The Area: Atlantic Provinces, Nova Scotia, and the Annapolis Valley in historical perspective

The Atlantic Provinces (New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland) constitute a marginal region within Canada; all are 'low-income' provinces, characterized by relatively low resource potential aggravated by locational disadvantages with respect to the main market areas of Canada (cf Keirstead 1948). A structure of freight subventions and equalization grants from Federal to Provincial governments mitigates but cannot completely eliminate the conditions which have produced the disadvantageous position of the Atlantic Provinces. As a result they (and particularly their rural areas) have been net exporters of population throughout most of this century. Traditional productive activities (fishing, farming, and forestry), generally characterized by small scale of organization, underemployment, and pronounced seasonality, have not been notably successful in reorganizing to meet highly-capitalized competition on a more efficient basis, and the proportion of the labor force engaged in primary production continues to decline sharply. In the aggregate, the economy of the Atlantic Provinces may be said to be undergoing rationalization as labor and capital flow from sectors of lesser to greater opportunity, from rural primary production to urban secondary and tertiary production.

Throughout their colonial history the Atlantic Provinces tended to face the sea rather than one another, first in the coastal and Grand Banks fishery (Innis 1954) and later (particularly Nova Scotia and New Brunswick) in shipbuilding and long-distance carrying trade. The advent of steam power made wooden ships obsolete, and Confederation into the Dominion of Canada (in 1867) spelled the end both of the colonial preference system (with the rescinding of the Navigation Laws) and of free trade with the 'natural' market of the northeastern United States (with the imposition of protective tarrifs, particularly on processed and manufactured goods). Howland summarizes the conditions as follows:

> It may be said that much of the difficulty of the Maritime Region stems from the fact that the economy reached a relatively mature stage of development on the basis of one set of circumstances and was required to adjust to another set. In many instances, prior development added difficulties to the type of development which the new circumstances required, and the resources were less adequate for these circumstances. The difficulties of the region were aggravated by the necessity of adjusting at the same point of time to several powerful forces of change. Unfortunately, adjustments to technological changes coincided in time with adjustments to new fiscal and commercial policies which in themselves tended to impinge on certain important economic activities of the region.
>
> Howland (1957:187)

The conditions of marginality may be understood in terms of location models, especially as applied to industries and firms; sheer distance from potential markets in rapidly growing central Canada has tended to restrict the growth of manufacturing industry in the Atlantic Provinces (Halifax is considerably closer to Portland and Boston than to, eg, Montreal), and Graham notes that "the thin, scattered nature of the population of the Maritimes was unsuited to the development of large-scale secondary manufacturing based on local markets" (1963:20). The attraction of capital for the establishment and maintenance of secondary manufacturing is presently heavily dependent upon local tax incentives and federal and provincial subsidies. Says Keirstead,

> The Maritimes, from having an ideal situation with respect to markets, with every transport advantage, found themselves on the periphery, on the far extremes, of an unnatural, tarrif-created national economy, with every general advantage in industrial situs enjoyed by Ontario and western Quebec competitors. Only the unusual and impermanent stimuli of rail-building and war could sustain high demand in this market for Maritime manufactures.
>
> Keirsted (1943:281)

The export sector of Nova Scotia and New Brunswick (and, more recently, of Newfoundland) has for many years been dominated by raw materials, particularly coal, minerals, and timber; of these, only logging for pulp (and the associated paper industry, which is largely located in New Brunswick and Newfoundland) presently enjoys economic health. Conditions in other primary industries are similar:

> ...though the transition from small-scale inshore fishing to mechanized offshore fishing promises to reduce employment still further, the pace is being slowed, the need for relocation eased, by unemployment payments to partially unemployed fishermen since 1957...
> ...in agriculture, labor shortage has led to mechanization or retreat...canning of fruit, juice, and pickles, production of eggs, milk, and vegetables for the Halifax market have taken up much of the slack...Mixed farming has been forced back on the rising urban, military, and tourist market for milk, or in areas farther from the cities out of the glutted butter market toward beef raising. As a result, heavy liming practises to increase productivity of pasture, alfalfa or grass silage and hay crops, and prayers for short season corn are the solutions being pressed and to some degree being adopted. Nevertheless, the abandonment of farming on small farms and on poor lands has been proceeding more rapidly than farm consolidation...
>
> Erskine (1966:275-6)

The tertiary ('service') sector accounts for a large proportion of the labor force in all of the Atlantic Provinces; Graham calculates that this sector contributed 51% of the Nova Scotia gross provincial product in 1951, and notes that

> while data are not available to explain satisfactorily the high percentage for service industries in Nova Scotia, it is likely that it is at least in part due to relatively greater expenditures for defence, and to particularly high costs of transportation and distribution arising from having to supply many scattered small pockets of settlement.
>
> Graham (1963:28)

Wage differentials between the Atlantic Provinces and other parts of Canada (and the United States) have been such that outmigration, particularly of skilled labor, has become a common strategy; 20% of Nova Scotia-born people resident in Canada in 1961 lived outside of Nova Scotia, and nearly half of them in Ontario (Stone 1969:36). The historical pattern of this "fine adjustment of numbers to opportunity" (Wrigley 1967:193) is indicated in the following table:

Rate of net intercensal population change for selected population units (eg, 1911 total population/1901 total population)

	Canada total	Nova Scotia total	Halifax County total	Halifax-Dartmouth MA total
1901-1911	1.32	1.07	1.08	1.13
1911-1921	1.21	1.06	1.21	1.23
1921-1931	1.18	.98	1.04	1.01
1931-1941	1.11	1.13	1.20	1.25
1941-1951	1.22	1.11	1.32	1.36
1951-1961	1.30	1.15	1.40	1.38
1961-1971 (est.)	1.25	1.01	1.10	(na)

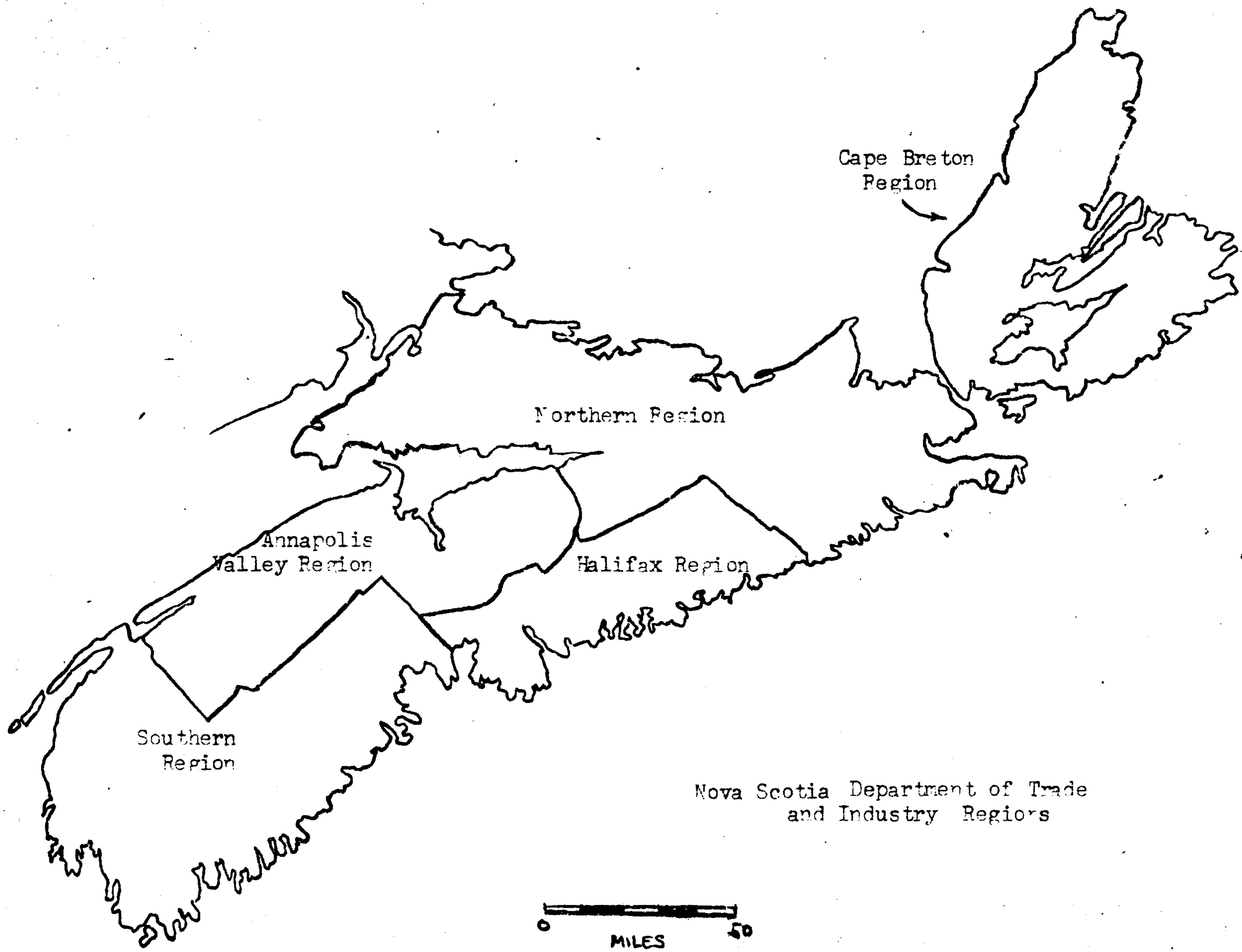
(data from DBS 1961:1.1/10 table 6)

From the table it is clear that the population of the Halifax-Dartmouth Metropolitan Area has consistently grown at a more rapid rate than that of Nova Scotia as a whole --largely the effects of intra-provincial migration in response to declining opportunity in rural areas and smaller cities. The established pattern of net outmigration of Nova Scotia-born individuals to other areas of Canada may also be seen in the comparison of Canadian total and Nova Scotia total figures. The 1961-1971 estimate indicates that the pace of growth in Nova Scotia has slowed dramatically.

Within Nova Scotia, the economic and political orientation of cities and towns is toward Halifax, the capital and largest city. Below Halifax on the urban hierarchy are 14 cities of greater than 5000 population:

	1966 population	
Halifax	86792	Halifax MA, total 198193
Dartmouth	58745	
Sydney	32767	
Glace Bay	23516	
Truro	13007	
Amherst	10551	
New Glasgow	10489	
New Waterford	9725	
Sydney Mines	9171	
North Sydney	8752	
Yarmouth	8319	
Springhill	5386	
Stellarton	5191	
Kentville	5176	
Pictou	5027	

Examination of their distribution and the associated network of major highways (see Map I) suggests a provisional scheme for identification of urban-centered regions within Nova Scotia, utilized for planning purposes by the provincial Department of Trade and Industry:



Nova Scotia Department of Trade
and Industry Regions

Map 3

	Urban pop (1968 est)	Dept of Trade and Industry Regions	Regional pop (1968 est)
Halifax Dartmouth (Halifax MA)	145,537 (198,193)	Halifax	250,305
Sydney Glace Bay New Waterford Sydney Mines North Sydney	83,931	Cape Breton	166,839
New Glasgow Stellarton Pictou	20,707	Northern	146,292
Amherst Springhill	15,937		
Truro	13907		
Yarmouth	8319	Southern	107,516
Kentville	5179	Annapolis Valley	89,048

Nova Scotia TOTAL: 760,000 (est)

(data from Department of T&I 1970)

The five regions identified by the Department of Trade and Industry follow county boundaries (Map III), and are particularly useful when using Canadian census materials, which are partitioned first by county and further by census subdivisions within counties. Treating the above regions as formal (ie, 'uniform') units, it is possible to characterize the mix of economic activities of each in general terms:

Regions:	Halifax	Cape Breton	Northern	Southern	Annapolis Valley	Nova Scotia total
% in labor force:[a]	37	28	30	30	31	32
% labor force engaged in:						
Agriculture	01	03	09	06	14	05
Fish&Forest	01	05	07	14	03	05
Mining	—	12	04	—	01	03
Sales	06	06	07	06	05	06
Service	27	11	12	11	23	19
Trans&Comm	06	07	08	08	06	07
Office&Prof	34	22	25	21	20	27
Crafts	19	22	22	25	19	21
Laborers	04 (100%)	06	07	06	06	06

(data from DBS 1961:3.1/15)

This table suggests that the particularly interesting problems posed by the Annapolis Valley region concern (a) its farming system, and (b) its array of service industries; the proposed research will examine both.

Physiographic factors mediate against extensive agriculture in most areas of Nova Scotia. Geologically, the province consists of the partially submerged northernmost end of the Appalachian mountains, much modified by exposure to glaciation and tidal action (cf Goldthwait 1924). Its soils are developed largely on slate, granite, and glacial till, and are generally of low fertility. Trescott notes that "the original vegetative cover (coniferous forest and mixed coniferous-hardwood associations) along with the climatic conditions (high precipitation; long, cold winters and short, cool summers) have produced primarily podzolic soils" (1966:12).

The Annapolis Valley is a physiographic and edaphic exception to these generalizations, being a long (ca. 65 miles) lowland with a width of 2-7 miles, formed by glacial scour and overlying largely sandstone and shale parent material, and lying between the granite- and slate-based South Mountain escarpment and the basalt cuesta which forms the Fundy shore. It is further distinguished by two major rivers, the Annapolis and Cornwallis, the mouths of which open into Annapolis and Minas Basins, respectively (in which 20- and 40-foot tides occur twice daily). The salt marshes and tidal flats of these river-mouths were extensively dyked and cultivated by the first European settlers (the Acadians --vide Clark 1968), and only after English settlement (1760) was the original vegetation extensively cleared or the upper reaches of the rivers inhabited. Soil fertility is high for Nova Scotia, but locally variable according to parent material (weathered sandstone, kame, glacial outwash, and stream alluvium --cf Trescott 1968). The shelter from Fundy weather provided by the North Mountain cuesta produces a relatively mild climate; mean monthly temperatures range from 23 in January and February to 67 in July, and the growing season extends from late May through October.

The substantive problems with which this research is concerned are: (1) the adjustment of the agricultural production system of the Annapolis Valley region to changes in input costs and in the demand-structure of external markets for the region's produce, and (2) the effects of this adjustment upon the population system of the region. During the 25 years since the end of World War II, the farm landscape of Nova Scotia has changed dramatically; in 1951 there were some 24,000 farms recorded by the census, 3,000 of which had incomes of greater than $2,500 from the sale of agricultural produce. In 1971, the Department of Agriculture and Marketing estimated approximately 8,000 total farms, 3,000 of which had incomes of more than $2,500, and 1,000 of which received more than $10,000.

The Annapolis Valley clearly dominates agriculture in Nova Scotia. It presently contains about one-third of farms in the province with annual incomes greater than $2,500, and a considerably higher proportion of those with greater than $10,000 annual income (exact figures are not presently available); the valley's farms are presently reported as producing 98% of the apples marketed in Nova Scotia, 53% of the hogs marketed, 59% of the eggs and 84% of the broiler chickens produced, and containing 75% of provincial vegetable acreage. This domination is increasing as marginal farms in other less-favored parts of the province are abandoned, as Annapolis Valley farms increase in scale and productivity, and as the process of vertical integration in agriculture (Doll et al 1968) continues.

The outlines of the population system of the region can be sketched from published census data, and outcomes of the operation of population processes (fertility, mortality,nuptuality, and migration) can be described at the level of the census subdivision. The following table summarizes the gross population history of the region:

Annapolis Valley Region population totals, in thousands, by county and census subdivision, 1901-1961

		1901	1911	1921	1931	1941	1951	1956	1961	1968 (est)
Annapolis County total:		18.8	18.5	18.1	16.3	17.7	21.7	21.7	22.7	20.6
Subdivision totals:	A	8.1	7.7	7.3	6.3	6.7	9.9	9.2	9.1	
	B	4.7	4.7	4.7	4.6	5.0	5.0	5.0	5.1	
	C	3.3	3.3	3.5	3.2	3.8	4.6	5.1	6.0	
	D	2.6	2.8	2.6	2.1	2.1	2.3	2.4	2.5	
Kings County total:		21.9	21.6	23.7	24.3	28.9	33.2	37.8	41.7	41.4
Subdivision totals:	A	7.6	7.3	8.2	8.7	10.7	13.1	14.6	19.0	
	B	7.0	6.5	6.7	6.3	7.1	7.5	9.3	8.8	
	C	3.0	3.5	4.0	4.3	5.5	6.1	7.2	7.0	
	D	4.4	4.4	4.7	4.9	5.6	6.5	6.8	7.0	
Hants County Subdiv	B	11.8	11.6	11.6	11.3	13.2	13.7	14.6	15.6	(na)

(data from DBS 1961:1.1/10-6)

Changes in migration rates appear to account for most of the decennial variation; effects of the Depression years (during which outmigration declined) are clearly shown, as is the boom of the 1950's, but the pattern of outmigration (particularly of young adults) seems to have reasserted itself in the 1960's. Analysis of annual vital statistics (by county) remains to be completed, but counties consistently have a surplus of births over deaths in spite of a rapidly-declining general fertility rate (DBS 1969:B6,S6).

Among the factors impinging upon operation of the valley's population system are external market changes, major parameters of which can be discussed in general terms at the national level; data are insufficient at present to discuss current changes within the province. There are presently indications of considerable changes in both of the main external markets for Canadian agricultural produce: the United States and Great Britain. Britain's impending entry into the EEC will end Commonwealth preference for some commodities (putting the US and Canada into equal competition for the British market), and relegate others to a residual supply position (due to a variable levy which sets a lower limit on price of grain imported into the EEC). It is not yet clear to what extent and how directly the new international economic policies of the US will affect Canadian agriculture; the recently-abandoned import surcharge (referred to as a "market abnormality --Gifford 1971:24) forced the Canadian government to divert considerable revenue to the stabilization of agricultural returns, and the effects of the removal of the surcharge and the revaluation of the US dollar are only beginning to be felt. Thus, a devaluation of the US dollar relative to the Canadian dollar, or the rise in value of the Canadian dollar, "makes it cheaper to import from the US which enhances the potential of the US as a source of competitive agricultural products" (Anderson 1971:16).

Because the US and Great Britain have so thoroughly dominated Canada's export market (more than one-third of Canada's total agricultural production has been sold to American and British markets), any drastic change in their participation will have wide repercussions. An example will illustrate: the Prairie Provinces produce enormous wheat crops, far in excess of Canadian needs. Wheat has long been Canada's main agricultural export to Britain, under the system of Commonwealth preferences which has restricted US competition in the

British market, but the end of Commonweath preference and the imposition of EEC-protective price barriers has already begun to affect export levels (Elliot 1971:28-9). If new markets cannot be found, it is reasonable to expect that wheat prices will decline, and that wheat production will follow suit. It is also likely that a greater proportion of the wheat crop will go into the manufacture of animal feeds, and that more livestock will be raised in the Prairie Provinces; this will probably have the effect in the Maritimes of depressing the market for Maritime livestock (principally pigs and chickens), since production would be more efficient in the Prairie Provinces:

> So long as wheat production in the Prairies is so much more profitable than hogs, it may be expected that major wheat regions such as Saskatchewan will leave hog production to the eastern provinces. The risk to Maritime hog farmers lies in the possibility that wheat markets may shrink soon and wheat stocks build up again on prairie farms. If they do, expect hog prices to drop below the break-even point in the Maritimes.
>
> ADB (1969:156)

Similar analyses can be carried out for other commodities, and will be important to development of an understanding of the external economic factors operating upon the system of agricultural production in the Annapolis Valley region.