



Why some regions will decline: A Canadian case study with thoughts on local development strategies*

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Abstract. The authors present the case of five Canadian peripheral regions, which they argue are destined to decline. The explanation of the reasons why future decline (in absolute population and employment numbers) is inevitable constitutes the article's central focus. The authors suggest that regional decline will become an increasingly common occurrence in nations at the end of the demographic transition whose economic geographies display centre-periphery relationships. Such broad structural trends cannot be easily altered by public policy. The authors reflect on the implications of regional decline for the formulation of local economic development strategies. Local economic development strategies should not, they argue, be advanced as a means of arresting population and employment decline. To suggest that the regions studied in this article will decline because of a lack of social capital or insufficient number of local entrepreneurs, is not only misleading but may also be counterproductive.

JEL classification: R11, R12, R58

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1 Introduction

Regional decline is, understandably, not a popular subject.¹ However, regional decline in absolute population and employment numbers will become an increas-

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¹ Taking *Papers in Regional Science* as a reference point, we found no article on the subject in the last 10 volumes of the journal (vols. 73 to 83). As would be expected, we did find articles with the terms "regional growth" or "regional development" in their titles.

ingly common occurrence in many industrialised nations, for reasons that will become clearer as we proceed. The purpose of this article is twofold. Firstly, we will present the case of five peripheral Canadian regions, which, we argue, are destined to decline, and to generalise from the Canadian case on the attributes of decline. Secondly, we will reflect on the implications of regional decline for the formulation of local economic development strategies.

The empirical focus of this article is on *peripheral* regions (to be defined shortly), specifically, on five regions in Eastern Canada. Their foreseeable decline is not solely a matter of projecting past trends, but rather the result of a combination of factors, which make further growth highly unlikely. Regional decline is not a new phenomenon. Nevertheless, we suggest that the scope and duration of decline will, in coming decades, occur on a scale unknown in the past.

The Canadian case is not necessarily unique. Analogous trends are emerging in other large industrialised nations that have completed their demographic transition (meaning natural growth rates close to zero)² and are characterised by historical core-periphery relationships. Slack et al. (2003) mention Australia, Russia and Scandinavia. The last Australian census documents the decline of numerous small peripheral communities (Ausstats 2000), an increasing cause of concern in that nation (Collits 2000; Forth 2000). Hanell et al. (2002) observed that approximately 90% of Finland's inhabited land area underwent population decline during the 1990s. Almost all municipalities in central and northern Sweden witnessed decline. Even in Japan, despite its different geography and higher population densities, the projected population decline of its southern and northern peripheries (Kyushu and Hokkaido) has become a cause for concern (Portnov and Permuter 1999).

Our basic argument is simple: stable national populations means a zero-sum demographic game for interregional systems. In a zero-sum demographic environment population decline is the inevitable result of net out-migration. Assuming (as most migration models do), that population movements largely follow the spatial distribution of economic opportunities, the key factor becomes the spatial distribution of employment. In such an environment, if shifts in employment continue, on balance, to favour the centre over the periphery, the latter must decline. Such broad structural trends cannot be easily altered by public policy. Thus, we shall also argue that it is unreasonable to expect local economic development strategies to halt decline.

Returning to the Canadian case, Canada has a rich research tradition on the challenges facing resource-dependent and peripherally located regions (Barnes and Hayter 1994; Lucas 1971; Randall and Ironside 1996; Slack et al. 2003). To describe the Canadian economic landscape, economists, geographers and regional scientists evoke spatial dichotomies such as "heartland-hinterland", "core-periphery", and "centre-periphery" (Anderson 1988; Kerr 1968; McCann 1982,

² As in most Western societies, birth rates have declined sharply in Canada, with a major drop in the early 1960s. The effects of that drop on population growth became visible during the 1990s, as women born during the baby boom years passed childbearing age. The number of deaths will soon equal (and then surpass) births.

1998; McCann and Simmons 2000). Large parts of Canada are sparsely settled and far from major markets. This stands in sharp contrast to densely settled regions, centred in major metropolitan areas such as Toronto, Montreal and Vancouver. The widening gap between the urban, cosmopolitan and growing parts of the nation and the rest of Canada is well documented (Bourne 2000, 2002; Bourne and Rose 2001; Bourne and Simmons 2003, 2004).

Bourne and Simmons (2003) speak of “new fault lines”. Beyond the largest urban centres, decline has become a generalised occurrence. More than half of Canada’s urban areas with populations below 250,000 declined between the 1996 and 2001 censuses (Bourne and Simmons 2004). Peripheral regions in Canada had witnessed periods of population decline before; but most continued to grow until the late 1980s. Absolute decline was the exception. This period of growth has, however, come to an end. Many communities have entered (or will soon enter) a cycle of sustained employment and population decline.³ In the following sections, we shall attempt to explain why this is so by taking five regions as cases in point.

2 Methodology and data

The five study regions are located in the Province of Quebec, at the north-eastern edge of North America (Fig. 1). In Europe, analogous regions might be Northern Scandinavia, Scotland and Western Ireland. Because we are undertaking, in part, a case study, the approach adopted combines an empirical analysis with more qualitative information, based on personal interviews (see below).

At the most general level of analysis, Canada is divided into *central* and *peripheral* locations, following Polèse and Shearmur (2004). Central locations are those falling within a radius of one hour’s travel time from a major urban centre (population of 500,000 or more). Peripheral locations are all those outside this radius. The five study regions fall into this class. The database is drawn from Canadian census data (special tabulations) for 1971 and 2001, in which Canada is divided into 382 geographic base units, grouped according to the above criterion (as either peripheral or central) and by population size classes. Boundaries are stable over time. The database contains detailed employment information by industrial sector. The data for 1971 are defined according to the 1970 Standard Industrial Classification (SIC), while the 2001 data are defined according to the 1997 North American Industrial Classification System (NAICS). In order to make the two compatible, it was necessary to aggregate sectors, resulting in 132 compatible sectors that can be analysed from 1971 to 2001. With the exception of Figs. 1, 2 and 3, all figures and tables are drawn from this database.

When analysing the five regions, location quotients and other information are given individually for each, with Canada (as a whole) as the reference point. The

³ *Time Magazine* (Canadian Edition), in its October 13, 2003 issue, ran the following cover story: “Slow death. Canada’s small towns are fading away. Should we care?” This effectively mirrors the current mood in many of Canada’s outlying areas.

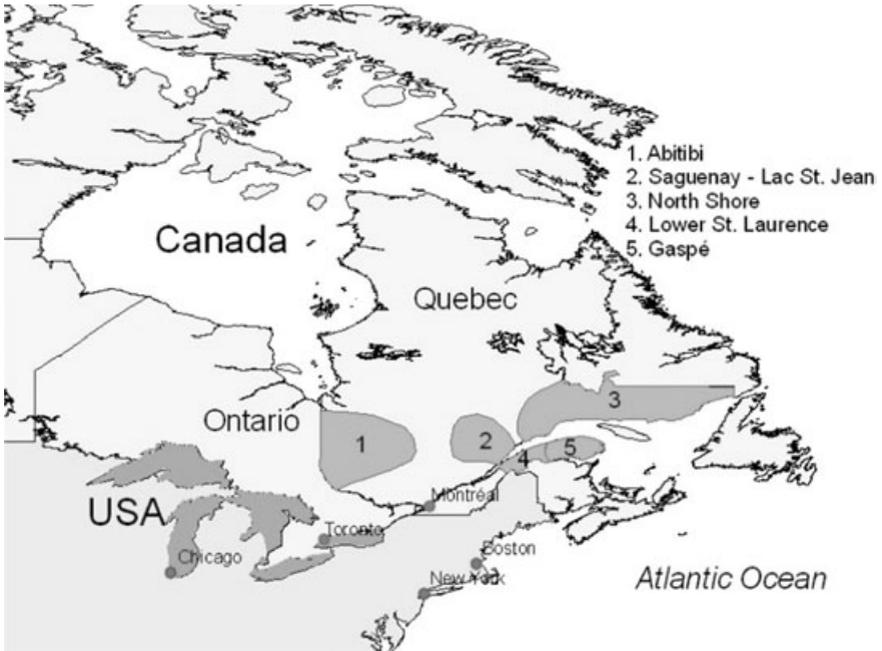


Fig. 1. Location of five study regions

use of data is largely descriptive. For the more qualitative aspects of the study, we draw on a broader study (Polèse and Shearmur 2002) in the course of which the authors met with some two hundred local businesspersons, economic development officers and industrial sector specialists (in mining, forestry, fishing, and aluminium). The interviews and field visits, conducted over a six-month period in 2001, were largely unstructured, with no pretence of collecting statistically significant information. They were however useful in allowing us to better understand local conditions and industry specifics and to better interpret observed trends.

We begin by documenting the (projected) decline of the five regions, followed by a brief discussion of local economic development, an admittedly broad and sometimes ambiguous concept. We proceed to identify the principal factors – old and new – which we suggest will constrain employment growth in the future. This constitutes the core of the article. We then propose a stylised synthesis of the attributes of regional decline. In the conclusion, we consider the implications of decline for the formulation of local economic development strategies.

3 Out-migration and population decline

Figure 2 shows population trends for the five regions as projected by the Quebec Bureau of Statistics (ISQ 2004), based on current age pyramids, probable

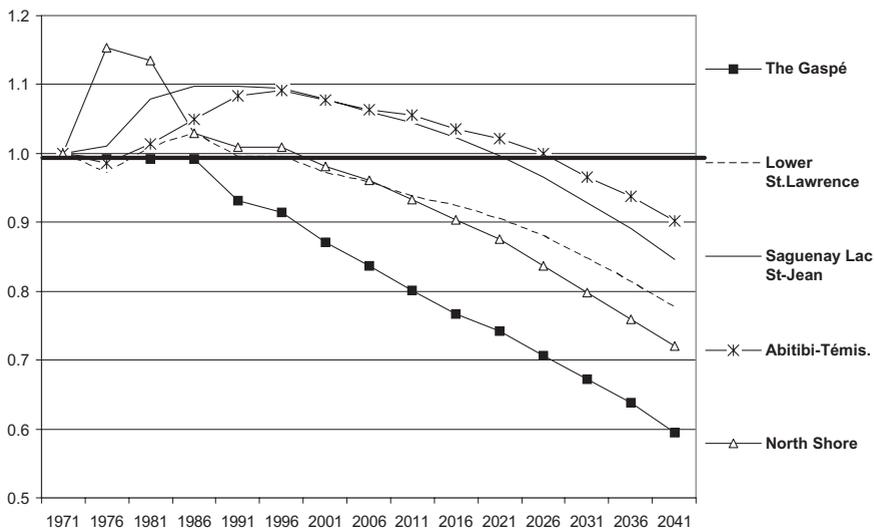


Fig. 2. Five regions: population (1971–2001) and projections (2001–2041), 1971 = 1.0

fertility behaviour and migration trends.⁴ Population declines are projected for all five regions. With the exception of the Gaspé region, this marks a break with the past. Net out-migration has been the rule since the 1950s, excepting periodic boom and bust cycles. However, until the 1990s, population nonetheless continued to grow in most communities, or at least did not decrease, due in large part to the compensatory effects of new births. That period has come to an end. Net out-migration now automatically translates into population decline.

Figure 3 shows net annual migration for the five regions from 1986 to 2003 and average Canadian unemployment rates for equivalent years (sources: ISQ 2004, Statistics Canada 2003, 2004). Net migration is negative over the whole period and has a negative relationship to the Canadian unemployment rate. This is because out-migration to central regions accelerates during periods of strong national economic growth (with the implication that there is a decline in unemployment), and falls during recessionary cycles (rise in employment). Hanell et al. (2002) find a similar pattern in Sweden and Finland, with increased net out-migration from non-metropolitan regions during the 1995–2000 growth years, compared to the previous period. In other words, net out-migration is a reflection, as one would expect, of better (relative) employment opportunities elsewhere. Why employment opportunities in the five study regions will not improve in the future is the subject of the rest of this article. However, we shall first briefly consider the subject of local economic development and the attributes of success.

⁴ Source: ISQ (2003). The results in Fig. 2 represent the median (most likely) scenario, given “reasonable” fecundity and migration assumptions. If past projections are any indication, even these are probably overly optimistic. At each new edition the ISQ generally further reduces its estimates.

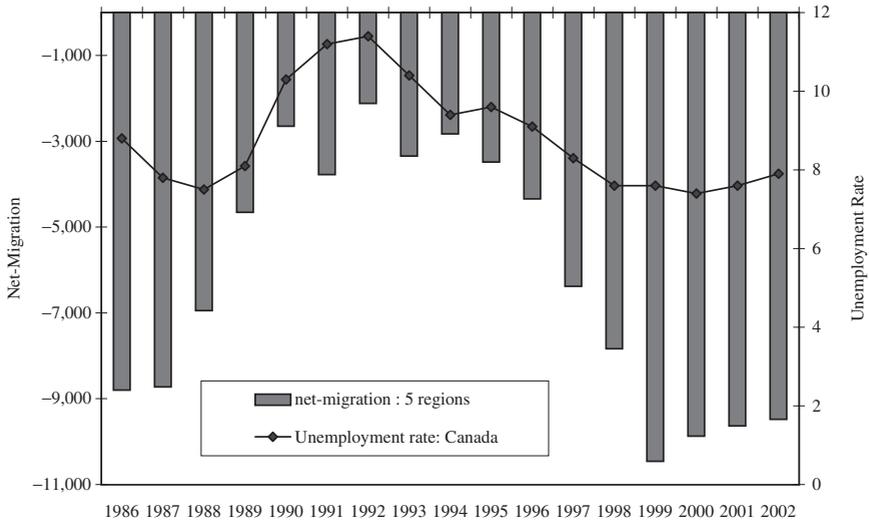


Fig. 3. Net migration (5 regions). Unemployment rate (Canada) 1986–2002.

4 On local economic development

Since the early 1980s, there has been a considerable outpouring of literature on the subject of local economic development (Bennington and Geddes 1992; Blakely 1994; Brodhead 1994; ECC 1990; Galaway and Hudson 1994; Maillat 1990; Perry 1987; Stöhr 1981) – with one of the authors of this article among the early contributors (Coffey and Polèse 1984, 1985). Endogenous development, bottom-up development and community economic development may be considered as belonging to the same general policy thrust.⁵ Arguably, more recent concepts (such as innovative milieu, learning regions and social capital) can also be considered as offspring of the same broad family of ideas (Braczyk et al. 1998). A full review of the abundant writings on local economic development policy (including numerous “how-to” books) would require a separate article.

At the risk of over-simplification, the core premise underlying much of the literature on local economic development is that a community (or region) can and will “grow” if it correctly organises itself; that is, if local actors (entrepreneurs, politicians, financiers, researchers, community groups, etc.) work together to create an environment conducive to innovation, entrepreneurship and economic growth. Features such as partnership, vision, leadership, cooperation, trust, and synergy are part of the standard vocabulary of most local economic development strategies. To these, one can add a broad range of local economic policy tools (at

⁵ For the remainder of this article, the terms endogenous development and local development are used as synonyms.

the municipal, state or regional level) to promote and attract industry: fiscal incentives, advice, infrastructure, land, and other enticements. The policy tools and combinations are almost infinite, as any reader of a journal such as the *Economic Development Quarterly* can attest. Each case study has its unique story to tell. Policy tools are sensitive to the local institutional context (Canadian municipalities do not, for example, have the same powers as those in the U.S.). The quest for winning strategies of local development will continue, and we do not wish to argue against such efforts. Local initiative and cooperation are positive factors. However, we *will* argue that the growth-oriented outlook, which emphasises the power of local initiative, is ill suited to the needs of declining regions.

In the Canadian case, federal and provincial governments support a broad range of local economic development organisations and incentives to promote local business start-ups and attract outside investment. In Quebec, where the five study regions are located, the federal government supports Community Futures Development Corporations (CFDCs) and the provincial government, Local Development Centres (CLDs, to use the French acronym). Both are quasi-public corporations, which work closely with the local business community, offering a wide range of services as well as a mix of financial incentives, such as small business loans and equity participation.⁶ On the whole, these organisations appear to do their jobs adequately and compare favourably with similar programmes in other nations (OECD 2002).⁷ In addition, a variety of grassroots and community organisations, from chambers of commerce to voluntary aid groups, exist in almost every community in the five regions. Most communities are socially cohesive and homogenous, with a strong sense of identity, although this is difficult to measure.⁸ Canada also has a reasonably well functioning legal, financial and political system. Canada ranks among the top five nations on the “trust” indicator, which is often used to measure social capital (OECD 2001).

In sum, the five regions possess most of the basic social and institutional attributes considered to be prerequisites for locally driven development. There are few objective barriers to internal cooperation and to public-private partnerships. The history of each of these five regions is replete with local initiatives, including local credit unions, subcontracting networks, local training institutions, locally subscribed economic development funds, etc.⁹ To relate all these stories exceeds the scope of this article. Success stories are not lacking, nor can one accuse the inhabitants of these regions of not having entrepreneurial spirit. The five regions probably do not differ markedly from the rest of modern Quebec society, which places

⁶ For more detailed information, see: <http://www.dec-ced.gc.ca/>; <http://www.mreg.gouv.qc.ca>

⁷ On the whole, local businessmen and women in the five regions appeared quite satisfied with the services provided by CLDs and CFDCs.

⁸ Some ethnic and linguistic differences exist, due mainly to the presence of Native Indian and English-speaking communities. However, for the most part, the five regions are overwhelmingly French-Canadian.

⁹ Taking the case of Baie-Comeau, located on Quebec’s North Shore, a local development fund of Can\$13 million to help local start-ups was set up in 2002, of which half was from the Province, \$3 million from local major industry, \$3 million from the municipality, and \$1 million via public subscription.

a high premium on business success. Yet, as we have seen, the projected trends for these regions are not positive.

5 On the attributes of success

Many success stories attributed to local initiative may, once we delve more deeply, actually have less to do with local leadership and drive than with given attributes of place and with exogenous forces beyond the community. The Chemainus story (Barnes and Hayter 1994), which will be cited in greater detail, suggests the same conclusion. However, it is difficult (if not impossible) to rigorously test this statement; it would require disentangling the myriad forces at play, exogenous and endogenous, for every case study. The distinction between exogenous and endogenous factors is itself problematic once we recognise the possibility of feedback effects. An in-depth discussion of what is local and what is not, falls beyond the purview of this article. Suffice it to say that we are not the first to question the independent explanatory power (and policy relevance) of purely local factors for understanding the economic development of regional economies (Barnes and Hayter 1994; Boerenholdt 2002).

Attempts to explain why some regions succeed (and others do not) have by and large identified similar factors, although the vocabulary may vary from one study to another. In a recent attempt to explain differences in economic performance between European regions, Cuadrado-Roura (1994, 2001, pp. 352–354) identifies seven attributes that correlate positively with superior performance, and which in our opinion, adequately summarise the current state of the art:

- 1) A city system: the presence of at least some mid-sized cities (population: 40,000 to 150,000);
- 2) Human resources: supply of skilled / educated labour (share of the local workforce);
- 3) Accessibility: proximity to / distance from major markets and large urban centres;
- 4) Advanced producer services (share of local employment): consulting, finance, etc.;
- 5) An institutional infrastructure for supporting local development strategies;
- 6) A positive image, including a positive social climate (i.e., low labour conflict) and a local environment conducive to cooperation;
- 7) A good industrial mix: i.e., many small and medium-sized firms, as opposed to dominance by a few large firms.

The seven attributes are not necessarily independent. Attributes 1 and 3 reflect centre-periphery relationships, while attributes 2 and 4 are largely correlates of city size. In Canada, large urban centres are generally located on major transport axes with superior access to major (mainly U.S.) markets. Attributes 6 and 7 are related: poor labour relations often characterise communities dominated by large firms. Attributes 5 and 6 may be viewed as attributes associated with the more

sociological-institutional aspects of regional development (milieu, social capital, etc.). However, attribute 6 is indirectly related to geography via its link with attribute 7, which is in turn sensitive to centre-periphery relationships and resource dependency, as we shall see.

6 Peripherality

Table 1 gives information related to non-institutional attributes (1, 2, 3, 4 and 7) for the five regions. The five regions are peripheral by definition: small populations, weak urban systems, and distant from major markets (attributes 1 and 3). Only the Saguenay has an urban agglomeration with a population over 100,000.¹⁰ None of the regions possesses a city system of mid-sized cities. Even using a lower threshold (10,000) than Cuadrado-Roura's, none of the regions has more than three cities above this threshold. In the Gaspé, the largest urban area barely rises above this threshold. On attributes 2 and 4 (% university graduates, % employment in scientific and professional services), traditional correlates of city size, location quotients are significantly below unity (1.0).

Compounding the location handicap, some regions are situated on dead-end transport links, which reduce volume and raise unit transport costs.¹¹ The road running east along the North Shore goes no farther. There is little settlement activity north of the Saguenay; the Gaspé is a peninsula. Rail lines are lacking or have been abandoned in many parts, thus raising the costs of bulk transport and other heavy goods. Low population numbers also translate into lower quality (less frequent) air transport services, sometimes at high unit costs, in communities where it is difficult to ensure competition. The least "location challenged" region is the Lower St. Lawrence, which in part explains why its economic structure is more diversified (attribute 7). Having established the peripheral nature of the five regions, let us now look at past trends and future prospects.

6.1 Future constraints on resource exploitation plus continued resource dependency

The five regions were initially settled to exploit natural resources, which is no different from the rest of Canada. The difference lies in their *continued* dependence on natural resources. Figures 4 and 5 show relative specialisation in 1971 and 2001, as measured by location quotients in, respectively, the primary sector and in resource-based manufacturing. With one exception, relative specialisation in

¹⁰ Note that its population has declined since the 1996 census. The negative effects of a resource-dependent, capital-intensive industrial structure largely annul the advantages of size; see the "intrusive rentier syndrome" below.

¹¹ In cases where two-way merchandise traffic does not balance (i.e., more heavy bulk goods going out than general merchandise coming in) – a common occurrence in resource-dependent regions – unit transport costs may be negatively affected.

Table 1. Five regions: selected attributes

Attribute no.	1	2	3	4	7	
Region*	Population (2001)	Urban Areas Over 10,000	Largest Urban Area. Population. (2001)	Km to nearest metropolis (a)	Location Quotient 2001 Degree* PST (b)	Industrial mix (d) Principal regional export industries
Abitibi-Témiscamingue	152,555	2	Rouyn-Noranda 39,005	638 km	0.55	0.68. Mining, copper smelting; pulp, paper, and lumber
Saguenay – Lac-Saint-Jean	286,649	3	Chicoutimi 158,860	211 km	0.62	0.60. Aluminium smelting; pulp, paper and lumber
Lower St. Lawrence	206,064	3	Rimouski 48,555	312 km	0.67	0.44. Pulp, paper, lumber, and wood products; transport equipment.
North Shore	89,040	2	Baie-Comeau 32,510	422 km	0.52	0.71. Aluminium smelting; pulp, paper and lumber; mining and smelting.
Gaspé & Magdalen Isles	91,000	1	Gaspé 16,290	700 km	0.42	0.59. Fishing and fish processing; pulp, paper, and lumber; mining and smelting

* In the text, for convenience, we use the shorter versions of the regional names. Thus, we simply refer to Abitibi, Saguenay, Gaspé, and so on.

(a) With a population of over 500,000. Distance calculated from the largest local urban area.

(b) Bachelor's degree and higher: % of population 15 years of age and over. Canada = 1.00.

(c) Professional, Scientific, and Technical Services: % of employment. Canada = 1.00.

(d) Weight of the first two industries in total manufacturing employment (1.00).

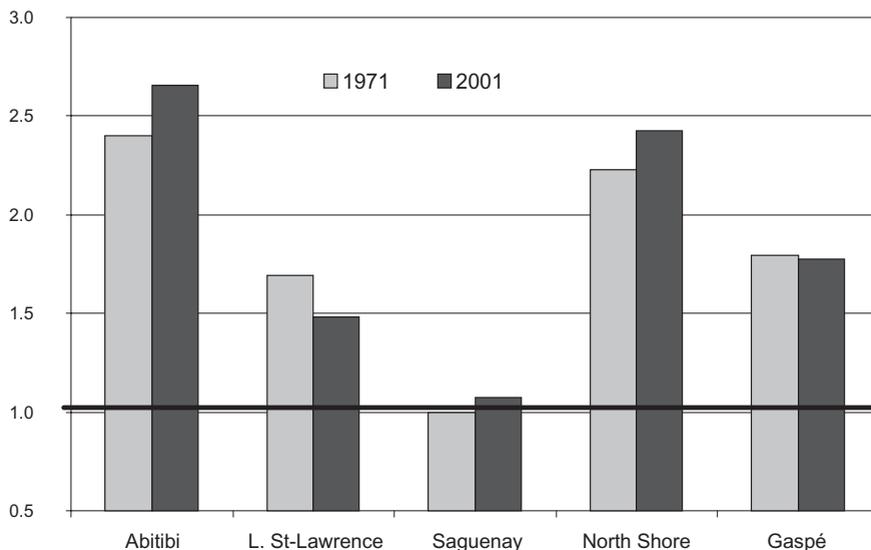


Fig. 4. Location quotients, employment in primary industries, five regions, 1971, 2001 (Canada = 1.0)

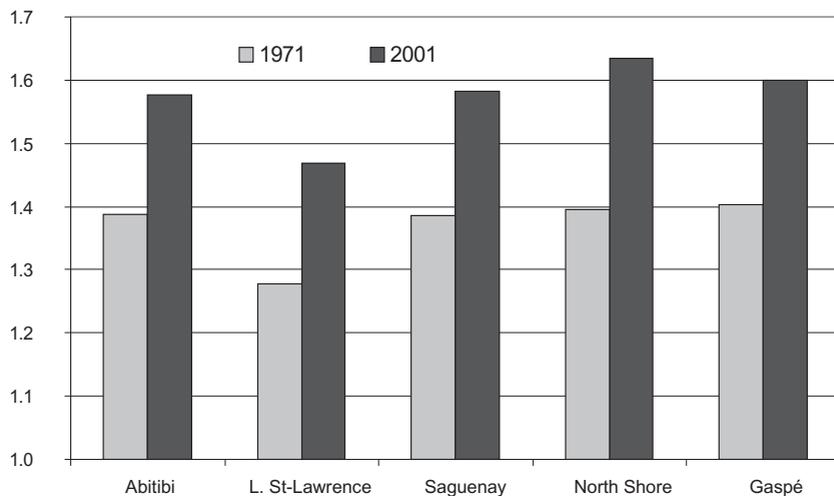


Fig. 5. Location quotients, employment in resource-based manufacturing* (Canada = 1.0)

* Food & Beverage, Paper, Transformation of Wood and Metallic & non-Metallic Mineral Products, Oil, Gas, & Coal Products.

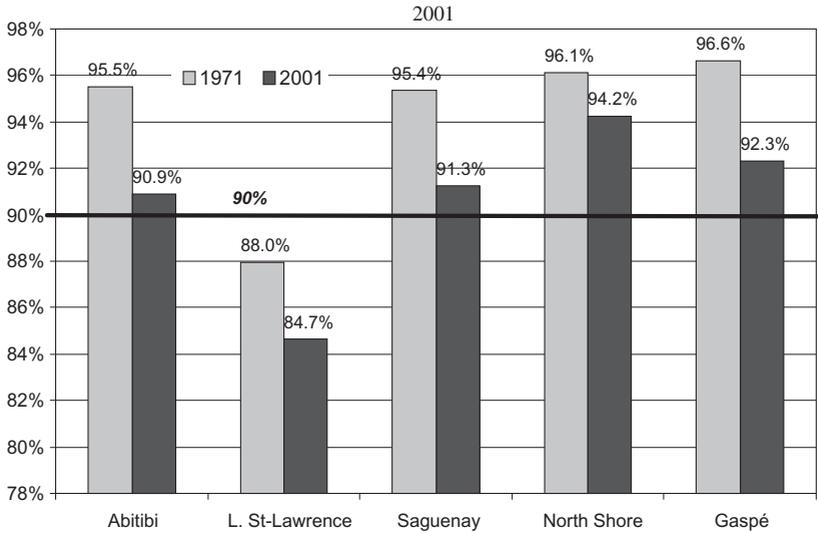


Fig. 6. Percentage manufacturing employment in resource-based industries*. Five regions, 1971, 2001
 * Food & Beverage, Paper, Transformation of Wood and Metallic & non-Metallic Mineral Products, Oil, Gas, & Coal Products.

resource-based activities has either remained stable or increased in most cases over the last three decades. For manufacturing, there has been some (absolute) diversification into other industries, but resource-based activities continue to provide the overwhelming share of manufacturing employment (Fig. 6).

These are typical Weberian weight-loss industries, where the primary input is more costly to transport than the transformed product. Raw logs are more expensive to transport than (processed) paper or newsprint, and fresh fish and seafood – highly perishable – are more costly to transport than canned or salted products. Aluminium smelting, which looms large in the North Shore and Saguenay economies, is somewhat different: the “heavy” primary input (high transport costs) is electric power needed to transform alumina, derived from bauxite, into aluminium. The North Shore and Saguenay have access to a comparatively plentiful source of hydroelectric power, and deep-sea ports allow them to receive bulk shipments of alumina and bauxite.

Despite increasing productivity in the resource sector, resource employment in most peripheral regions continued to grow until the 1980s (Fig. 7). It was possible to exploit more resources: catch more fish, harvest more trees, mine deeper, and build more dams. This epoch has come to an end. Figure 7 captures the impact of various transformations, including the centralising effects of technological and intra-firm organisational change. The rapid growth of primary employment in large urban areas may in part be attributed to the growth of service functions (i.e., management, marketing, etc.) within primary sector firms, increasingly centralised in head offices.¹²

¹² It is useful to recall that NAICS and SIC codes classify employment by industrial sector. An accountant or engineer working in the head office of a mining or logging company will be classified as working in the primary sector.

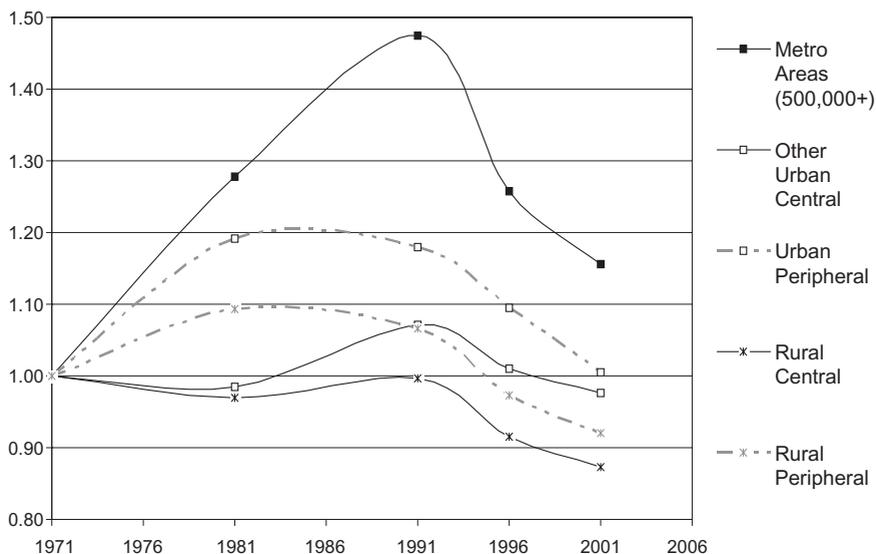


Fig. 7. Employment growth in the primary sector by city-size and location, Canada 1971–2001 (1971 = 1.00)

However, the most momentous change relates to the availability of natural resources (fish, minerals, hydroelectric power, and forests), all of which reached the limits of profitable exploitation at approximately the same point in time (late 1980s to mid-1990s), and the subsequent decline in employment. In the case of minerals – a non-renewable resource – it is a case of mines being exhausted or having reached a stage where other (outside) deposits are more profitable, although new discoveries and new mining technologies can extend the period of profitable exploitation. For fish – theoretically, renewable – the almost total collapse of ground-fish stocks in the late 1980s continues to baffle marine biologists. Its impact on fishing communities, specifically in the Gaspé, has been devastating. Aquaculture (mainly for salmon and mussels) has been able to take up some of the slack; but natural conditions are not ideal.¹³

The case of hydroelectric power is more complex because of the interplay with social factors. An unexploited hydroelectric potential exists in Northern Quebec and Labrador. However, two institutional constraints have increased the cost of building new dams and power lines: a) environmental regulations and review mechanisms; b) demands by Native Canadians (on whose lands the rivers are located) for financial compensation. The rights of Native Canadians to financial compensation have been strengthened in recent years by court decisions and intergovernmental agreements. Environmental review mechanisms and Native Canadian demands generally tend to reinforce one another, driving up costs. When added to the cost of exploiting more distant locations, this means that future

¹³ Aquaculture has been most successful in the three Canadian Maritime Provinces (Nova Scotia, New Brunswick, Prince Edward Island) which are located south of the five study regions.

hydroelectric power, if and when it comes on-stream, will be less competitively priced. It appears unlikely that sufficient new power will come on-stream in the foreseeable future to warrant the construction of new aluminium plants.

The case of forests is also instructive in terms of the interplay between social and natural factors, but also because of the effects of product innovation and its impact on location decisions. Natural barriers to additional tree cutting remain the principal constraint, especially given the long cutting cycles (between 30 and 40 years). Additional wood supplies are low and so cannot accommodate new paper mills. Consumer preferences, environmental awareness, and technological change also come into play. Environmental concerns have meant: a) reductions in areas where logging is permitted, as new areas are designated for nature reserves or parks; and b) an increase in the share of paper produced using recycled inputs. The potential impact of the latter on location decisions is not difficult to deduce. Once recycled paper accounts for more than 50% of primary inputs, there is no longer an incentive for paper mills to locate close to the raw resource. The impact of technological (or product) change affects other wood products (furniture, doors and windows, beams, and building materials in general). Increasingly, products are composites. No single resource input dominates transport costs: without a dominant “heavy” input, the pull of the market increases.

The implications for the future of these constraints on natural resource exploitation – added to rising labour productivity – are self-evident. The number of jobs in resource-based industries will decline. This raises the question of why these regions have remained resource-dependent (recall Figs. 4, 5 and 6). Why are they not diversifying more rapidly into other industries? Why are other industries not locating (or springing up) there, and why should we not expect them to do so? The answer lies, in part, in the continued negative impact of the attributes of peripherality (especially distance) on industrial location and on the impact of a “bad” industrial mix (the converse of attribute 7) on local labour markets. We now consider each in turn.

6.2 *The continued impact of distance*

Figure 8 provides location quotients for employment in medium value-added manufacturing,¹⁴ by city size, for all central and peripheral locations in Canada in 1971 and in 2001. For example, Fig. 7 informs us that *centrally* located cities in the 100,000 to 500,000 population range had a location quotient of about 2.50 in 1971, which fell to about 2.00 in 2001, while comparatively sized *peripherally* located cities showed location quotients below 0.50 for both years. If the industrial mix of peripheral regions is to move beyond resource dependency, one would expect them to attract an increasing relative share of employment in this industrial class.

¹⁴ Includes the following industrial classes: furniture, transportation equipment (i.e., automobiles, car parts, rolling stock, etc.), machines, and electrical products (except telecommunications and microelectronics).

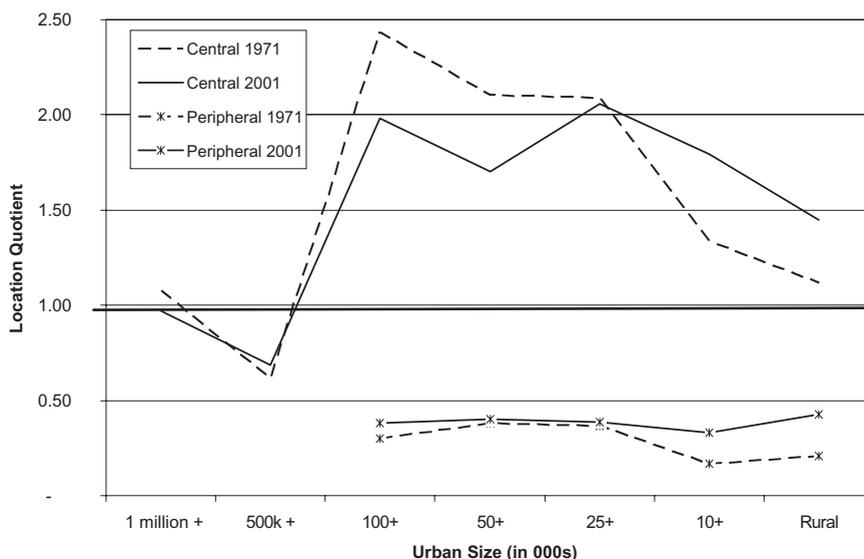


Fig. 8. Employment in medium value added manufacturing*, location quotients by urban size and location, 1971, 2001 (Canada = 1.00)

* Classes defined in text.

Figure 8 shows, as we might expect, that medium value-added manufacturing tends to concentrate in mid-sized cities. These industries are generally large consumers of space, and as such seek out locations with relatively lower land costs than in the largest urban centres. They will generally also seek to locate in lower cost labour markets and a workforce with basic skills. The industrial location process underlying the formation of medium-sized cities has been admirably explained by Henderson (1997). Figure 8 also tells us that medium value-added manufacturing, although attracted to mid-sized cities, will generally chose *central* locations, within close proximity of a major urban centre. The reasons for this are not difficult to understand. These industries are consumers of specialised high-order services (consulting, technical advice, repairs, laboratories, marketing, etc.), a correlate of urban size: recall attribute 4. This means frequent travel between the plant and the (closest) large urban centres. Other trips may involve customer or supplier relations and the use of big city infrastructures: airports, universities, technical schools, etc. The optimal location for many industries in this class (say, an electronics plant) will be a serviced industrial space just beyond the commuting shed of a large urban centre.

The continuing impact of distance is largely attributable to the continued (some would say, growing) importance of face-to-face contacts in modern economic transactions (Glaeser 1998). As Gasper and Glaeser (1998) note, most new information technologies (IT), compared to the telephone a century earlier, are complements, not substitutes, for face-to-face encounters. Business travel has not fallen with the introduction of IT; the contrary appears to be the case. For distant peripheral locations this means frequent, often costly, air travel to and from large

urban centres. Finally, it should be noted that new information technologies have little effect on the relative costs of transporting goods. As in the past, goods will continue to be transported by truck, rail or ship. The export base of peripheral regions, including those portrayed here, will continue to be comprised of goods.

As Fig. 8 indicates, peripheral cities attract very little medium value-added manufacturing employment, compared to centrally located cities of similar size. This pattern has remained very stable over the 30 year time period.¹⁵ Polèse and Shearmur (2004) find that the stability over time of location patterns also holds for other sectors of the Canadian economy, including high-order services. Employment continues to coalesce in and around larger urban centres. Mur and Trivez (1998: 294) reach a similar conclusion for European industrial location trends, noting that: “for certain sectors (manufacturing . . .) one can anticipate movements to dispersion, albeit very weak and involving short distances, which causes one to think that the attraction of final demand markets (areas delimited by Paris, London, Hamburg, Milan) appears to compensate for the lower costs associated with peripheries.” However, one would expect the impact of distance to play out differently for nations of different sizes and settlement patterns. For compact, densely settled, nations (i.e., The Netherlands), the above-described location process means that most mid-sized cities are potential locations for a wide range of manufacturing industries. But for nations with distant, sparsely settled, peripheries, the prospect of non-resource based industries significantly locating there appears dim. In the Canadian case, the distance constraint is compounded by dysfunctional labour markets, a correlate of resource-dependency, to which we now turn.

6.3 *The intrusive rentier syndrome*

Faced with declining employment, economic theory suggests that local labour markets will adjust by: a) continued out-migration; and b) reductions in wage levels; that is, until wages fall sufficiently to attract new industries (or, alternatively, labour supply falls sufficiently) and thus re-establish an equilibrium between labour supply and demand. Adjustment (a) is taking place, as we have seen. But, adjustment (b) is not, as we shall now explain.

Resource-based industries, notably paper and aluminium, are highly capital intensive, sensitive to economies of scale, meaning large plants. In many communities, one or two large plants dominate the local economy (a “bad industrial mix”, recalling attribute 7). Baie-Comeau on the North Shore is a prime example: two plants account for almost all manufacturing employment: an aluminium smelter and a paper mill. The problems of capital-intensive, single-industry towns are a recurring theme in Canadian economic geography (Barnes and Hayter 1994; Lucas 1971; Slack et al. 2003.) going back to the first writings by Innes (1933). Figure 9 shows, as expected, that wage levels are correlated with urban size.

¹⁵ A simple correlation of 2001 over 1971 quotients yielded a correlation coefficient of 0.90.

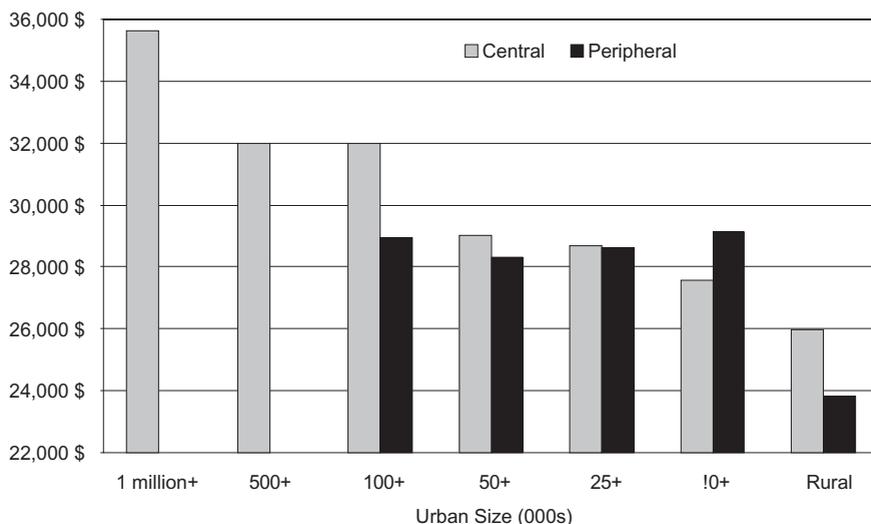


Fig. 9. Wage income per worker (CAN \$), by city size and location, Canada, 2001

Wages are generally lower in small and mid-sized cities; this, recalling Henderson (1997), is one reason why smaller cities exist. However, Fig. 9 also shows that the relationship breaks down for small *peripheral* cities in the 10,000–50,000 population range. In this range, for cities of comparable size, wages are similar or higher in peripheral cities than in centrally located cities.

The reason for this apparent incongruity is not difficult to understand, once resource-dependency is factored in. We call this the intrusive rentier syndrome to convey the disruptive impact of large, capital-intensive, high-wage industries on small labour markets and business start-ups. This is, in essence, a regionalised version of the Dutch disease.¹⁶ The reasoning is similar. High-wage industries drive up local wage levels with a predictable impact on expectations. High wages, in turn, make it difficult to start up businesses in other export industries. During our field visits, we encountered small and medium-sized firms with recruitment problems (despite high local unemployment) because they could not compete with wages offered by large paper mills, aluminium plants, etc. Higher wages also act as a disincentive for small firms to invest in workers; once trained, the most competent will move to better paying jobs at a large plant. Wages will only fall if the plants close, an almost impossible dilemma.

Table 2, which compares wage levels for selected cities in Quebec, illustrates the relative wage-cost disadvantage of peripheral, resource-based communities. Small cities located close to Montreal (e.g., Drummondville, Saint-Hyacinthe)

¹⁶ We do not know who first coined the term. However, it refers to the disruptive effect on local export industries of a sudden rise in the value of a nation's currency, resulting from a resource discovery or other windfall. In the case of the Netherlands, it refers to the impact (on the Dutch guilder) of the discovery of natural gas in the North Sea in the 1970s.

Table 2. Earned income in selected Quebec cities, 2001 (Can \$)

Urban Area	Region	Earned income per worker	Population	Closest city of over 500 k	Distance
Central Locations					
Montreal		\$31,864	3,500,000	–	–
Drummondville		\$25,299	62,335	Montreal	90 km
Saint-Hyacinthe		\$26,092	38,739	Montreal	60 km
Victoriaville		\$26,435	49,855	Quebec City	90 km
Sherbrooke		\$26,959	143,270	Montreal	130 km
Saint-Georges		\$25,010	23,605	Quebec City	90 km
Peripheral Locations					
Rouyn-Noranda	<i>Abitibi</i>	\$29,254	39,005	Montreal	638 km
Chicoutimi	<i>Saguenay</i>	\$29,680	158,860	Quebec City	211 km
Rimouski	<i>L. St. Lawrence</i>	\$27,249	48,555	Quebec City	312 km
Baie-Comeau	<i>North Shore</i>	\$32,408	32,510	Quebec City	422 km
Sept-Îles	<i>North Shore</i>	\$31,024	27,995	Quebec City	652 km
Gaspé	<i>Gaspé</i>	\$25,447	16,290	Quebec City	700 km

have lower wage levels than cities of comparable size located farther away. Added to the initial distance-cost disadvantage, it is not difficult to understand why a diversified manufacturing base has failed to flourish in the latter. In the extreme case (Baie-Comeau), average wage levels are above those for Montreal. The intrusive rentier syndrome also helps to explain an *a priori* counter-intuitive result: the combination of high wage rates and net out-migration (recall Fig. 3). Baie-Comeau's population has been declining since the 1980s.

There are perhaps few better illustrations of the difficulty of separating out endogenous from exogenous forces: The labour markets described in the intrusive rentier syndrome are unmistakably a local attribute, associated with institutions and patterns of behaviour. Yet, the origins of this syndrome are largely technology-driven, thus exogenous (specifically, the technologies for producing paper and aluminium). Were the technologies different, undoubtedly the affected labour markets would have evolved differently.

In the Canadian case the stickiness of local labour markets is further reinforced by institutional factors: that is, fairly generous unemployment insurance benefits and income maintenance programmes, national and province-wide labour unions. Unemployment insurance facilitates workers remaining in the region, in the hope of obtaining a high-paying job. Unions are loath to negotiate lower wages in any particular city, fearing a demonstration effect in other locations. The behaviour of labour in this context recalls that proposed by Todaro (1969) to explain the behaviour of Third World migrants who flock to cities despite the scarcity of (good) jobs. Although the quantity of "good" jobs is rationed, workers are willing to hold a lottery ticket (to stay with the Todaro parallel) in the hope of one day landing a high-paying job. Stated differently, even though the disruptive effects of the intrusive rentier syndrome are visible (and understood by most actors), there

is little incentive to alter the situation. The end result is a dysfunctional labour market in which normal adjustment mechanisms are inoperative.

6.4 *Continental integration*

Let us briefly consider a final factor, which further accentuates the relative location disadvantage (attribute 3) of the five regions. The signing of the North American Free Trade Agreement (NAFTA) in 1989 has had a significant effect on the direction of trade flows. The Province of Quebec now exports almost twice as much to the United States as to the rest of Canada, a reversal of proportions of twenty years ago. Trends are similar for other Canadian provinces. North-south trade flows have replaced east-west flows. In other words, the geography of market access has changed.

The impact of this change on the five regions is, again, not difficult to deduce. For trade with major U.S. markets, these regions are less well located than other regions farther south (recall Fig. 1). Unsurprisingly, employment growth in manufacturing in Quebec since 1990 has been highest for regions closest to the U.S. border.¹⁷ Changing trade patterns have, in sum, accentuated the peripheral nature of the five regions. Similar reasoning can be applied to Mexico. Esquivel et al. (2003) note that the three southeastern states of Guerrero, Oaxaca and Chiapas, located farthest from U.S. markets, have systematically performed less well than the rest of Mexico.

To summarise, given the attributes of peripherality plus the end of the demographic transition, and together with the continued foreseeable impact of distance and resource dependency, employment and population decline seems inevitable for the five regions portrayed here. Furthermore, it is difficult to argue that population loss will improve their relative capacity to nurture new industries. Given their already small populations and distance from major markets, population loss will further accentuate their peripheral nature relative to other locations. Local markets are already too small in most cases to sustain export-oriented (non-resource-based) firms during the initial start-up stages. Firms sensitive to (internal or external) scale economies will find it even more difficult to succeed. This situation significantly constrains the type of firms that can emerge, limited in most cases to niche operations based on a specific, unique, competitive advantage, often embedded in the know-how of a few particularly talented and motivated individuals. The root of the problem, we suggest, is not the lack of innovative individuals and social networks (although this cannot be rigorously demonstrated), but rather the lack of profitable business opportunities, in turn rooted in the given attributes of the regions.

¹⁷ Abstracting from metropolitan Montreal and its surrounding region, the two regions where growth has been most rapid are the Eastern Townships (east of Montreal) and Chaudières-Appalaches (south of Quebec City) with manufacturing employment indexes (base year: 1990), respectively, of 1.55 and 1.50 for the year 2001, compared to 1.13 for the province as a whole. Source: Statistics Canada 2002.

7 The pre-conditions for regional decline

By way of synthesis, let us postulate the pre-conditions for regional decline. They do not necessarily imply an increase in income disparities (between central and peripheral regions), although this may occur. Decline means that the region will undergo relative, and eventually absolute, population and employment decline.

National attributes

- a) A geographically large nation, with inhabited spaces (The Periphery) located beyond a one-hour drive from a major urban centre (threshold defined according to context);
- b) A nation in the last stages of the demographic transition: natural increase is either close to zero or negative. Most industrialised nations today meet this condition.

Regional attributes

1. Located at the periphery of the national / continental space economy [as in (a)];
2. Not on a major transport axis or trade route [in part a corollary of 1];
3. No urban area of over 100,000 and / or less than three urban areas over 40,000 within a 100km range of each other. Thresholds can vary with context;
4. An economic base founded on resource exploitation and /or primary processing;
5. Weberian weight-losing industries, capital intensive, with high labour productivity and high wages;
6. A resource base whose limits of (profitable) exploitation have been reached.
7. Climatic and geographical conditions that limit year-round tourism.

All of the conditions need not be present for decline to occur. In poorly located, sparsely populated regions, attribute 5 is not a necessary condition. Also, one attribute may cancel out the effects of another. Thus, a region may house an urban area of over 100,000 (thus, attribute 3 does not hold) but the negative effects of attributes 5 and 6 are such that they annul the positive urban-size effects. The Saguenay falls in this class, as would most of Northern Ontario.¹⁸ By the same token, if attribute 6 does not hold (yet!), a region may continue to grow despite its specialisation in high-wage, resource-based industries (attribute 5). Peripheral communities in Canada's two most western provinces (Alberta and British Columbia) may thus continue to grow due to their rich resource base, but attribute 5, if it applies, will continue to act as a barrier to diversification.

¹⁸ Northern Ontario has three urban areas of over 100,000 (Sudbury, Sault Ste. Marie, Thunder Bay). All have declined in population since 1996.

A corollary of the above, recalling our discussion of local development, is that many success stories presented as examples of locally-led growth may be attributable, at least in part, to other factors. Most of the regional attributes of decline, listed above, were lacking; this does not mean that local initiatives are irrelevant, but simply that they would probably not have succeeded if the community's attributes were different. The cases of Port Alberni and Chemainus, two logging communities on Vancouver Island, documented by Barnes and Hayter (1992, 1994), are instructive. Both faced potential job losses resulting from restructuring in the lumber and the pulp-and-paper industries. Barnes and Hayter observe that while in Chemainus a successful local development process did evolve, it did not in Port Alberni. To quote Barnes and Hayter (1996: 307) "Port Alberni's location makes it less accessible than Chemainus, and farther away from centres of the Island. For all these reasons, Port Alberni has not yet been able to deal with local development."¹⁹

8 Conclusion: Economic development strategies for declining regions

The proposition that geography and exogenous forces can overwhelm even the best-conceived local economic development strategies should now be uncontroversial. It is difficult to imagine how purely local strategies, no matter how innovative or collaborative, could alter the forces we have attempted to illustrate in this article. The demographic transition is a fact, and it fundamentally alters the way in which future changes in the economic geography of nations will affect some regions. Some will decline.

We structured our analysis of five Canadian declining regions around the distinction between central and peripheral locations and around the growth attributes identified by Cuadrado-Roura (2001) for European regions. Most of the attributes (city system, market size, market accessibility, producer services, industrial mix) are fairly standard, a reflection of traditional centre-periphery differences, related to geography either via distance or the effects of agglomeration. And in the spirit of parsimony, if these classical attributes continue to matter, where does this leave the more complex sociological-institutional explanations (local entrepreneurship, social capital, innovative milieus, learning regions, etc.)? What if the sources of decline (or success, for that matter) lie elsewhere? To imply that peripheral regions of the type portrayed here are declining due to a lack of social capital or of deficient local entrepreneurship and innovation is not only misleading, but may also be counterproductive.

Regional decline will become an increasingly prevalent occurrence in nations at the end of the demographic transition whose economic geographies display centre-periphery relationships. In such nations, local economic development

¹⁹ For Chemainus, the authors note (page 305): "Located between Vancouver Island's two largest cities . . . and ferry terminals, and on the coastal island highway, Chemainus is ideally located to capture tourist traffic." As the authors note, this is not insignificant in understanding the success of "The Little Town That Did" (the town's copyrighted slogan).

strategies cannot (and should not) be put forward as a means of arresting population and employment decline. Such an approach will not make the task of local economic development officers any easier. Local economic development strategies for declining regions may seem like an oxymoron. But it should not. Population decline does not, except in extreme cases, signify disappearance. The five regions studied here will, in all likelihood, still be inhabited a hundred years from now. We cannot predict at what population levels the regions will eventually find a new equilibrium. The task becomes one of ensuring the transition to an economic base concomitant with future (lower) population levels, which means not only a change in public discourse (different from “we will grow again if we only pull together”), but also the setting of new goals. This is perhaps best summed up by what an economic development officer from the Northern Ontario city of Thunder Bay recently told the authors: “Today our population is 120,000; but we are planning for a population of 80,000. Our objective is to ensure that in X years’ time we have a solid employment base that can effectively assure a decent livelihood for 80,000.” Devising positive decline strategies will not be an easy task and will doubtless entail an even greater reliance on community solidarity and cooperation than past economic growth strategies.

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