p<0.001$

C5 Multiple Linear Regression Results with Nonbasic Income Ratios (NB_Inc_B) as the DV.

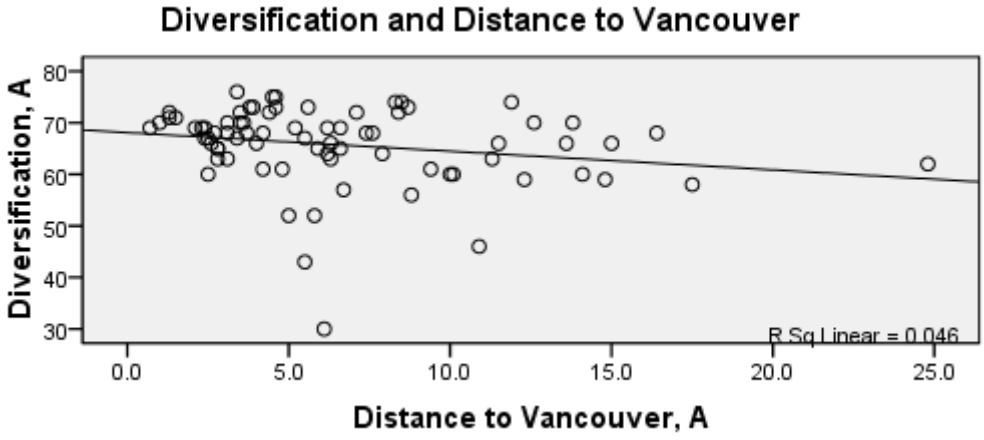
Label	B	Beta	Significance	Partial
Gov_B	0.000085	0.009	0.920	0.014
Pop_B	0.002	0.723	0.000	0.766
U_E_B	-0.003	-0.282	0.004	-0.386
R_C_B	0.001	0.044	0.642	0.064
Inc_B	0.002	0.099	0.262	0.154

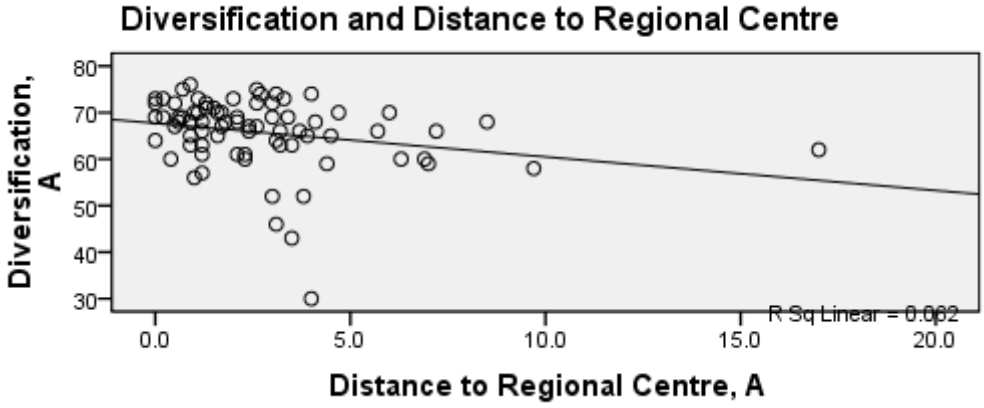
$R=0.854$, $R^2=0.729$; Constant=0.103; $F(5,53)=28.565$, $p<0.001$

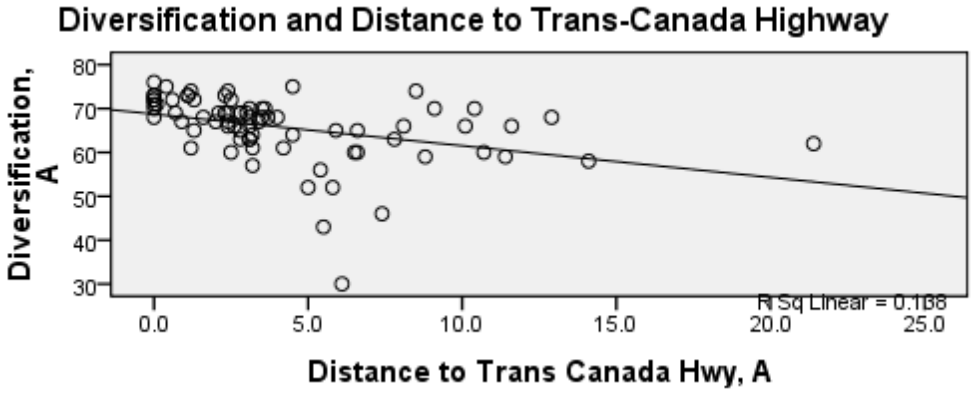
Appendix D:

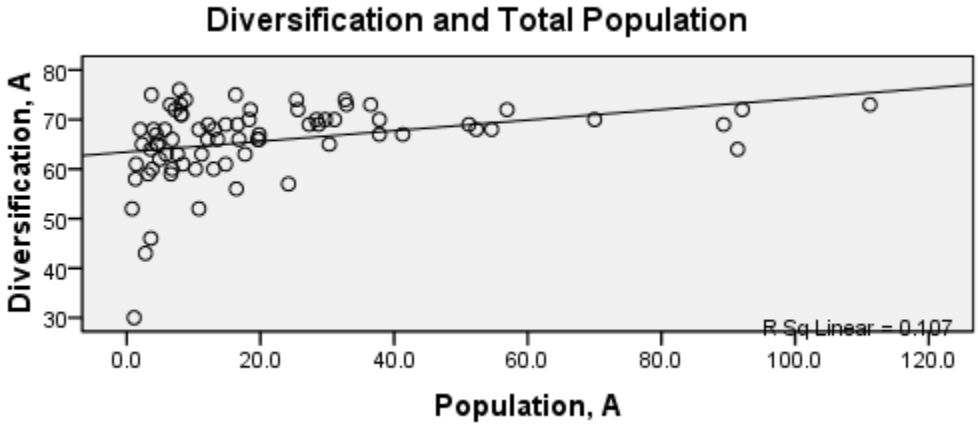
Scatterplots for all 44 Single Linear Regressions

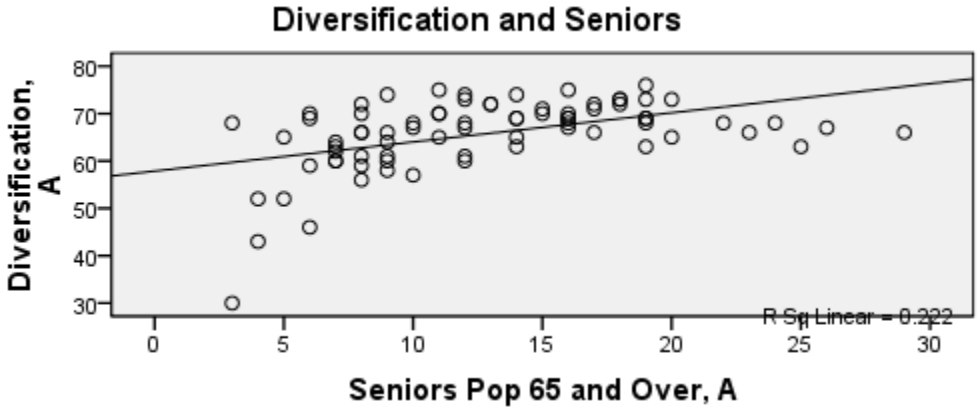
The graphs below display the bivariate scatterplots for all of the forty-four single linear regression analyses. The Trans-Canada Highway (T.C.H.) is equivalent to the Southern Transportation Corridors (STC). The scatterplots, unlike table D1 in appendix D, are grouped according to dependent variables and not independent variables. Thus, all of the eleven scatterplots for Div_A are shown sequentially, one for each of the eleven independent variables, followed by eleven scatterplots each for Div_B, For_B and NB_Inc_B. The order of independent variables is the same as in table D1: Van, R_C, STC, Pop, Sen, P_20_29, Gov, Pub, U_E, Inc and Tran.

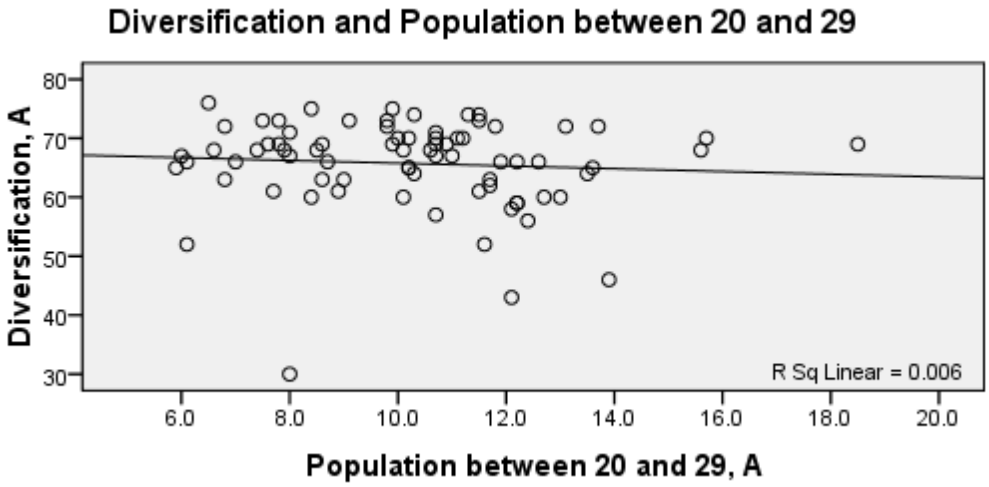


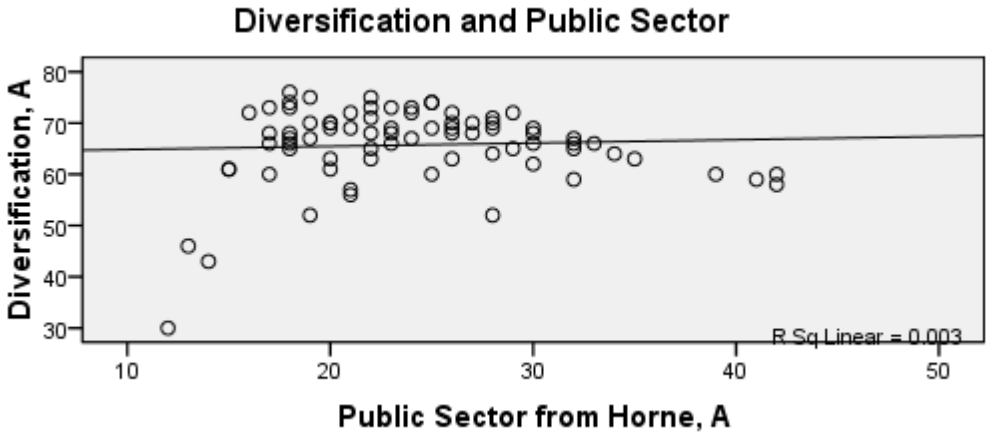


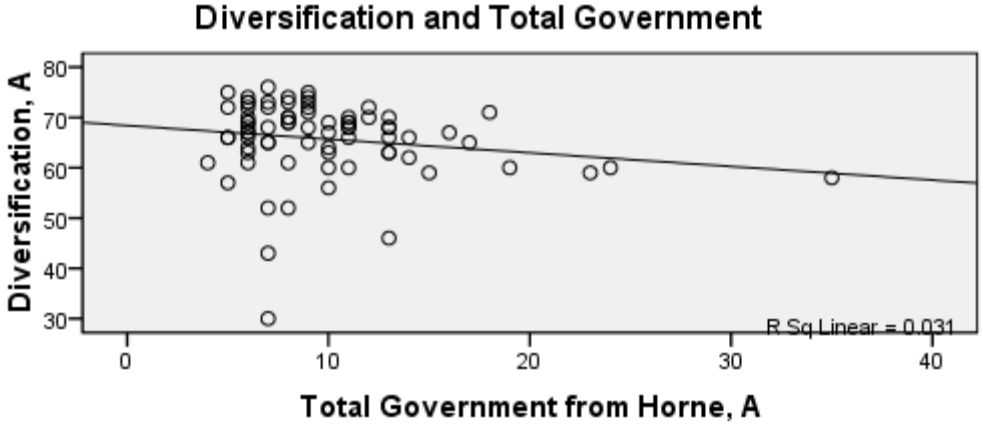

Diversification and Distance to Trans-Canada Highway
Diversification, A
80
70
60
50
40
30
0.0
5.0
10.0
15.0
20.0
25.0
R Sq Linear = 0.168
Distance to Trans Canada Hwy, A

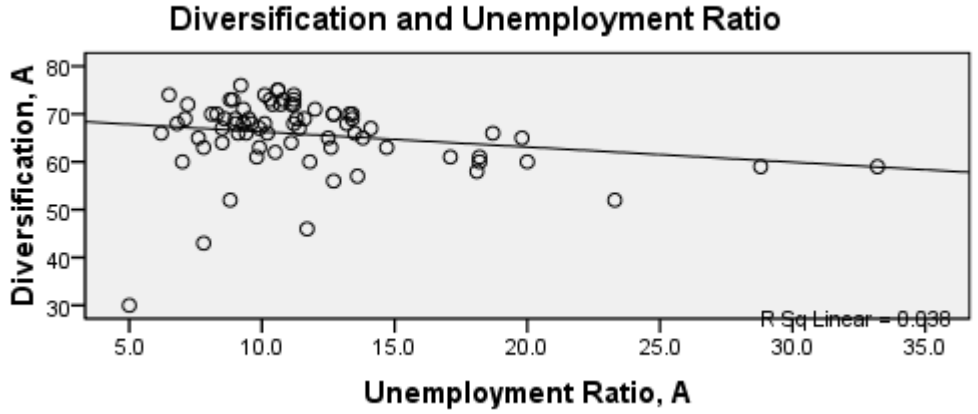

Diversification and Total Population
Diversification, A
80
70
60
50
40
30
0.0
20.0
40.0
60.0
80.0
100.0
120.0
R Sq Linear = 0.107
Population, A

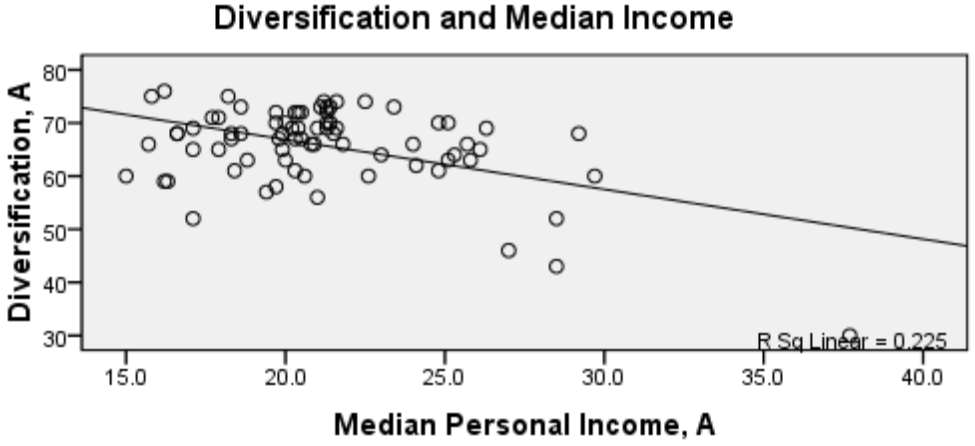

Diversification and Seniors
Diversification, A
80
70
60
50
40
30
0
5
10
15
20
25
30
R Sq Linear = 0.222
Seniors Pop 65 and Over, A

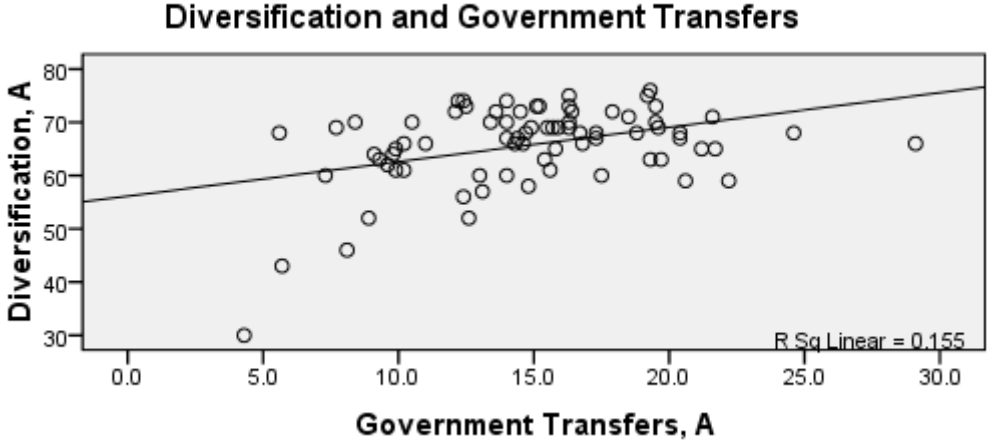

Diversification and Population between 20 and 29
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.006
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Population between 20 and 29, A

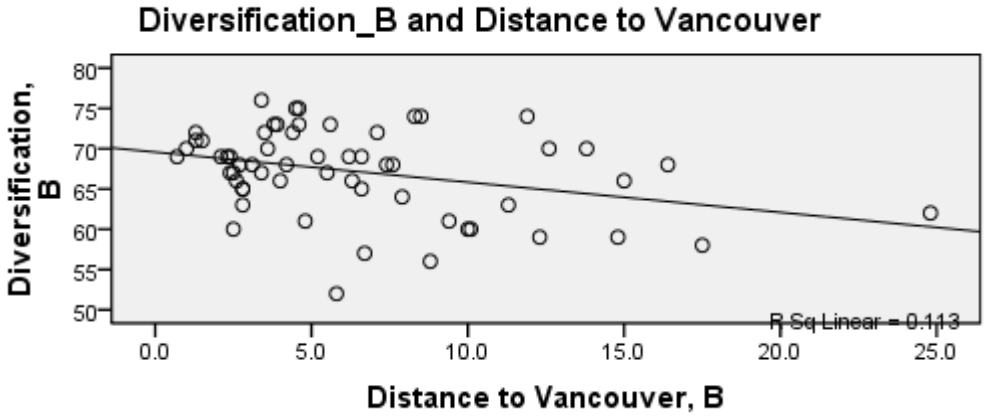

Diversification and Public Sector
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.003
10
20
30
40
50
Public Sector from Horne, A

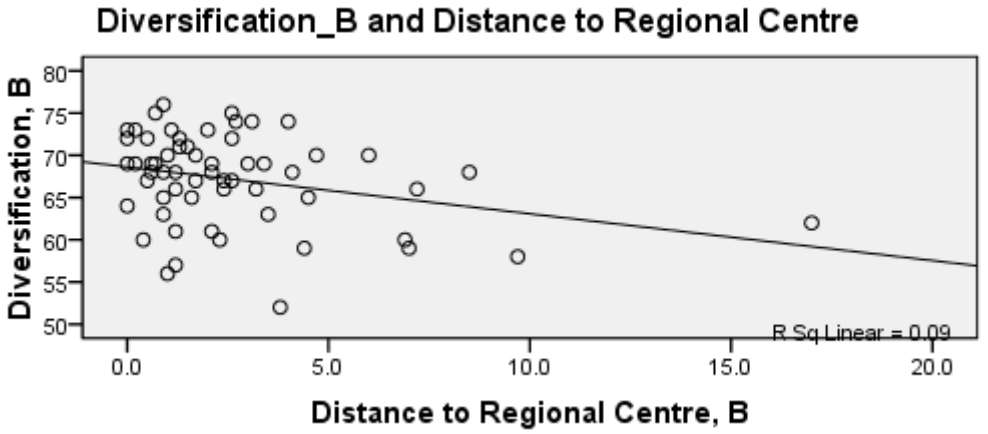

Diversification and Total Government
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.031
0
10
20
30
40
Total Government from Horne, A

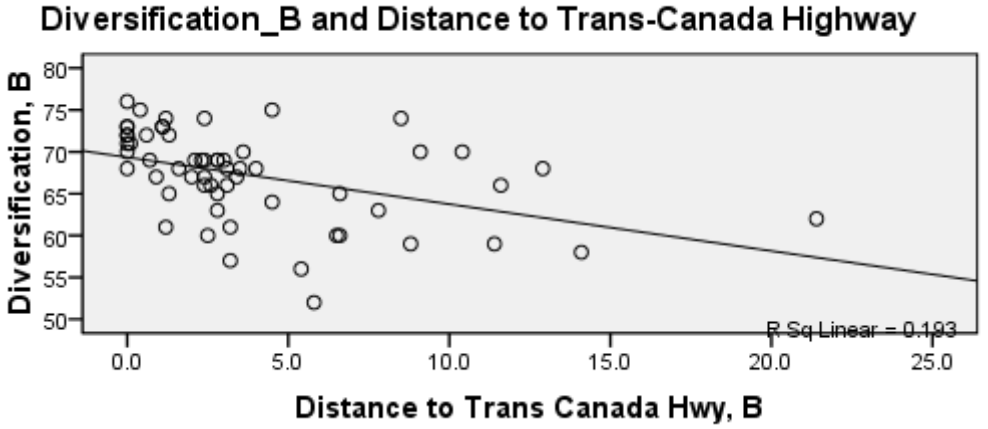

Diversification and Unemployment Ratio
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.038
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Unemployment Ratio, A

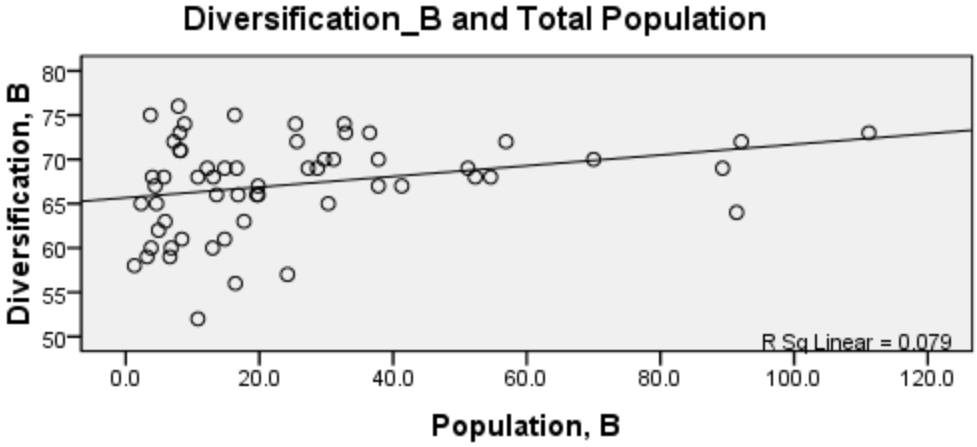

Diversification and Median Income
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.225
15.0
20.0
25.0
30.0
35.0
40.0
Median Personal Income, A

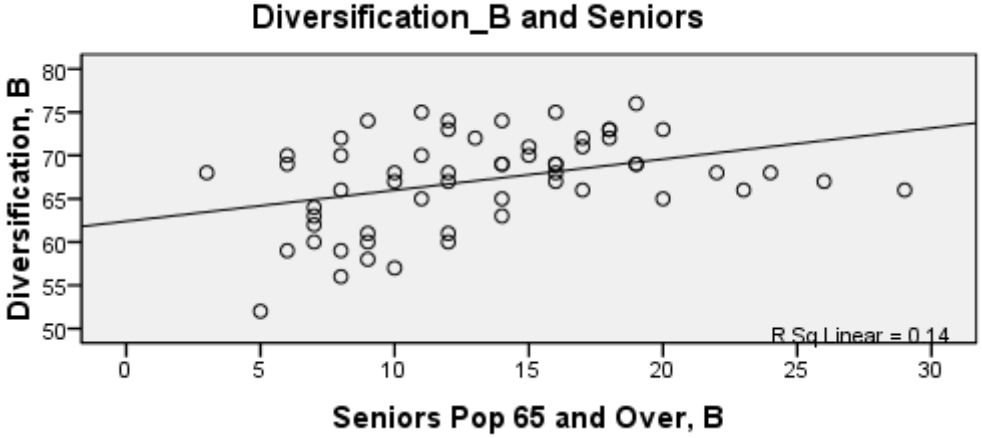

Diversification and Government Transfers
Diversification, A
80
70
60
50
40
30
R Sq Linear = 0.155
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Government Transfers, A

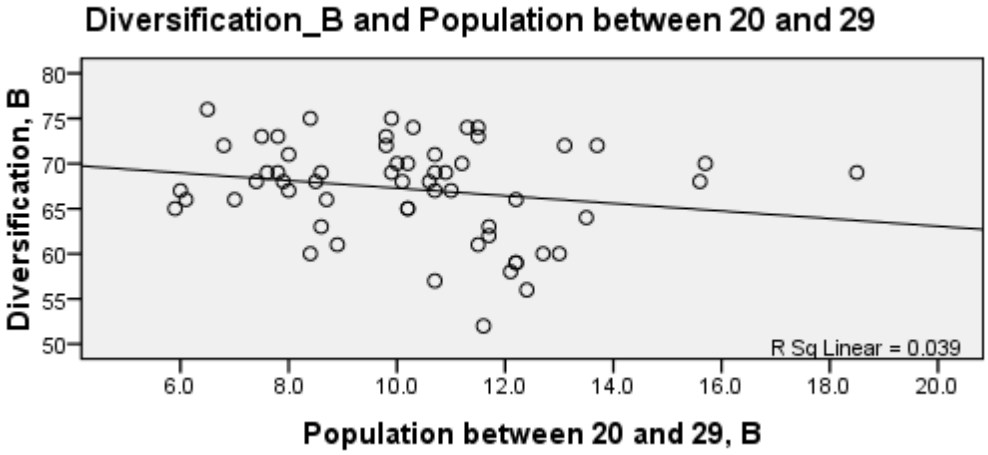

Diversification_B and Distance to Vancouver
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.113
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Vancouver, B

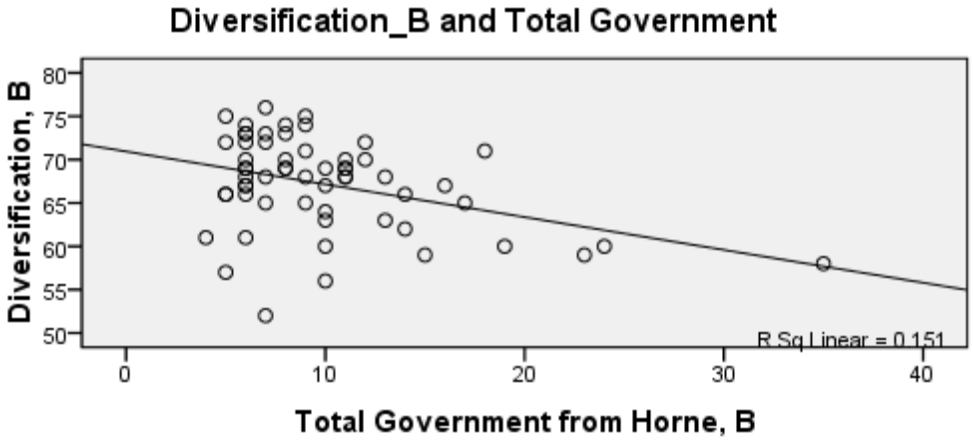

Diversification_B and Distance to Regional Centre
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.09
0.0
5.0
10.0
15.0
20.0
Distance to Regional Centre, B

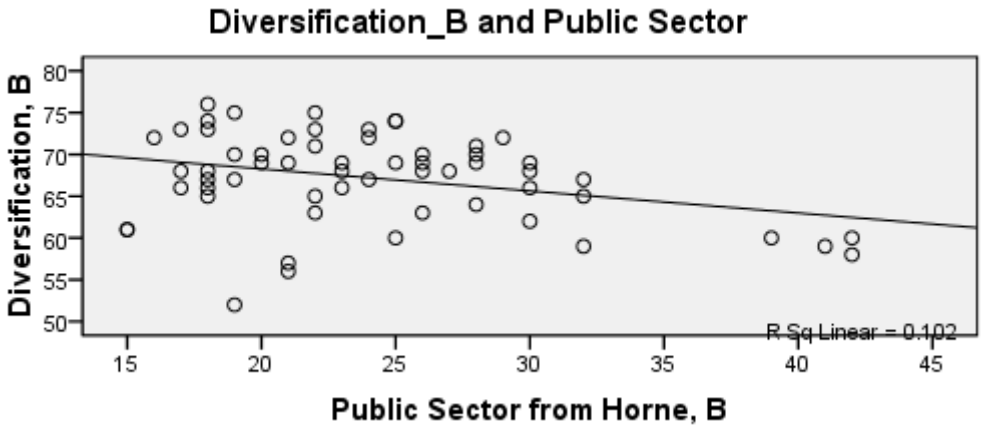

Diversification_B and Distance to Trans-Canada Highway
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.193
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Trans Canada Hwy, B

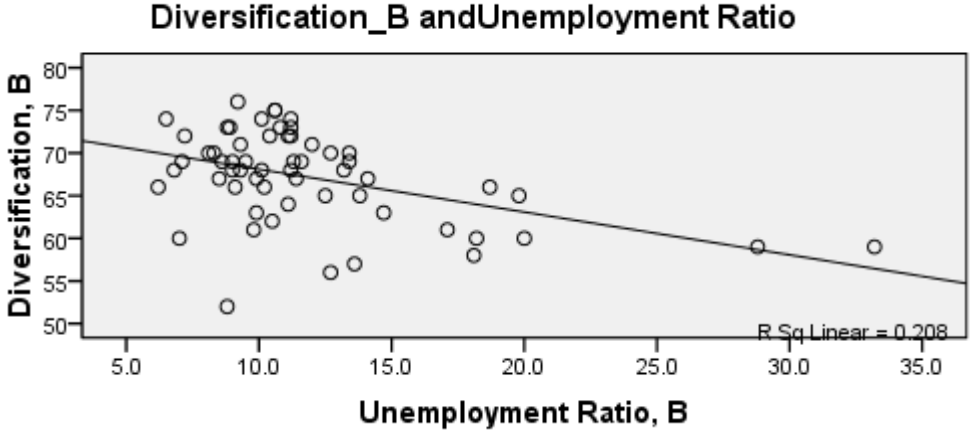

Diversification_B and Total Population
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.079
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Population, B

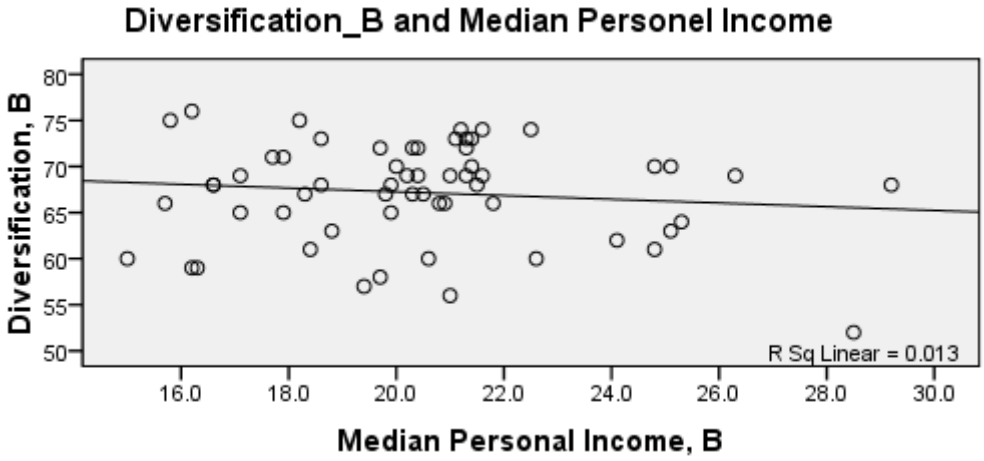

Diversification_B and Seniors
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.14
0
5
10
15
20
25
30
Seniors Pop 65 and Over, B

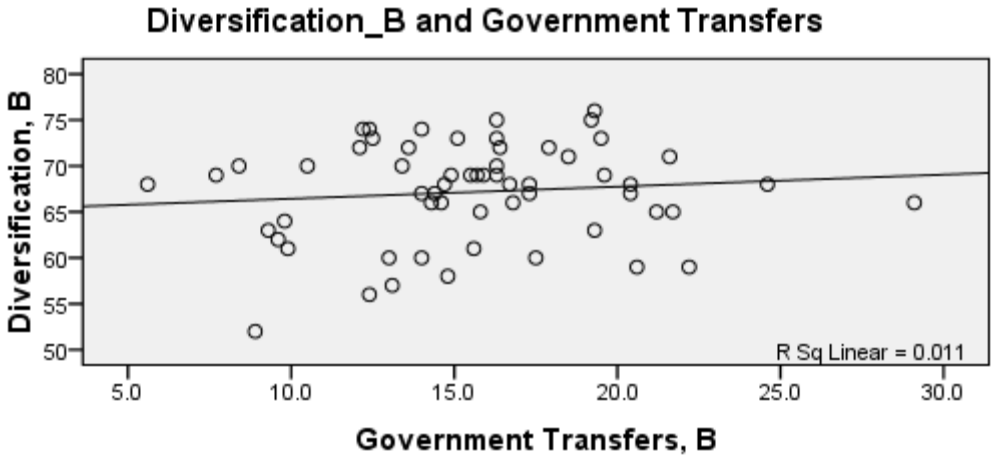

Diversification_B and Population between 20 and 29
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.039
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Population between 20 and 29, B

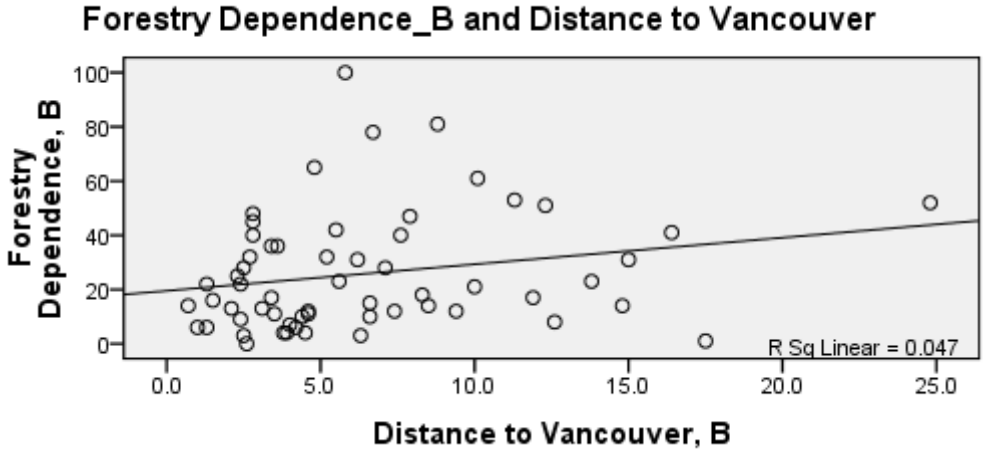

Diversification_B and Total Government
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.151
0
10
20
30
40
Total Government from Horne, B

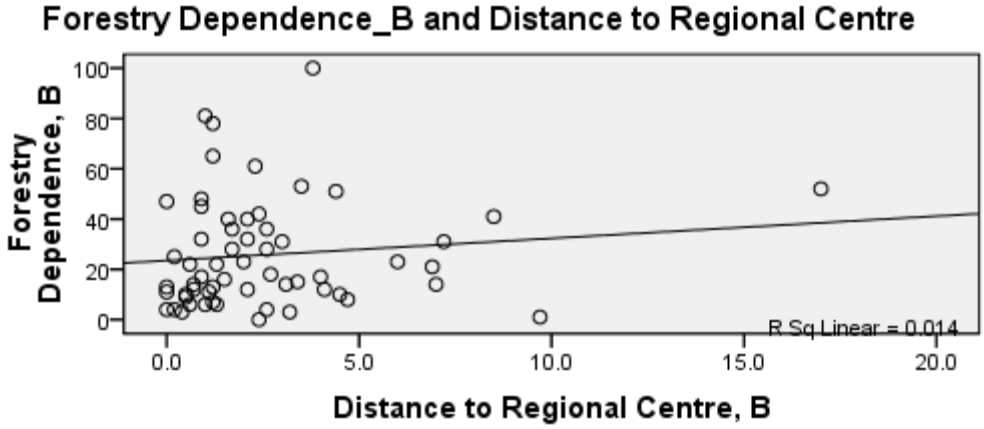

Diversification_B and Public Sector
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.102
15
20
25
30
35
40
45
Public Sector from Horne, B

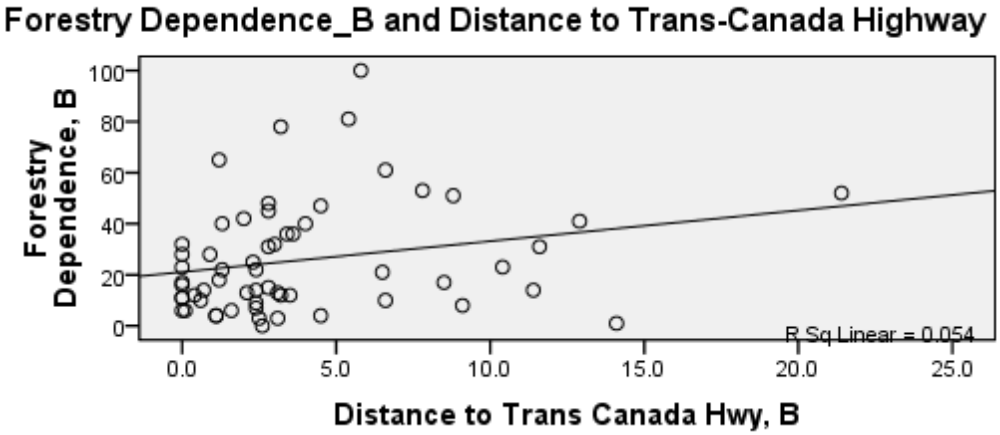

Diversification_B andUnemployment Ratio
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.208
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Unemployment Ratio, B

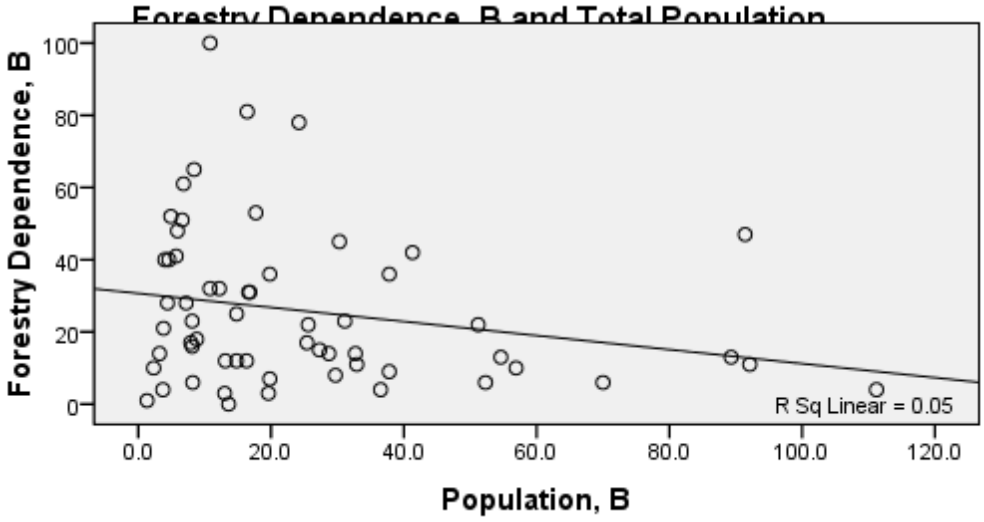

Diversification_B and Median Personel Income
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.013
16.0
18.0
20.0
22.0
24.0
26.0
28.0
30.0
Median Personal Income, B

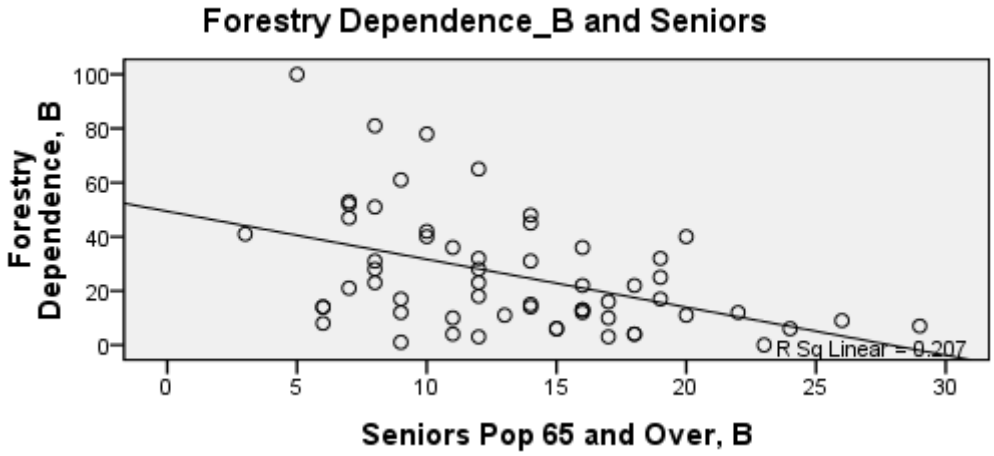

Diversification_B and Government Transfers
Diversification, B
80
75
70
65
60
55
50
R Sq Linear = 0.011
5.0
10.0
15.0
20.0
25.0
30.0
Government Transfers, B

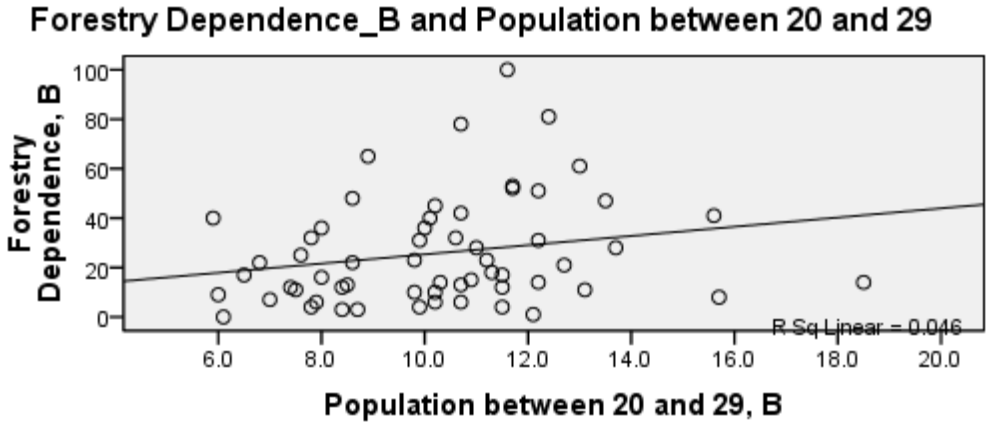

Forestry Dependence_B and Distance to Vancouver
Forestry Dependence, B
100
80
60
40
20
0
R Sq Linear = 0.047
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Vancouver, B

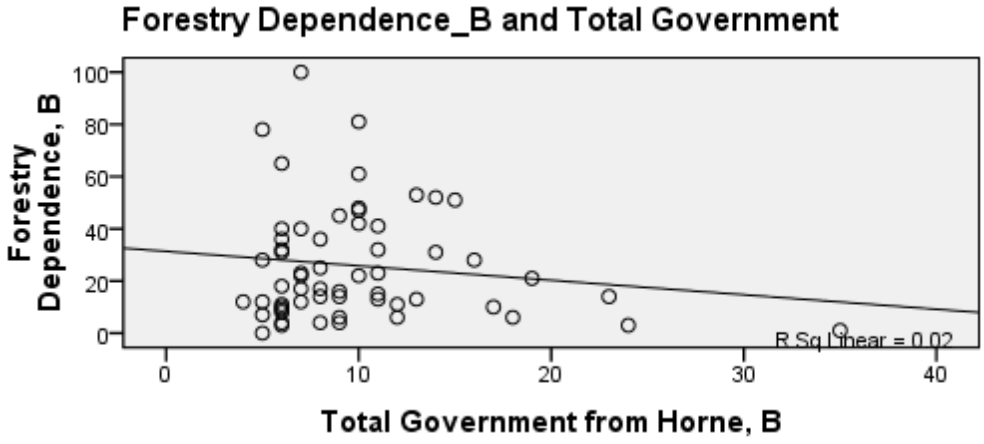

Forestry Dependence_B and Distance to Regional Centre
Forestry Dependence, B
100
80
60
40
20
0
R Sq Linear = 0.014
0.0
5.0
10.0
15.0
20.0
Distance to Regional Centre, B

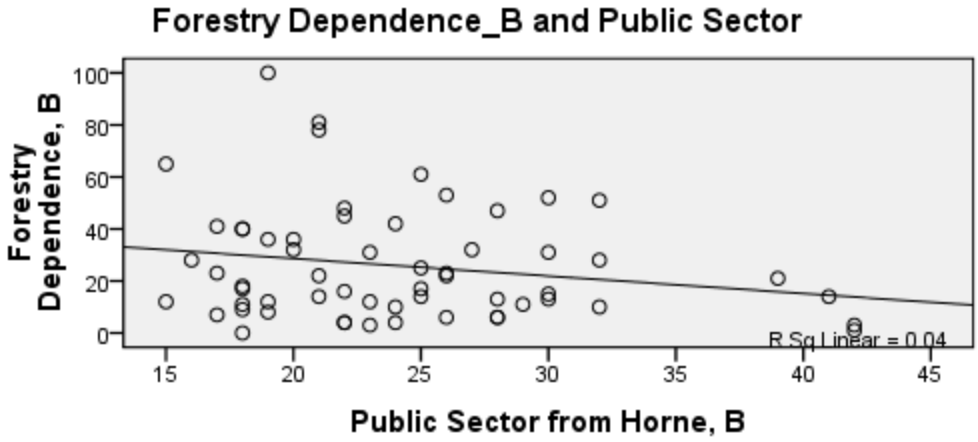

Forestry Dependence_B and Distance to Trans-Canada Highway
Forestry Dependence, B
100
80
60
40
20
0
R Sq Linear = 0.054
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Trans Canada Hwy, B

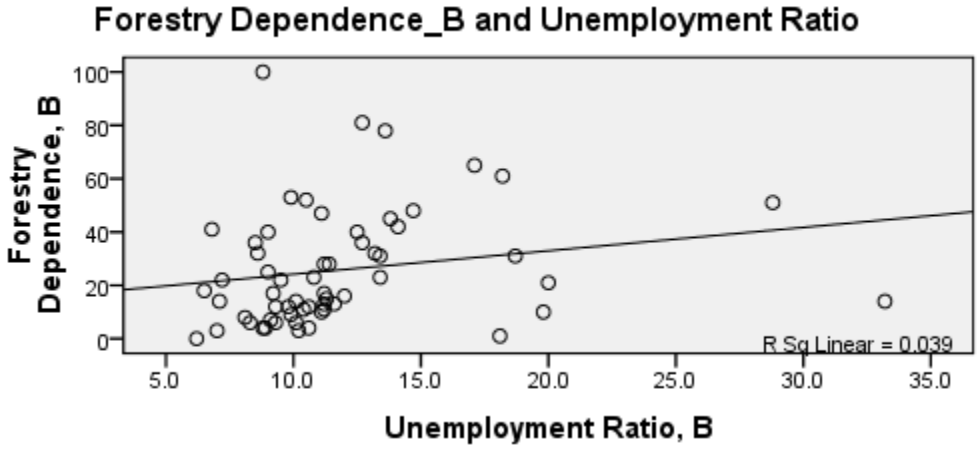

Forestry Dependence_B and Total Population
Forestry Dependence, B
100
80
60
40
20
0
R Sq Linear = 0.05
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Population, B


Forestry Dependence_B and Seniors
Forestry Dependence, B
100
80
60
40
20
0
0
5
10
15
20
25
30
R Sq Linear = 0.207
Seniors Pop 65 and Over, B


Forestry Dependence_B and Population between 20 and 29
Forestry Dependence, B
100
80
60
40
20
0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
R Sq Linear = 0.046
Population between 20 and 29, B


Forestry Dependence_B and Total Government
Forestry Dependence, B
100
80
60
40
20
0
0
10
20
30
40
R Sq Linear = 0.02
Total Government from Horne, B


Forestry Dependence_B and Public Sector
Forestry Dependence, B
100
80
60
40
20
0
15
20
25
30
35
40
45
R Sq Linear = 0.04
Public Sector from Horne, B


Forestry Dependence_B and Unemployment Ratio
Forestry Dependence, B
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80
60
40
20
0
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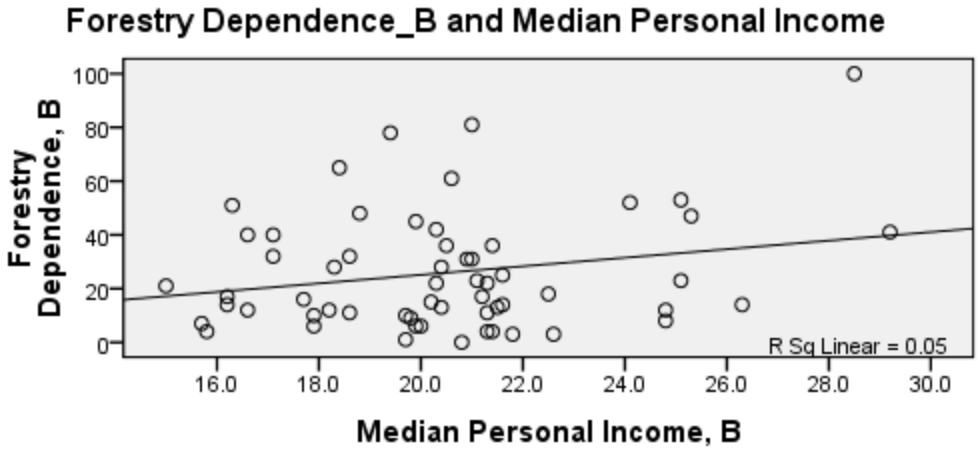
10.0
15.0
20.0
25.0
30.0
35.0
R Sq Linear = 0.039
Unemployment Ratio, B


Forestry Dependence_B and Median Personal Income
Forestry Dependence, B
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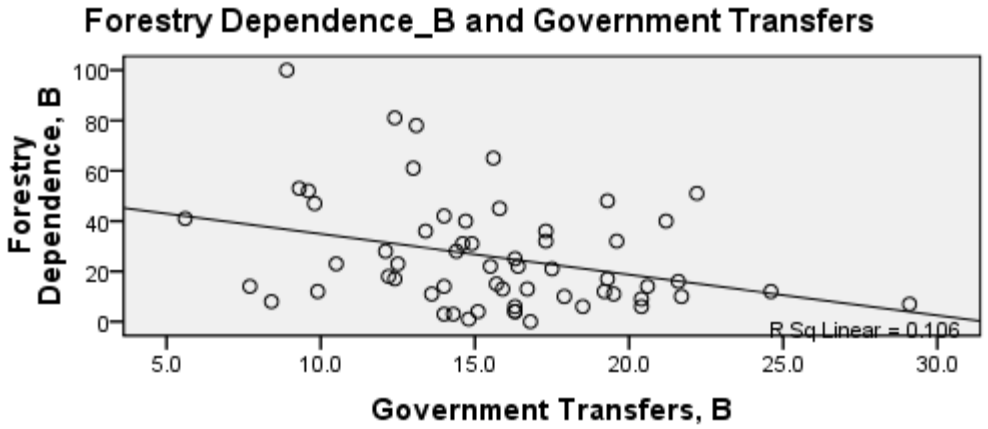
40
20
0
16.0
18.0
20.0
22.0
24.0
26.0
28.0
30.0
R Sq Linear = 0.05
Median Personal Income, B


Forestry Dependence_B and Government Transfers
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60
40
20
0
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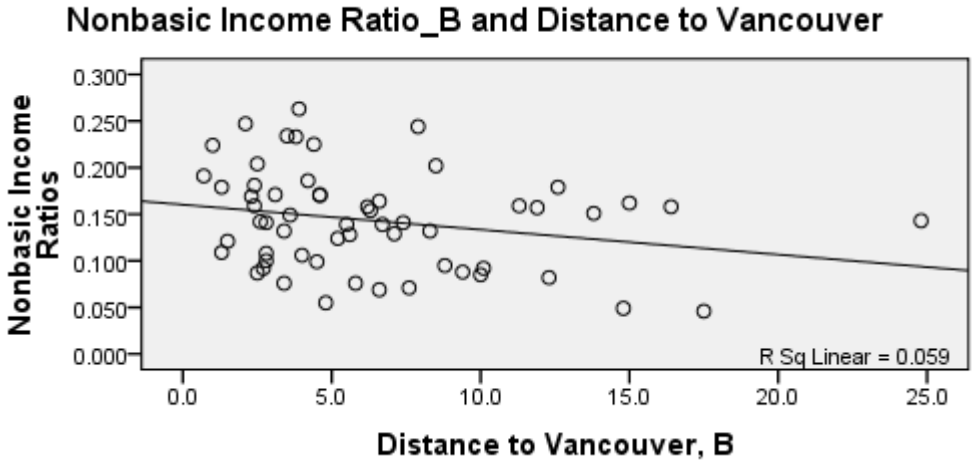
10.0
15.0
20.0
25.0
30.0
Government Transfers, B


Nonbasic Income Ratio_B and Distance to Vancouver
Nonbasic Income Ratios
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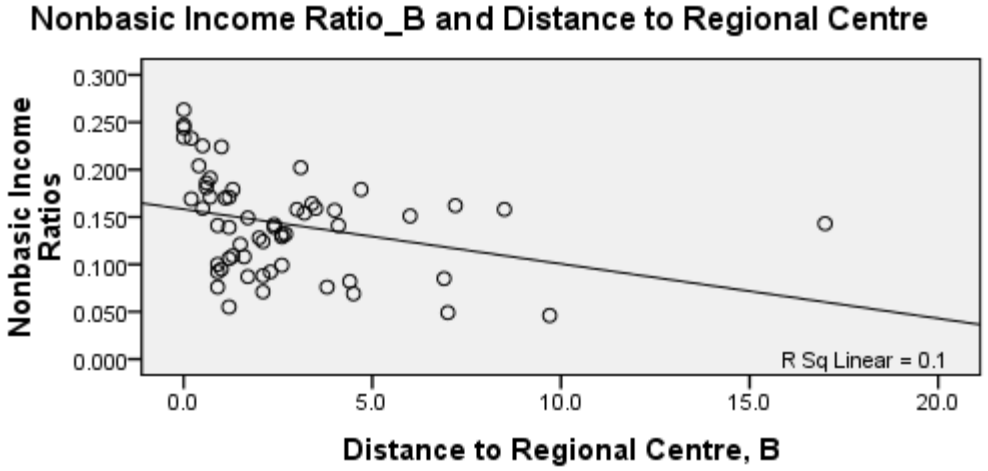
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.059
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Vancouver, B


Nonbasic Income Ratio_B and Distance to Regional Centre
Nonbasic Income Ratios
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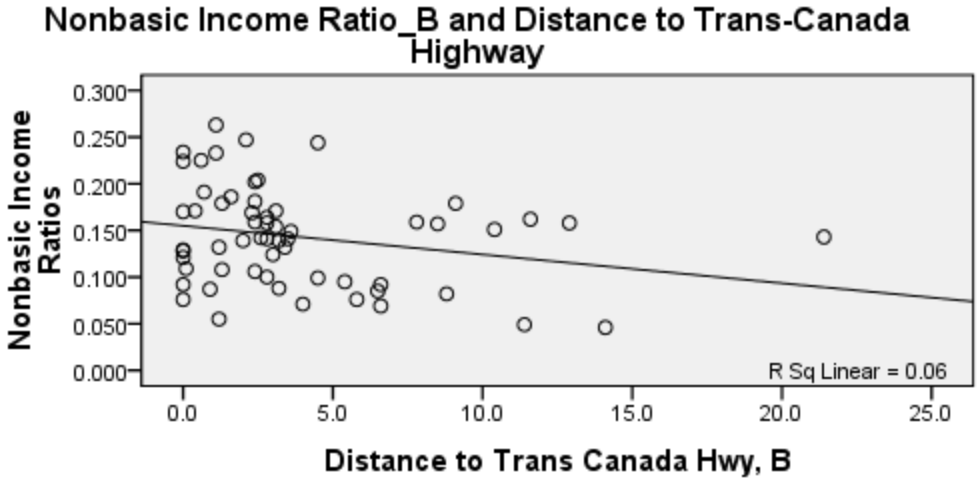
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.1
0.0
5.0
10.0
15.0
20.0
Distance to Regional Centre, B


Nonbasic Income Ratio_B and Distance to Trans-Canada Highway
Nonbasic Income Ratios
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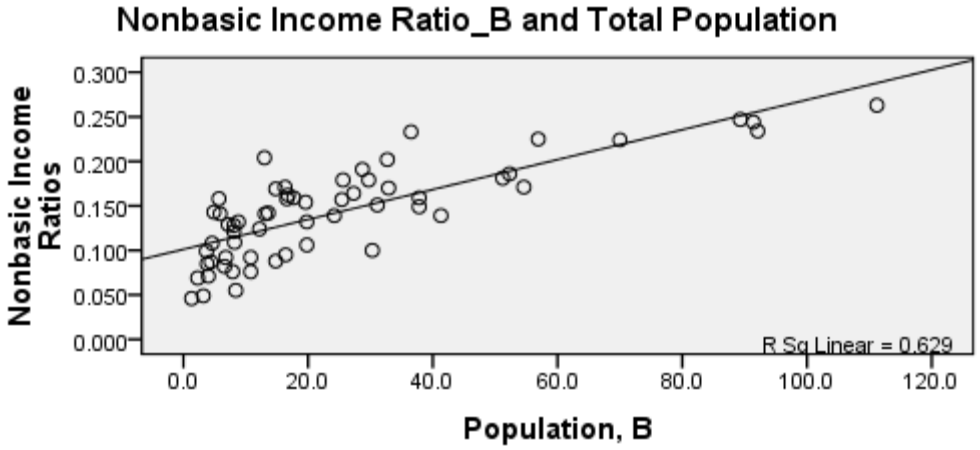
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.06
0.0
5.0
10.0
15.0
20.0
25.0
Distance to Trans Canada Hwy, B


Nonbasic Income Ratio_B and Total Population
Nonbasic Income Ratios
0.300
0.250
0.200
0.150
0.100
0.050
0.000
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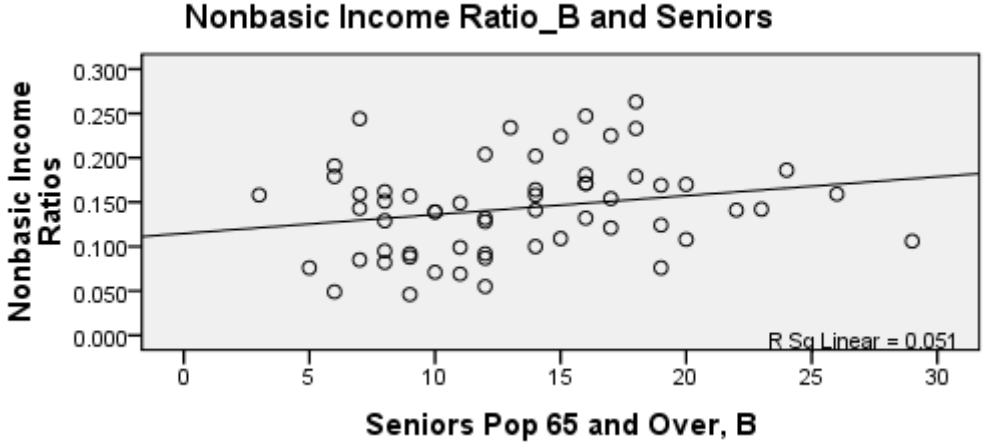
20.0
40.0
60.0
80.0
100.0
120.0
Population, B


Nonbasic Income Ratio_B and Seniors
Nonbasic Income Ratios
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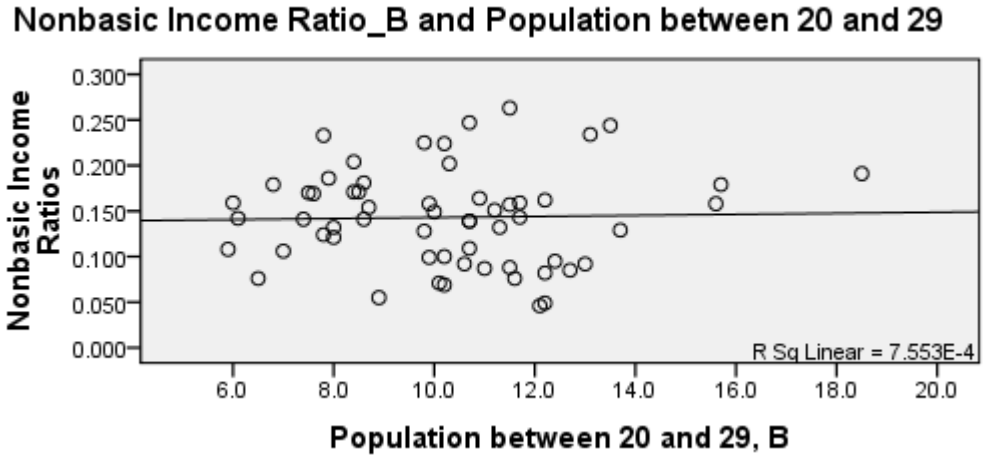
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.051
0
5
10
15
20
25
30
Seniors Pop 65 and Over, B


Nonbasic Income Ratio_B and Population between 20 and 29
Nonbasic Income Ratios
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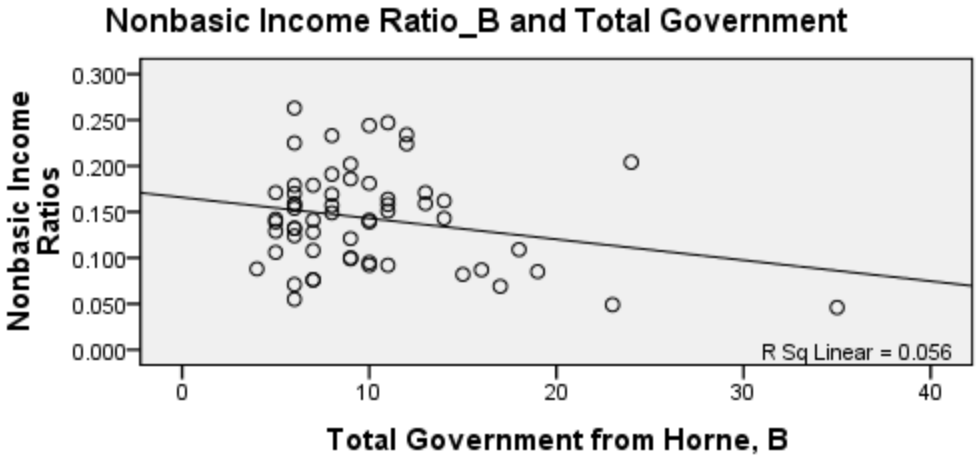
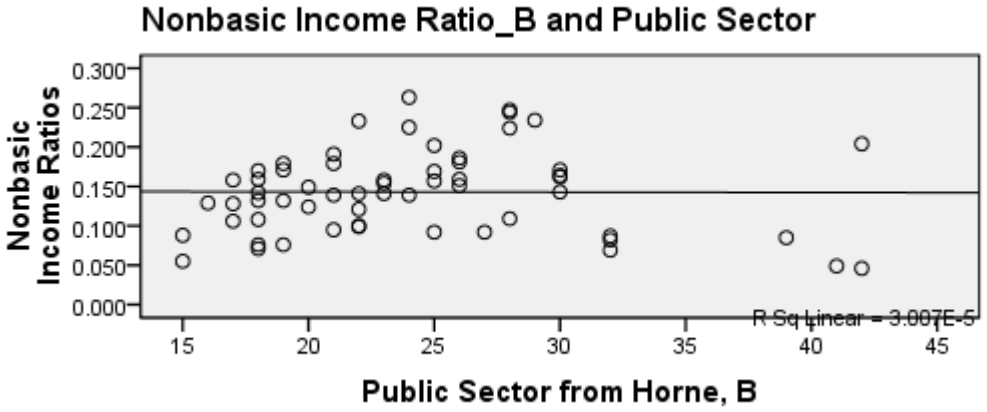
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 7.553E-4
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Population between 20 and 29, B


Nonbasic Income Ratio_B and Total Government
Nonbasic Income Ratios
0.300
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.056
0
10
20
30
40
Total Government from Horne, B


Nonbasic Income Ratio_B and Public Sector
Nonbasic Income Ratios
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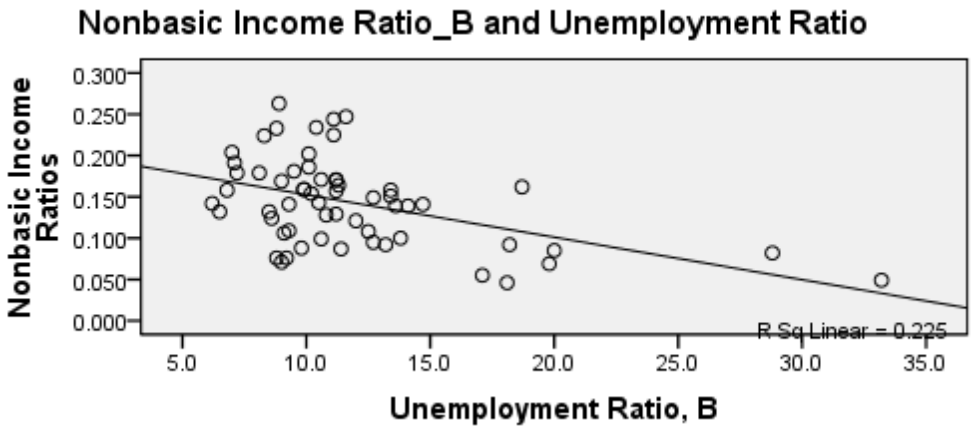
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 3.007E-5
15
20
25
30
35
40
45
Public Sector from Horne, B


Nonbasic Income Ratio_B and Unemployment Ratio
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0.200
0.150
0.100
0.050
0.000
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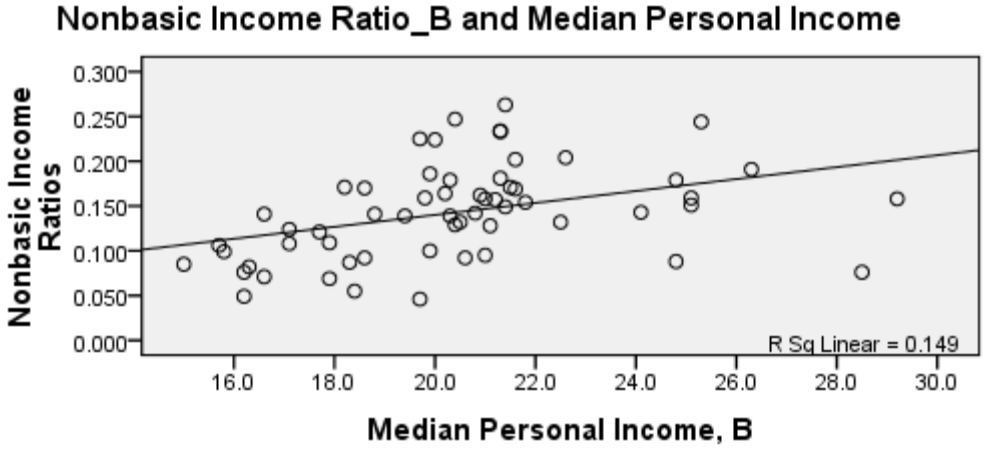
10.0
15.0
20.0
25.0
30.0
35.0
Unemployment Ratio, B


Nonbasic Income Ratio_B and Median Personal Income
Nonbasic Income Ratios
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0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.149
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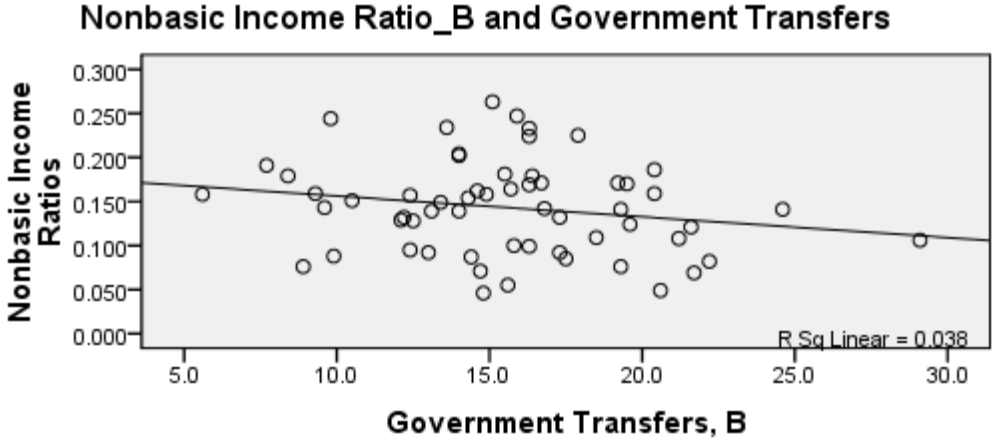
18.0
20.0
22.0
24.0
26.0
28.0
30.0
Median Personal Income, B


Nonbasic Income Ratio_B and Government Transfers
Nonbasic Income Ratios
0.300
0.250
0.200
0.150
0.100
0.050
0.000
R Sq Linear = 0.038
5.0
10.0
15.0
20.0
25.0
30.0
Government Transfers, B

Appendix E:

Key Case Study Community Variables

The following table contains all of the relevant data for the key variables discussed in section 5.2 of chapter 5. At the time of writing, Horne data was not available for the most recent census year (2006) nor was Tran. For 1991, the most dated census year displayed here, only Horne data is given. See the notes below for full region and variable names.

Key Community Variables from the Last Four Census Years

Community	Year	Div	F_Dep	Pop	Sen	Pub	20/29	U_E	Inc	Tran
Lillooet	2006	n/a	n/a	2.3	15	n/a	7.5	9.6	22.5	n/a
	2001	67	20	2.7	13	32	11.3	9.2	19.2	14.4
	1996	64	29	2.0	11	30	7.8	12.3	19.1	12.9
	1991	73	25	-	-	19	-	-	-	-
Merritt	2006	n/a	n/a	7.0	15	n/a	9.7	7.8	20.9	n/a
	2001	68	24	7.1	13	27	11.0	13.7	18.5	16.9
	1996	70	27	7.6	10	22	13.0	13.6	15.4	17.1
	1991	80	19	-	-	17	-	-	-	-
Castlegar	2006	n/a	n/a	7.3	17	n/a	9.9	7.9	25.4	n/a
	2001	69	25	7.0	15	23	11.8	11.3	21.5	13.5
	1996	67	30	7.0	14	21	11.9	10.9	19.1	15.6
	1991	74	25	-	-	18	-	-	-	-
Revelstoke	2006	n/a	n/a	7.9	12	n/a	12.5	9.7	25.0	n/a
	2001	73	21	8.1	12	17	9.8	10.8	21.1	12.5
	1996	74	22	8.7	9	20	11.7	14.2	19.5	12.6
	1991	71	16	-	-	16	-	-	-	-
Golden	2006	n/a	n/a	6.9	10	n/a	13.7	5.4	24.1	n/a
	2001	73	25	7.2	8	16	13.7	11.2	20.4	12.1
	1996	72	27	7.3	8	20	13.2	14.2	19.7	11.8
	1991	68	33	-	-	17	-	-	-	-
W.L.	2006	n/a	n/a	10.7	12	n/a	13.1	8.7	25.3	n/a
	2001	67	30	11.2	10	24	14.2	13.7	20.7	11.9
	1996	68	31	10.5	7	22	16.0	9.5	19.1	10.7
	1991	72	27	-	-	20	-	-	-	-
Quesnel	2006	n/a	n/a	9.3	14	n/a	11.1	9.9	25.9	n/a
	2001	57	43	10.0	11	21	12.3	13.4	18.5	13.2
	1996	56	45	8.5	10	17	15.4	14.7	17.5	15.8
	1991	63	39	-	-	16	-	-	-	-
Mackenzie	2006	n/a	n/a	4.5	3	n/a	11.3	10.9	38.3	n/a
	2001	n/a	n/a	5.2	3	n/a	11.7	7.7	33.7	4.1
	1996	n/a	n/a	6.0	1	n/a	16.6	9.4	35.5	4.4

	Sen	-	20/29	U_E	Inc	Tran
British Columbia Averages	14	-	12.5	6.0	24.9	n/a
	13	-	n/a	8.5	22.1	11.8
	12	-	n/a	9.6	20.0	12.7

Note: 20/29=P_20_29; W.L.=Williams Lake; n/a=not available; Pop, Sen, 20/29, U_E, Inc and Tran are census-based and community specific; Div, F_Dep and Pub are Horne-based and LA specific. Source: 1996, 2001, 2006 Censuses of Canada; Horne 1999, 2004; Horne and Powell 1995.

Appendix F:
Historical B.C. Forestry

The first destination for Canada's industrial wood products were the metropolitan powers of Europe, primarily the U.K. and France (Lower 1973). The primary source of wood during this time was the pine forests of Eastern Canada. This was the case up until the date of Confederation after which the U.S. quickly rose to prominence as the major market. Industrial forestry in B.C. did not commence in earnest until the latter part of the nineteenth century and thus initially was only marginally affected by European demand (Lower 1973; Marchak 1983). The primary resource of pre-Confederation B.C. was fur-trading, which is incompatible with forestry (Marchak 1983). Thus forestry was initially discouraged in B.C. until the demise of the fur-trading industry made it politically acceptable. The initial phase of forestry in Canada was characterized by a complete liquidation of forestry lands through a 'cut-and-run' mentality that resulted in progressively distant forests being felled both east and west of the populated Toronto-Montreal corridor, culminating in B.C.'s. This was based on a disregard for nature and a belief that the forests of Canada were virtually unlimited.

The first forests act in B.C. was the Fulton Commission of 1912 (Kukucha 2005; Marchak 1983). The intent of this act was to keep the forest lands of B.C. public. Prior to 1912 forest lands in B.C. were privately sold. By 1912 some 5% of the forest land in B.C. was held in private hands, primarily on the east coast of Vancouver Island (which also happen to be some of the best forest lands in the province) (Hayter 2000). Marchak (1983) argues that there were two main reasons why the government desired to keep forest lands public: (i) there was (and is) a strong public desire for public ownership in B.C. and (ii) this way the public bears the cost of maintenance (an obvious benefit to industry). Marchak (1983) does note some disadvantages to public ownership: relative business insecurity compared to private ownership and one-owner monopolies (prior to 1912 many small firms and entrepreneurs [many American] dominated forestry in B.C.). To overcome these disadvantages the government created access to forest lands via long-term tenure licenses. The amount of private forest land in B.C. has remained constant

since then so that today 95% of forest land in B.C. is publicly owned. The federal role in forestry has always been limited because the constitution of Canada grants almost exclusive control over natural resources to the provinces (Kukucha 2005). The main concern of industry during this time was securing markets, especially in the U.S. where protectionist trade measures were (and still are) common (Barnes and Hayter 1994).

By the 1940s controversy was beginning to build within the B.C. forest industry, primarily over concerns about harvesting rates, boom-and-bust fluctuations and a lack of reforestation (estimated at 1945 to be 20 million acres) (Prudham 2007). This led to a rethinking of forestry and access to forest land culminating in two royal commissions, commonly known as the Sloan Commissions. The first Sloan Commission was released in 1945 and its main objective was to increase the size of forestry firms in B.C (Marchak 1983). Although not the intent of the 1912 Fulton Commission, the industry had already been headed in this direction since its release. The second commission released in 1956 was a synopsis of the 'progress' made over the previous ten years and further developed the arguments made in the first report. According to Marchak (1983), the government's rationale for large firms was that they were: more reliable (less chance of closuring during economic down cycles), more responsible (long term interest in resource and labour) and more profitable (because of economies of scale). To facilitate large firms the government "channeled 'public funds' toward the provision of an infrastructure of roads, company towns, and a public service concerned with servicing industry" (Marchak 1983, 30). They also facilitated the development of the necessary labour force. And finally they established resource rents, which many (though not all in industry) thought were very low, especially compared to rents in similar forest lands in Washington and Oregon. Their plan worked: large, integrated and increasingly corporate forest-product companies quickly dominated forestry in B.C. (Hayter 2000; Marchak 1983; Prudham 2007) and the historic pattern of small firm B.C. forestry diversity that had been under assault since 1912 had been all but eliminated (Hayter 2000; Markey et al 2005).

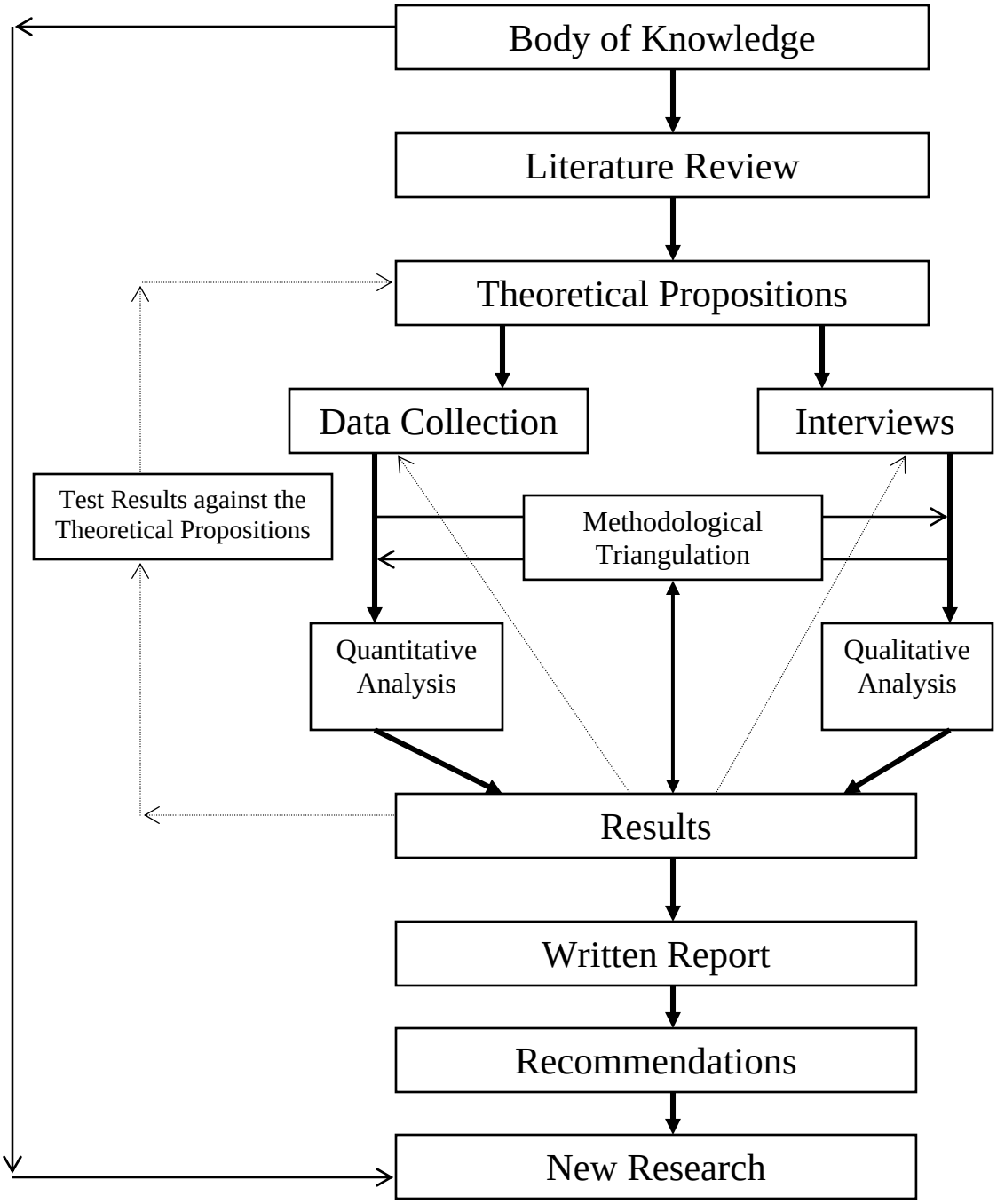
To facilitate large corporations the Sloan Commissions resulted in several changes to the tenure-based system of forest land access, which resulted in private companies getting greater management responsibilities (generally in the form of long-term tree forest licenses that gave access to 'public lands') (Kukucha 2005). These

licenses took two forms: area-based ‘forest management licenses’ (later renamed ‘tree farm licenses’ (TFLs)) and volume-based ‘forest licenses’ governing access to supply areas (Marchak 1983; Prudham 2007). Introduced in the 1960s, Timber Sale Harvesting Licenses led to more market consolidation of tree licenses. Government deemed more consolidation as being necessary since there were so many tenures in place with such diverse contracts that “industry was at one and the same time overregulated and under controlled” (Marchak 1983, 49). This highlights the complexity that can come with public ownership. Government collects rents from publicly-owned forest lands in B.C. through stumpage fees. Although in principle these were to be based on market prices, the government had sufficient discretionary powers at setting the price through the Forest Service that its rate (up until very recently at least) avoided “any link between the market price for logs and the rates paid for cutting timber” (Marchak 1983, 57).

A key objective of the new licensing arrangements of the Sloan Commissions was for the development of perpetual forest yields, or sustained yields (Marchak 1983). It was the commissions view that sustained yield would only be possible with large companies with long tenures (also what the industry wanted because of competition in northern Europe and a dwindling resource base). Sustained yield forest management converts natural forests into ‘normal’ forests that reproduce each year a constant and known amount: “(by) organizing a given forest into even-aged blocks of commercially significant tree species, each to be harvested at a prescribed age – or rotation age – such that the total annual harvest remains constant over time” (Prudham 2007, 265). Sustained yield was seen as a solution to both the boom-and-bust cycles and the cut-and-run forestry practices that historically troubled the industry. The consequence of this was the liquidation of old-growth trees so forests could become ‘normal’ and more ‘productive’. This era in B.C. forestry was characterized by top-down planning: the input of communities, labour or any other group besides business was neglected (Marchak 1983; Prudham 2007). Forest Services was managed by an appointed person deemed business and personally worthy (Prudham 2007). The concept of sustained yield would guide B.C. forestry until annual allowable cuts (AACs) were introduced in the 1978 Forest Act. AACs were determined by forest composition and growth rates (but no specific priority was given to social or political criteria) (Marchak 1983).

Appendix G:

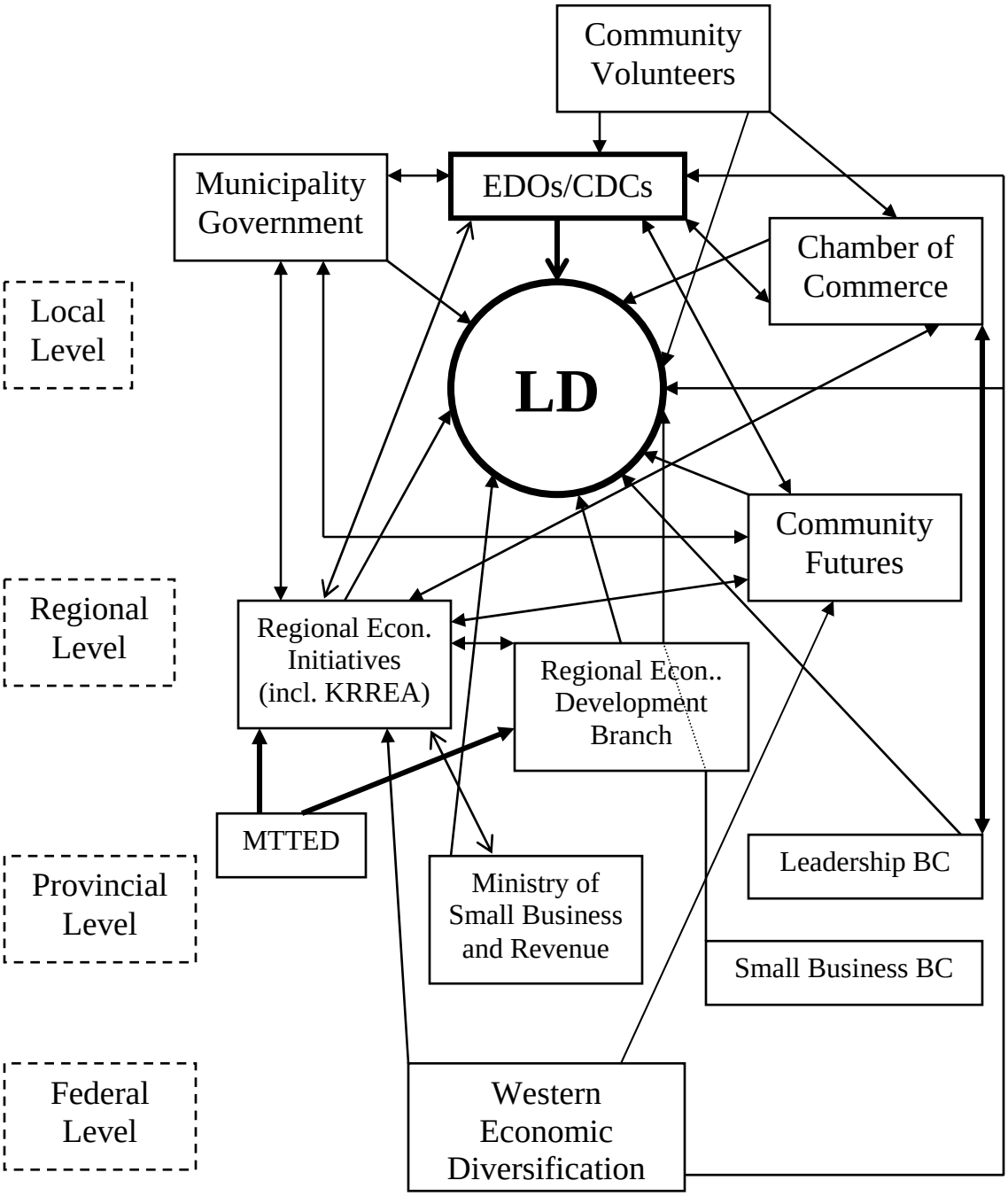
Mixed-Method Research Design Diagram



Source: Partially adapted from Yin (1994); Researcher, 2008.

Appendix H:

The Interactions and Linkages of LD Agencies Diagram



Note: Econ.=Economy; incl.=including; see List of Abbreviations for all additional abbreviation definitions. Source: Researcher, 2008.

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