Diversification in the Canadian economy

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DIVERSIFICATION IN THE CANADIAN ECONOMY

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1.0 INTRODUCTION

1.1 Study Objectives

Economic diversification and adjustment has been a critical issue in all parts of Canada for a long period of time. To Quebec, and more recently Ontario, economic diversification means the restructuring of a mature manufacturing sector toward higher growth and more technologically advanced industrial activities. For the peripheral regions of the Atlantic and the West, economic diversification typically means reducing these regions' dependence on resource production through the establishment of secondary manufacturing and higher order service activities.

In response to the growing importance of this issue, the Department of Regional Economic Expansion -- now the Department of Regional Industrial Expansion -- asked DPA Consulting Limited to prepare an overview study of the diversification process in Canada. This document represents the draft final report from this assignment.

As described in the terms of reference, the purpose of this study is to evaluate the extent to which the Canadian economy has become more diversified over the past decade or so, and to assess the economic, demographic, and other factors which are strongly associated with this diversification process. Because of the so-called "westward" shift of the Canadian economy, particular attention is given to diversification trends in Western Canada. Structural adjustments in other regions in Canada are also given some attention. Major emphasis is placed on industrial diversification -- in light of the importance placed on manufacturing in the diversification process -- but attention is also given to developments in the service sector, especially higher order services.

An important feature of this study was the development of a "conceptual framework" to assist in evaluating the extent of Canadian economic diversification. The conceptual framework outlined in Chapter 2 includes discussions of:

- possible definitions of economic diversification
- the different forms that diversification can take, the links between them, and the potential importance of each type
- the economic and demographic forces which could stimulate or impede the diversification process
- the economic indicators typically used to analyse economic diversification, and the strengths and weaknesses of each.

The conceptual framework is developed in relation to the economic conditions and forces prevailing in the Western Canadian economy. While some elements of the framework are also relevant to other parts of Canada, it is not possible to develop a conceptual framework that can be applied equally to all regions. This situation reflects the diversity of Canada in terms of resource base, economic history, population size, and so on.

The conceptual framework is applied to the information base which was developed for this study and to insights gained from interviews in order to identify and evaluate the importance and extent of diversification in the Canadian economy (with particular reference to Western Canada), the major economic forces underlying the diversification process, the differences between provinces and major centres, and the implications for the business community, governments, and other economic groups.

1.2 Study Methods and Limitations

The study methodology included four components:

(1) Review of the literature on diversification, with particular emphasis on Canadian and US sources.

(2) Development of the conceptual framework, as described above.

(3) Collection of statistical information on various aspects of the diversification process in Canada. Statistics Canada sources were used for the most part, along with various provincial sources and private publications. The results of this work are provided in Appendix A.

(4) Interviews with knowledgeable people in various centres across Canada. The people interviewed included DRIE and other federal government officials, provincial government officials, city development officers, and a few business people. A listing of these people is provided in Appendix B. These personal interviews provided further insights -- of a more qualitative nature -- on the diversification process in Canada and helped to identify significant differences between major cities and provinces in the West.

Two significant problems were encountered during the course of this investigation. The first involves the "Manufacturing Shipments To/From" statistical data produced by Statistics Canada in 1967, 1974, and 1979. This data set provides information on manufacturing trade between Canadian provinces, and therefore leads to important insights into import substitution trends and emerging strengths in the provincial manufacturing sectors. Unfortunately, at the time of writing (March, 1982) only total manufacturing shipments (all industry totals) data were available for 1979. These data are used in Chapter 4. The all industry totals provide some useful information, but, of course, these figures obscure

important differences between industries. The potential implications of this limitation and possible solutions for the problem are discussed in the appropriate sub-section of Chapter 4.

Secondly, it must be recognized that only the 10 year census of Statistics Canada provides comprehensive and detailed employment data by province and industry. The annual employment surveys of Statistics Canada have one or more of the following limitations:

- Lack of industry detail: e.g., the Labour Force Survey (Catalogue No. 71-001) and the Estimates by Province and Industry (72-516) cover a limited number of broad industry groupings.

- Partial coverage: the Large Firms Survey (72-002) covers only establishments with 20 or more employees and does not provide employment estimates for agriculture, non-commercial services, and public administration.

- Lack of currency: The Census of Manufacturers (31-203) provides detailed employment estimates by manufacturing industry, but the publication is typically two or more years out of date.

- Data gaps in order to protect confidentiality: all the establishment-based surveys suffer from this problem, which is particularly serious for the less populated/industrialized provinces.

Unfortunately, the detailed employment by province data from the 1981 Census are not expected to be available before 1984 or 1985. Therefore, the Study Team decided to develop its own estimates of employment by industry for 1981. These employment estimates were constructed to be totally consistent with employment data from the 1971

Census. The source material used to develop the estimates consisted of all the annual employment surveys of Statistics Canada as well as employment data from the Dun and Bradstreet tapes[1] held by DRIE Hull. These 1981 employment estimates are described in Appendix A, Table A-12, and notes to this table detail the methodology employed in preparing the estimates.

1.3 Study Outline

The following topics are covered in the remaining chapters of this report:

- Conceptual Framework
- Broader Shifts in the Canadian Economy
- Diversification in the Canadian Economy: More Detailed Analysis
- Implications for the Future.

In addition, Appendix A fully describes the data base used in the study. Appendix B lists the people interviewed during the consultations, and outlines the interview schedule.

This document also includes a bibliography listing all the books, articles, and statistical sources used in our investigation.

FOOTNOTES TO CHAPTER 1

1. However, because of the limitations inherent in the Dun and Bradstreet tape and the need to protect confidentiality, the Dun and Bradstreet employment figures were not used directly, but only as ~~"allocators"~~ surrogate measures to estimate ~~to fill~~ data gaps.

2.0 CONCEPTUAL FRAMEWORK

2.1 Definitions of Diversification

This investigation uncovered a number of possible definitions ~~for~~ of diversification. Three are described and commented upon ~~here~~ below:

Definition 1: Economic diversification is a process by which a regional or national economy reduces its dependence on the jobs and incomes provided by one (or a few) economic activities, by one (or a few) national or international markets, or by one (or a few) major employers.

Comment: This definition is the one that is most commonly found in the literature and was most often noted by the people interviewed during the consultations. As defined in this manner, diversification is typically measured by analyzing changes over time in the industrial distribution of employment (value added, investment, exports, etc.) in a given province or region. Its greatest limitation is that this definition does not explicitly involve comparing changes in one province with changes in others or in the whole country. It is possible, for example, that the structural changes occurring in one province are occurring in other provinces or in the total country, and that compared with a more highly developed province, the province under study remains as concentrated in a relatively few economic activities as at the start of the study period. Therefore, it is argued that the above provides a good definition for structural change, but only a partial definition of diversification. This definition could be viewed as a necessary, but not sufficient, condition for ~~proving~~ demonstrating that diversification is occurring in a provincial or regional economy.

Definition 2: Economic diversification is a process by which the distribution of employment, valued added, etc. in a provincial/regional economy becomes more comparable with corresponding distributions in a more "highly developed" province (called the "benchmark" province) or country as a whole.

Comment: This definition has one serious limitation that is the opposite of the limitation of the first definition. If the "benchmark" province or the country as a whole is becoming more concentrated in terms of industrial structure, becoming "more similar" does not imply greater diversification for the province under study. It is concluded, therefore, that both the first and second definitions of diversification need to be satisfied in order to illustrate that diversification is occurring in a quantitative sense.

Definition 3: The structure of the economy is changing in a manner which is consistent with the broader socioeconomic goals of the province or region under study.

Comment: While there is some confusion on this point, most commentators agree that diversification is not an end in itself, but rather should be viewed as a means to achieve broader socioeconomic goals related, for example, to higher per capita incomes, a broader range of employment opportunities, and greater economic stability. This, therefore, is the broadest definition of diversification because it suggests that diversification, in a quantified sense, (as defined under Definitions 1 and 2) is not sufficient. The diversification must also be supportive of broader goals. Unfortunately, like all "qualitative" indicators, this definition cannot be measured "statistically", but must be assessed based on the judgement of the analyst and other commentators.

In the analysis that follows, all three definitions of

diversification are employed. For example, three questions are posed regarding shifts in the Western Canadian economy:

- Are structural changes occurring?
- Are these changes bringing the West closer to Ontario and the total country in terms of the distribution of economic activity?
- Are these changes supportive of the broader socioeconomic goals held by the region?

It is postulated that positive responses to all three questions are necessary before it can be said that the Western Canadian economy is diversifying in a qualitative sense. The same statement can be made regarding diversification in Atlantic Canada and many parts of Quebec. For Ontario, those parts of Quebec that are part of the Canadian Manufacturing Belt, and, perhaps, for southern Manitoba, the issue is not economic diversification per se. Rather, questions of economic structure involve the restructuring of a mature industrial base toward manufacturing and higher order service activities which are internationally competitive and which offer better growth prospects, higher wages, and more satisfying employment opportunities. These themes are elaborated in the analysis that follows.

2.2 Forms of Diversification

The literature review and consultations indicated clearly that diversification can take a variety of forms, a number of which are overlapping:

(a) Redistribution of employment and value added among broad sectoral categories (primary, secondary, and tertiary).

(b) Diversification within the primary sector, leading to reduced dependence on one or two resource commodities.

(c) Industrial development, involving both expansion

of the manufacturing sector as well as redistribution of manufacturing in favour of higher value added and/or non-resource-based activities.

(d) Expansion of the tertiary and quaternary sectors[1] involving, in particular, the development of higher order services to replace imports and for export.

(e) Development of forward linkages, involving the adding of value to a region's primary goods prior to export.

(f) Diversification based on the development of backward linkages through the supply of goods and services to primary sectors and major resource projects.

(g) Diversification based on replacing imports in consumer markets for both goods and services.

(h) Exports of high technology goods and services.

(i) Attraction of new major corporations and/or the development of an indigenous small business sector in order to reduce the economy's dependence on a relatively few major employers.

(j) Penetration of new national and international markets -- either on the part of existing producers or through new economic activities -- in order to reduce dependence on a relatively few markets.

(k) Diversification in a spatial sense within a province, involving the decentralization of manufacturing industry toward smaller centres (e.g., the British Columbia government's efforts to expand secondary industry outside the Lower Mainland).

In more generic terms, economic diversification can involve either the introduction of totally new activities into a regional economy and/or a more balanced distribution of existing activities. Diversification can

also involve the relocation of existing economic activities from one (typically more developed) region to another region of a country -- which could provide evidence of what some people call "competitive diversification" -- and/or the emergence of an economic structure in the second region which is quite distinct from the economic structure of the rest of the country.

There are important links and overlaps between the various forms of diversification. The development of forward and backward linkages, the realization of import substitution opportunities, and the penetration of new export markets all hold important implications for the distribution of employment and value added among broad sectoral categories, in particular the contribution made by the manufacturing sector to the total economy. Export market diversification and reduced dependence on a few major employers help to provide the greater economic stability needed to foster the small business sector in a less developed region. The "conventional wisdom" is that a strong manufacturing base is needed before higher order services can emerge in a regional economy. However, there is evidence today that the "export" of consulting engineering, construction contracting, and other services can act as a forerunner for the export of industrial machinery and equipment.

What evidence?

Some forms of diversification could also be in conflict. The implementation of import substitution programs could lead to a higher cost regional economy and, thus, detract from the international competitiveness of exporting activities. The attraction of outside-controlled manufacturing firms can introduce new activities to a region, but the spin-off benefits in terms of research and development, supply contracts for local firms, etc. are often smaller than in the case of locally-owned operations.

The importance given to different forms of diversification tend to vary over time and with the jurisdiction under study. However, the following general comments can be offered in this regard:

- The development of forward linkages (sometimes called valued added processing) has long been a cherished goal of Canadian governments, but in recent years nearly equal weight has been given to the encouragement of backward linkages, especially in relation to the megaprojects.

- In the past, greater weight has been given to industrial diversification than to the role of the service sector, but in recent years the latter has been given greater prominence as seen in government efforts related to tourism, computer communications, consulting engineering, etc.

- Because of the dominance of the American market in Canada's export sales, export market diversification has been a paramount goal of the trade development efforts of the federal government and latterly of many provincial governments.

- Nearly all governments in Canada have programs in place to encourage manufacturing expansion in secondary centres.

It is not possible to say more about the relative importance of the different forms of diversification without recourse to the data.

To the extent allowed by the available information, all these forms of diversification are measured and analyzed in the following two chapters, and an attempt is made to evaluate their relative importance in relation to the

diversification process itself and the contributions made by diversification to the achievement of broader socioeconomic goals, especially in Western Canada.

2.3 Advantages of Economic Diversification

Underlying the efforts of many provincial governments to diversify their economy are the many advantages that diversification is postulated to provide.

1. A more diversified economy is presumed to reduce economic vulnerability and to enhance local control through reducing a province's/region's vulnerability to demand fluctuations in one or two national or international markets and to the decisions of one or two major corporations (which are often controlled by outsiders). In addition, a strong industrial base diminishes a region's dependence on outside suppliers.

2. It is thought that because of the relatively low income elasticities associated with most resource commodities and primary manufactured goods and because of the fairly small linkage effects provided by many resource activities, a more diverse economy offers higher growth prospects over the longer term. This means an expanded population and political base for provincial politicians and a larger market to support local market oriented manufacturing and service firms.

3. A more diverse economy provides the opportunity to expand the employment and value added generated by a region's resource base.

4. In Alberta and, to a lesser extent, in Saskatchewan the development of an expanded manufacturing and service sector base is thought to be necessary in order to provide a replacement for the employment and the provincial taxes generated by conventional oil and

gas when these reserves run out in the 1990's. These two provincial governments are looking toward an expanded industrial base to absorb the surplus labour made available by cutbacks in the non-renewable resource sectors.

5. Industrial diversification is viewed as an important instrument for supporting the economic development of medium-sized centres (Brandon, Moose Jaw, etc.). Resource development, because of its location-specific nature, and higher order services, because of their attraction to larger urban centres, do not offer the same potential.

Economic development theory and regional science have postulated for a long time that an expanded industrial base and service sector is an essential prerequisite for the achievement of larger populations, expanded production, and higher living standards in a country or region. This thesis is based on the presumed relationships between industrial development, productivity, per capita incomes, and urbanization. These linkages include the following:

- Manufacturing and service sectors possess higher productivity levels and, therefore, offer higher per capita incomes than the primary sectors.

- An expanded manufacturing sector is necessary to the growth of major urban centres which, in turn, provide an expanded and more concentrated market for the development of local market oriented manufacturing and higher order service activities.

- Large and expanding urban centres are needed to attract the financial and business services, metal fabricating firms, and other "support" activities that are viewed as important to the attraction of

outside industry and the development of an indigenous manufacturing base.

- Large metropolitan areas provide agglomeration economies which generate higher productivity and per capita incomes and, therefore, even larger local markets.

These relationships between industrial development, urbanization, productivity, and per capita income have been documented in general terms in many previous studies. However, the direction of causation is questioned by many authors and there are many important exceptions to, for example, the presumed positive association between per capita income and the importance of secondary manufacturing in a regional or national economy. Western Canada, many American states, Australia, New Zealand, and Denmark all provide examples of economies that provide a reasonable standard of living for their citizens without a dominant secondary manufacturing sector. Perhaps more importantly, it can be argued that events of the past decade have negated many of the presumed advantages of a more diverse economy and an expanded industrial base. The resource commodity boom of the early to mid 1970's greatly strengthened the prices of primary commodities; most commentators believe that world prices of resource commodities will continue to move upward in relation to most manufactured products. At the same time, fierce competition from developing countries in a growing number of product lines is forcing many commentators to question whether Canada or many other developed nations hold a comparative advantage in secondary manufacturing over the longer term. Nonetheless, an expanded industrial base still holds a strong appeal for many provincial politicians, especially in the West.

This strong appeal reflects, to an important degree, the economic conditions and prospects that prevailed in many

parts of Western Canada at the start of the last decade (which, incidentally, is the time when the Lougheed and Blakeney governments were first elected). Because of the resource boom enjoyed by the West for the past ten years, it is easily forgotten that the economic prospects of Western Canada appeared quite bleak in 1970. Prices and markets for almost all the West's resource commodities (grains, other foodstuffs, potash, uranium, and other metals) were seriously depressed. The British Columbia economy remained highly vulnerable to fluctuations in a few forest product markets. For Manitoba, the prospects for further resource development -- with the possible exception of hydroelectric power -- were very limited. The major concern in Alberta was that the conventional oil and gas industry appeared to have moved from the exploration and development phase, which generates most of the jobs, to the mature production phase which is highly capital-intensive. The major oil companies had moved most of their exploration activities to the North and to the East coast of Canada. The resource boom of the 1970's was predicted by very few people. To many westerners, prosperity based on resource development has been a relatively "fleeting" experience in the past, and there is little reason to believe this resource boom will be any different. This feeling of vulnerability, drawn from historical experience, provides the essential foundation for the desire for economic diversification held by nearly all parts of Western Canada. This same feeling is shared by other parts of the country outside the Canadian Manufacturing Belt.

2.4 Dangers of Diversification

The advocates of economic diversification often forget the many dangers and potential costs of a successful diversification program. The major danger of economic diversification is that it can move national and regional economies away from their areas of comparative advantage.

This, in turn, can result in higher cost production, reduced national efficiency and output, and decreased international competitiveness. Diversification -- or "province-building" -- programs can also result in reduced provincial output to the extent that all -- or the majority of -- provinces implement diversification programs in order to counteract the gains accruing to any one province. (Similar to international trade, retaliation by other provinces would negate the initial benefits received by the provinces that are in the arena first.) Related to the above, the fragmented production resulting from diversification would prevent a national or regional economy from realizing the economies of scale that are important in many manufacturing product lines.

A related danger is that the "infant industries" supported by tax incentives and subsidies under a diversification program may never grow up (a problem that appears to have occurred often in Canada). This could be a particular cause for concern for Alberta and Saskatchewan when the royalties from conventional oil and gas begin to run out. At that time, when the province's fiscal capacity is diminishing, there may be political pressure to reduce incentives and subsidies to industry in order to maintain other provincial programs. If these industries are not ready to stand on their own feet, the employment they provide could be decreasing at the same time as employment reductions are occurring in the resource sectors.

Diversification can also lead to important social costs. A successful diversification program could force many members of the work force to change occupations, learn new skills, or migrate to a larger centre. For many people, the social costs of these changes in lifestyle far outweigh the higher lifetime earnings that could result. In broader terms, insufficient attention is typically given to the distribution among social groups of the costs and benefits of diversification. It is possible that this

distribution could run counter to the province's broader goals regarding the distribution of income among different groups. Norrie and Percy, of the University of Alberta[2], have done some initial work on this question in relation to Alberta. Their preliminary findings suggest that people involved in the urban real estate market would be the major beneficiaries of a diversification program, while the province's agricultural sector would suffer a disproportionate amount of the costs. The latter situation would reflect the higher wages that farmers would have to pay for farm labour, the higher costs of farm inputs, and the inflated costs of agricultural land in response to growing competition from urban land uses. Norrie and Percy are currently conducting further work on this most interesting subject.

2.5 Forces Underlying the Diversification Process

The review of the literature and the interviews uncovered a number of hypotheses regarding the economic and demographic forces which are either supporting or constraining the diversification process in Western Canada. A number of these are also important to diversification elsewhere in Canada, but, for the reasons noted earlier, it is not possible to construct a set of factors that are equally relevant to all parts of the country. The forces identified by the Study Team are summarized in Exhibit A. The remainder of this sub-section discusses attributes that are common to a number of these factors.

It is interesting that the literature and interviews offered as many hypotheses in support of the diversification process in the West as hypotheses which involve constraints to Western economic diversification. Exhibit A presents a picture of a wide range of economic and demographic forces pulling in opposite directions. These hypotheses will be tested in the statistical analysis which follows in Chapters 3 and 4. In the

EXHIBIT A: POSSIBLE FORCES IMPACTING THE DIVERSIFICATION PROCESS IN WESTERN CANADA

Possible Factors Supporting Economic Diversification in Canada

1. The markets for machinery, equipment, and other goods and services offered by the many major projects now under construction or consideration.

2. Expansion and concentration of the Western Canadian market as exhibited by increasing populations, per capita incomes, and urbanization. These factors provide the agglomeration economies that are considered so important to the development of secondary industry and higher order services.

3. The industrial development policies and programs of federal and provincial governments as evidenced , for example, by Alberta's support of petro-chemical development and the industrial development subsidiary agreements signed with a number of Western provincial governments.

4. The expanding trade and other economic linkages among Western provinces, and between the West and other regions and countries.

5. The growing participation of Western urban centres in the Canadian and North American network of cities (as exhibited by the increasing flows of people, information, technology, ideas, and investment between Western and Central Canada).

6. Strong international prices (over the longer term) for many of the West's resource products.

7. The westward shift of the American economy, which is expected to continue for the foreseeable future.

8. Good investment climate in Western Canada, as exhibited by business oriented provincial governments in most provinces.

9. The emergence of an innovative small business sector in Western Canada, a higher degree of entrepreneurship relative to other parts of the country, and a generally more optomistic outlook regarding the future.

10. The trend for major Canadian corporations to decentralize many functions, e.g., marketing, service and repair, some financial decision-making.

... continued

EXHIBIT A: POSSIBLE FORCES IMPACTING THE DIVERSIFICATION PROCESS IN WESTERN CANADA (continued)

11. The beginnings of the "matrix" of metal fabricating, business service, and other "support" firms required to support the development of an efficient industrial sector.

12. The recent advances in computer communications and related technologies which greatly facilitate the decentralization of manufacturing production, corporate decision-making, and other business functions.

13. Expanding financial and economic power of Western Canada, as exhibited by a number of provincial crown corporations, the two Heritage Funds, the growth in head office functions, and the emergence of Western controlled banks and financial intermediaries.

14. The potential capability of Alberta -- and, to a much smaller degree, Saskatchewan -- to provide production input (e.g., natural gas feedstock for the petro-chemical industry) at below market prices, and to provide subsidies and tax incentives to both buisinesses and workers.

15. Competitive energy prices and relatively abundant supplies of most forms of energy (e.g., natural gas in Alberta and BC, hydro power in Manitoba and BC)>

Possible Constraints to Western Diversification

1. A market which is still too small and dispersed to efficiently support the production of many consumer goods.

2. The West's distance from major North American and world markets and the Prairies' land locked location.

3. High wage rates, housing prices, and prices for industrial land, which are well above the Canadian (and North American) norms.

4. Shortages of skilled labour, entrepreneurial and managerial talent, professional and technical services, and other key production inputs.

5. Import tariffs on intermediate inputs as well as other trade barriers and transportation impediments facing Western producers. It is postulated that these

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EXHIBIT A: POSSIBLE FORCES IMPACTING THE DIVERSIFICATION PROCESS IN WESTERN CANADA (continued)

constraints particularly hinder the West's efforts to add value to its resource commodities prior to export.

6. Declining Canadian tariffs on secondary manufactured goods as a consequence of the recently completed Multilateral Trade Negotiations (MTN).

7. The character of the West's traditional resource sectors which typically are highly capital intensive (and, therefore, support only a limited population base) and provide fairly meagre forward and backward linkages.

8. Import-substitution programs of provincial governments which tend to fragment the Western market and thereby prevent the realization of economies of scale on a regional basis.

9. The recent emphasis placed by the provincial and federal governments on resource revenue and constitutional issues at the expense of problems and opportunities in the industrial sector.

10. The emphasis given in national manufacturing policies to Canada's less competitive manufacturing sectors (largely concentrated in Central and Atlantic Canada) instead of to Canada's emerging industrial strengths and opportunities located throughout the country.

11. Canada's foreign investment legislation and regulations (FIRA, NEP, etc.) which, it is postulated, dampens the inflow of foreign capital necessary to realize the highly capital intensive projects typical of Western Canadian development.

12. Foreign ownership of many of Western Canada's resource sectors hinders the development of forward linkages as well as the establishment of research and development and other ancillary activities.

13. Inertia on the part of corporate decision-makers, reflecting a desire to protect under-utilized capacity in Central Canada or stay close to a corporate parent in the United States.

14. Central buying practices of retail stores based in Central Canada.

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EXHIBIT A: POSSIBLE FORCES IMPACTING THE DIVERSIFICATION PROCESS IN WESTERN CANADA continued

15. Slow growth in the national, American, and world economies in recent years, and the low utilization of industrial capacity in Ontario and Quebec (there is little incentive to establish a new plant in the West when you have unused capacity in Central Canada).

16. Rapidly expanding competition from lesser developed countries in many manufactured product lines.

17. Canada's currently very high interest rates act as a serious impediment to the new business formation which is important to economic diversification in a less industrialized region.

18. The West's relatively harsh climate (in most locations) which makes it difficult to encourage the location of the more footloose manufacturing activities attracted by a high level of amenities.

19. Growing uncertainties regarding the timing and phasing of the mega-projects. Because of the lumpy nature of these major investments, mega-projects do not provide a stable market for suppliers of manufactured products and services.

meantime, some preliminary thoughts can be offered, based on the literature and consultations.

Diversification and Economic Theory. As is perhaps too familiar in economics today, economic theory either supports or argues against the diversification of the Western Canadian economy, depending on the school of economic thought to which one subscribes. It essentially depends on which of the forces displayed in Exhibit A is given greatest weight by the analyst. Neo-classical economic theory suggests that economic diversification cannot be expected to occur during the kind of resource boom experienced by Western Canada over the past decade. A neo-classical economist would suggest that the higher

wage, land, and other factor costs, and the adjustments in commodity and factor flows between regions would discourage the development of an expanded secondary manufacturing sector and would leave the West even more dependent on resource sector activities. Norrie and Percy[3] argue this case quite persuasivley in their Economic Council monograph. They use international trade theory and a two region model to evaluate, under a variety of assumptions, the adjustments between the West and Central Canada in factor prices and industrial structure resulting from a resource boom in Western Canada. Under all hypotheses, the market adjustments result in a large manufacturing sector in Central Canada and a greater concentration on resource activities in the West. The interested reader is encouraged to refer to the Norrie and Percy monograph for further elaboration of their arguments.

On the other hand, a regional science practitioner would place greater emphasis on the positive forces in support of the diversification process in Western Canada. His/her thesis would include the following arguments:

- For many manufacturing activities and higher order services, the Western market, in terms of population size, total consumer expenditures, and market concentration, has passed the "threshold size" required to generate the economies of scale required in many production lines.

- The West's largest metropolitan centres now provide the "agglomeration economies" that previously were offered only by the metropolitan areas in the Windsor to Quebec axis.

- Rising commodity prices, increasing transportation costs, and the growing importance of "security of supply" are substantially altering the economics of

location of many primary manufacturing activities in favour of a Western Canada location.

- The matrix of "support" activities required to encourage manufacturing development is now beginning to emerge in Western Canada.

To summarize, the neo-classical economist would place greatest emphasis on the adjustment mechanisms associated with the operation of competitive markets, while the regional scientist would focus on market thresholds, discontinuities, urbanization, industrial structure, government policy, and other "non-market" forces. The view of the Study Team is that both bodies of thought offer useful insights and hypotheses that should be tested in assessing the diversification process[4].

Diversification and Government Policy. Exhibit A provides examples of government policies and programs which are both supportive of and constraints to economic diversification in Western Canada. This makes it difficult to determine whether, on balance, government policy is a positive or negative force in Western diversification. However, the following thoughts are offered for consideration.

- Many analysts believe that the effects of freight rates and trade barriers have been exaggerated and that more fundamental economic forces related to location, market size, the West's late economic development, etc. are the main reasons for the region's failure to develop a strong secondary manufacturing base.[5]

- Related to the above, the Saskatchewan government[6] feels very strongly that the removal of the Crowsnest Pass Rates and the corresponding negation of the current freight rate differential between grain and

processed grain products will not result in a substantial expansion in value added processing of agricultural products in Saskatchewan and other Prairie provinces. On the contrary, it is argued that dropping the Crowsnest Rate could hurt Prairie diversification to the extent that the consequent reduction in net farm incomes will contract the market available to local-market oriented manufacturers and service operations.

- Federal incentive programs and industrial subsidiary agreements have been helpful, but have been used mainly to support indigenous industry rather than to relocate manufacturing firms from Central Canada or to attract larger foreign investments in industrial pursuits.

- The efforts of federal trade negotiators to lower trade barriers to the export of higher value added resource commodities have been strongly resisted by our trading partners. Nonetheless, it is not clear whether Canadian producers or producers in lesser developed countries would be the major beneficiaries of lower trade barriers for primary manufactured goods in Japan and the European community. Lower wage rates, easier terms, greater financial incentives, and a desire to support their balance of payments positions could tip the scales in favour of the developing world.

- Foreign capital is needed to support highly capital intensive projects. On the other hand, foreign owned firms appear to provide fewer spin-off benefits than locally owned companies. It can be concluded that the effects of federal foreign investment policy on Western diversification, while difficult to determine precisely, are probably minor.

- Economic diversification and industrial development play a prominent role in the economic policies of all four Western provincial governments, but to date all governments have acted cautiously in implementing programs. With the exception of petro-chemical development, the Alberta government's support of industrial development has been circumspect, despite the financial resources provided by the Heritage Fund. Considerations of long-term rate of return and the inflationary pressures that would be caused by additional major investments have played an important part in Fund management. In Saskatchewan greater emphasis has been placed on diversifying the province's primary sectors through, for example, the operations of the Saskatchewan Potash Corporation and the Saskatchewan Mineral Development Corporation, than on expanding the province's limited manufacturing base. In British Columbia and Manitoba, economic diversification efforts have been circumscribed by a limited fiscal capacity and, perhaps, by political philosophy (a factor that may have altered in Manitoba in recent months). In all four provinces, there appears to be some recognition of the dangers of "inefficient" diversification and of Canada's past failures in force-feeding industrial development.[7]

These and other considerations suggest that while the overall influence of government policy is difficult to determine, there may be a tendency to exaggerate its overall importance. Therefore, while policy considerations are given some weight in the following analysis, greater emphasis will be placed on market considerations and other economic forces in attempting to explain the diversification process in Western Canada and structural adjustments in other parts of the country.

Traditional Versus Emerging Forces. Exhibit A displays a number of apparent inconsistencies in attempting to explain the many forces impacting the diversification process in Western Canada. For example, on the one hand, the Western market is viewed as too small to support many secondary manufacturing activities; on the other hand, growth in market size and concentration is considered a positive force. These apparent inconsistencies can be partially resolved by dividing these factors into traditional forces that have historically constrained the diversification of the Western economy and new emerging factors which, on balance, appear to be supportive. Whether the traditional or emerging forces are dominant varies with the commentator and with the industry and location under study. However, the following general comments can be offered.

1. The Canadian population is shifting westward in terms of population, production, personal income, and other indicators. However, this shift is occurring quite slowly and it will be many years (if ever) before the West surpasses Central Canada in market size.

2. Agglomeration economies are probably expanding in Western Canada. However, compared with the Windsor to Quebec axis, Western Canada's metropolitan population is still quite small and highly dispersed. To cite one indicator, Table 14 in Appendix A indicates that the West's metropolitan population grew at a much faster rate between 1971 and 1981 than the metropolitan population of Ontario, although the absolute increases in metropolitan populations were comparable in Ontario and the West. Furthermore, Ontario's metropolitan population is still 60% greater than that of the West. When the greater size is added to greater population concentration and proximity to major American markets, it is argued that Central

Canada remains the most attractive location in the majority of product lines in which market size will efficiently support only one Canadian plant.

3. Even when market size and the economics of location shift in favour of the West, there can still be a considerable lag before production facilities follow. This situation reflects the substantial costs of plant relocation, the reluctance to adandon paid-up capital facilities, and simple inertia.

4. High freight rates on out-bound traffic have long been considered an impediment to industrial diversification in the West. Now, with the expansion in the Western market, rising transportation costs could be viewed as a form of protection which could encourage the development of Western-based production facilities to serve provincial and regional markets.

The current period, therefore, could be viewed as a time of transition in which the traditional impediments are losing their old strength and/or are being slowly engulfed by newer, more positive forces. However, important questions remain regarding the length of this transition period and what it means for particular activities and localities. As well, neo-classical theory suggests the emergence of new impediments to economic diversification in the form of labour shortages, high wage rates, and high costs of industrial land.

The Growing Economic Power of Western Canada. A new element in the equation is the growing economic and financial power of the West. This power is evidenced by the establishment and operation of the two Heritage Savings Trust Funds; the willingness of provincial governments to use their regulatory powers and "moral suasion" to influence development and the ownership structure of private business; the emergence of an

aggressive entrepreneurial class in the West; the transfer of head office functions to the region, especially to Calgary; the development of Western owned and controlled banks and other financial services and the resulting transfer of financial authority to the West on the part of major Canadian banks; the emergence of Calgary as the second most important financial centre in Canada. However, it is not clear what role this power will play in the future diversification of the Western economy.

As noted earlier, the provincial governments have been quite conservative in using their financial and regulatory powers to support broadly based industrial diversification. The transfer of head office functions to the West has stimulated the establishment of research and development facilities, and should improve the opportunities offered to regional suppliers. Nonetheless, in the final analysis, research facilities will be established and regional suppliers utilized, only if it is economic to do so.

The West's home-grown entrepreneurs are largely associated with oil and gas, other resources, construction, and urban real estate. Western owned banks and greater decision-making authority in the region provide local businessmen with greater choice and improved access to debt financing. Improved access to funds should facilitate Western development, but will not substantially alter the economics of location of secondary manufacturing and other activities. As stated by one of the people interviewed, the "big deals" will continue to be made in Toronto and New York.

To summarize, the West's growing economic muscle will be a positive force in the growth in the Western economy in the years ahead and will remove many of the frustrations felt by Westerners in the past. However, it is not clear whether this strength will be used to diversify the

Western economy or to further concentrate the region's economic structure on the resource sectors that have been so profitable in the recent past.

Differences Among Western Provinces. It should be emphasized that these forces do not operate with equal strength in all four provinces. To cite some of the more important examples:

- Manitoba is not suffering from high wages, housing prices, industrial land costs, etc. compared with other parts of North America. On the contrary, Manitoba is viewed as highly competitive in these and similar location factors.

- Distance from major North American and world markets is a more serious constraint in some parts of the West than others. Manitoba offers fairly good access to the American mid-west markets of Minneapolis-St. Paul and Chicago. Vancouver is very close to the growing market offered by the Pacific Northwest of the United States and its ports provide access to the markets of the Far East. In terms of market access, the land-locked provinces of Alberta and Saskatchewan are in the least advantageous location.

- Among the three most westerly provinces, high wage rates appear to offer the greatest constraint to the attraction of secondary industry in the case of British Columbia. For Alberta and, to a lesser extent, Saskatchewan the provinces' fiscal capacity is being used to mitigate the effects of market forces. For example, Alberta, because of its oil and gas royalties, is able to provide a high level of government services and still maintain the lowest corporate and personal tax rates in Canada. This allows business people to offer workers a lower before-tax wage than would otherwise prevail.[8]

- Among the four provinces, only Alberta and British Columbia have enjoyed steady growth in population and the provincial market. The Manitoba population has experienced almost no growth over the past five years or so while the Saskatchewan population suffered a major decline in the later 1960's and early 1970's, and exceeded previous high levels just recently.

- Some of the West's resource industries have provided forward or backward linkages, as evidenced by the pulp and paper, sawmill, and plywood industries in British Columbia and the oil and gas service industry in Alberta. However, the spin-off benefits have varied greatly between provinces -- for example, the linkage effects from Saskatchewan agriculture and from hydro development in BC and Manitoba have been very limited -- and all provinces feel that the benefits from resource development have been much less than they should have been. Moreover, it is not apparent that some of the emerging resources, such as coal, will provide significant forward or backward linkages. This situation especially impacts the three most westerly provinces.

- Only Alberta has the fiscal capacity to influence the location decisions of firms and workers. As well, the four provincial governments differ somewhat in terms of their economic philosophies and their approach to development.

- Some parts of the West offer a better climate and a higher level of amenities than others. It is argued that Vancouver and Calgary may be in the best positions to attract the more footloose high technology industries.

Throughout Chapters 3 and 4 differences between the

Western provinces in terms of economic structure and diversification will be evaluated.

Relevance to Other Regions. As noted earlier, some of the same factors are relevant to other regions of Canada. To cite an example, the diversification process in the Atlantic Region is supported by:

- the expanding economic linkage between regions in Canada
- the development of more agglomeration economies as exhibited by the increase in urbanization and especially the emergence of Halifax-Dartmouth as a regional centre
- the trend for major Canadian corporations to decentralize many functions
- the recent advances in computer communications and related technologies.

Similarly, diversification in the Atlantic Region is potentially constrained by the Region's small and depressed market, the central buying practices of retail stores based in Central Canada, and the rapidly expanding competition from the LDC's in many product lines.

Other factors are also relevant, but operate in the opposite direction. For example, the westward shift of the American economy acts as a potential constraint to Atlantic diversification, while economic theory suggests that the Atlantic's below average wage rates, housing prices, and industrial land prices should help attract manufacturing firms and other labour intensive activities to the Atlantic provinces. Some writers have suggested, however, that the wage rate differential between the Atlantic and other parts of Canada is not sufficient to offset the disadvantages of an Atlantic location. Table 1 in Appendix A indicates that average weekly earnings in manufacturing and all industries combined in the Atlantic moved closer to the corresponding Ontario figures and

the national averages over the past 10 years, despite the continuation of high unemployment in the Region.[9] For example, in 1971, average weekly earnings in manufacturing in the Atlantic were 27% below the Ontario figure, but by 1981 the differential had closed to 16%. Wage differentials between Quebec and Ontario also closed significantly over the 1971-81 period.

Commentators have suggested that the tendency for wage differentials to close between the less developed and more industrialized parts of the country reflects three factors:

- the decentralization of the federal public service, which pays the same wages in a given occupational category throughout the country
- the emergence of national bargaining in many major industries (transportation, mining, the public service)
- minimum wage legislation which results in minimum wages that are fairly comparable across the country.

These examples serve to point out the difficulty of developing a set of "generic" forces underlying the diversification process that would be equally relevant to all parts of Canada. In assessing structural changes and diversification trends in other parts of the country (i.e., outside the West), some of the factors listed in Exhibit A will be noted, but other considerations will also be introduced where appropriate. These considerations will be based on the literature review, the consultations, and previous work conducted by members of the Study Team.

2.6 Indicators of Diversification

In reviewing the indicators to be employed, the first issue to be addressed is the measure (employment, value added, etc.) to be used. Normally, structural changes in

an economy are assessed in terms of percentage changes (or some variant) in the structure of employment or of value added. Both measures have their strengths and weaknesses.

Employment is viewed by most commentators as a reliable measure of the overall health and structure of a provincial or national economy. As well, employment figures are generally available for a large number of industries at the provincial level. On the other hand, employment may not provide a reliable guide to the "income earning" capabilities of a particular economic sector when comparisons are made across provinces. For example, if a given activity makes a larger contribution to total employment in one province over another, this may not reflect differences in relative importance in terms of income generating capacity, but rather it may reflect lower sectoral productivity in the first province compared with the second. Similarly, for a particular economic activity, employment may grow faster in one province relative to another, not because of inter-regional shifts of production facilities, but because of slower productivity changes in the first province relative to the second. The strong employment gains enjoyed by most service activities in recent years reflects not only the higher income elasticities for services relative to manufactured products and primary goods, but also the lower productivity growth experienced by many service industries. Accordingly, in assessing structural changes based on the distribution of employment, the potential role of productivity growth differentials between sectors and provinces should be kept in mind.

Value added, measured on a sectoral basis, captures the effects of productivity differentials between sectors and provinces, but offers its own problems to the analyst:

- Statistics Canada publications do not offer detailed estimates of value added for many economic sectors,

especially the service sectors. This reflects the difficulties in estimating value added in many service activities, especially government and the non-commercial services. As a consequence, it is easier for the analyst to build a comprehensive, consistent, detailed, and up-to-date data set based on employment than on value added.

- For many provinces and economic activities value added contains a significant amount of income that is earned by factors of production and economic groups that are resident outside the province. This is especially true for the resource activities and many manufacturing activities. It reflects the flow of profits, interest payments, and dividends to out-of-province owners, and corporate income and other taxes which accrue to the federal government. In these instances, value added would tend to exaggerate the relative importance of a given economic activity in generating income and wealth for the residents of a province, and in providing a market for other economic activities.

- Value added poses difficult problems as to whether to use current or constant dollar values. Current dollar values incorporate the effects of inflation and, therefore, exaggerate growth and changes over time. On the other hand, estimates of real domestic product are typically developed by applying deflators specific to the sector and province. This provides a reliable measure of changes in the <u>volume</u> of production, but totally removes the effects of shifts in the terms of trade between provinces and regions. Some analysts believe that shifts in the terms of trade in favour of the West are an important factor in explaining the West's recent growth and prosperity (and the strong negative feelings that have arisen in other parts of the country). A compromise solution

is to apply a more general deflator (e.g., the implicit pure deflator for the GNE) so that terms of trade effects between provinces and sectors are fully incorporated into the data set. Because of time constraints, this was not attempted here, but it should be considered for further work. Instead, both current and constant dollar measures of value added were employed and compared in the analysis provided in Chapter 3.

In Chapters 3 and 4, both value added and employment are utilized in evaluating diversification trends across Canada. However, greater emphasis is placed on employment because of the greater industry detail provided in Statistics Canada and other publications. Other measures (value of production, value of manufacturing shipments, exports, etc.) are also employed on a selective basis. These are discussed in the analysis of indicators that follows.

The most familiar indicator of diversification used by analysts involves changes over time in the percentage distribution of employment, value added, or some other economic aggregate. It is postulated, for example, that a region is diversifying if the percentage of employment accounted for by secondary industry is increasing over time. The major advantages of this indicator are its simplicity and the relative availability of the data required for the computations. Its major disadvantage is that it ignores developments in the total country and/or in the most developed or industrialized region of the nation. As noted earlier, the literature suggests that diversification trends in a less developed economy are best measured against benchmarks such as the structure of the total national economy or the most highly developed region. For example, if the percentage contribution of secondary industry has grown equally in the province under study and the total country, most analysts would

question whether the province had truly become more diversified. Comparisons across provinces can be used, but they will provide ambiguous answers. Accordingly, it is concluded that changes over time in the percentage distribution of, for example, employment, while providing a good indication of structural change in a regional economy, provide only a partial indicator of diversification.

Regional scientists[10] have developed a number of indicators which attempt to address this problem. Perhaps the most popular is the location quotient. It is an instrument for comparing a region's percentage share of a particular activity with its percentage share of some basic economic or demographic aggregate. For example, if a region accounts for 20% of national employment in the manufacture of industrial machinery, and the region's share of the total national population is 10%, the region's location quotient (with population as a base) for industrial machinery would be 2.

A number of different bases or demoninators can be used to compute location quotients: total personal income, total employment, population, area, and so on. Location quotients are typically used to categorize a region's economic activities between exporting and importing industries. It is postulated, other things being equal, that a quotient greater than 1 is indicative of an exporting activity for a specific region, while a value less than unity suggests an activity in which a significant proportion of regional consumption is being satisfied through imports from other regions or countries. When computed at different points in time, the location quotient can be used as evidence of diversification or concentration trends in a regional economy. If over time the number of industries with quotients above unity shows a significant increase, this can be used as evidence of diversification of a region's export base. In addition, if

the quotients of a number of industries with values below 1 move closer to unity, this would suggest success in developing import competing activities in the region.

The major advantages of the location quotient technique are that the quotients are comparatively easy to compute and understand, and can be calculated from readily available data. However, the technique also has several limitations as a device for categorizing industries and evaluating diversification trends. Differences between regions in location quotients may not reflect differences in exporting performance and import patterns, but rather one or more of the following:

- regional differences in tastes and expenditure patterns in households of the same type and income
- differing income levels in households
- regional variance in production practices (including labour productivity)
- regional variance in industrial mixes. For example, a region's quotient in transportation services may be well above unity not because the region is a net exporter of transportation services but rather because other industries in the region are heavy users of these services.

The final constraint is that the technique essentially assumes a closed economy, a condition that is clearly violated in Canada. For a Canadian industry that is heavily export oriented (e.g., pulp and paper), nearly all regions could be net exporters. In this instance, a quotient less than 1 is not indicative of an importing activity, but of an export sector of more modest size than in other regions of Canada.

In spite of these limitations, the location quotient can be a useful device when used with care in conjunction with other information. Analyzing changes in quotients over time can provide particularly useful evidence of

diversification and concentration trends in the structures of different regional economies. Because the limitations described above operate with about equal force at different points in time, they offer more serious impediments to cross-industry and cross-regional comparisons at a given point in time than do comparisons over time in a given region and economic activity.

Location quotient analysis, using population as the base, is employed extensively in Chapter 4. Population is thought to be the appropriate base when the focus is on more balanced per capita distribution of economic activities (an objective of Western provincial governments) and the potential development of import competing activities (termed "competitive diversification" by some commentators). The use of population as a base allows the analyst to take full account of inter-regional shifts in population. The analyst is, therefore, using location quotients to ask the question: to what extent are the structural changes occurring in the Western economy greater than what would be expected based on population shifts alone? This, in our view, is a more complete test of diversification than the analysis of percentage changes in the distribution of employment.

Regional scientists have developed other indicators which use essentially the same data set as location quotients. Some of these are used on a selective basis in Chapter 4. The coefficient of localization provides a measure of the relative regional concentration of a given industry compared to some national magnitude such as population, land area, total or manufacturing employment, or income. The indicator involves a comparison of the percentage distribution by region of employment in the given industry with the regional percentage distribution of the base magnitude, for example, total population. (Appendix A provides sample calculations for this and a few other indicators discussed below.) The limits to the value of

the coefficient are 0 and 1. If the industry under study were distributed exactly the same as the base magnitude, the value would be 0. In contrast, if the entire industry were concentrated in one small region, the value would approach unity. Accordingly, coefficients computed at different points in time for the same industry would indicate whether an industry was becoming more or less regionally concentrated over time.

One variation of the coefficient of localization is the coefficient of redistribution. This involves a measure of the differences between two distributions of the same phenomenon taken at different points of time. For example, for two census years, the percentage distribution of employment in the industrial machinery industry could be compared. Using one percentage distribution as the base, the deviations of the other percentage distribution could be calculated. The value of the coefficient of redistribution varies from 0 (no redistribution) to unity (complete redistribution). Cross-industry comparisons can be made to discern which industries show the greatest tendency toward redistribution among regions over the period under study.

The coefficient of specialization uses essentially the same data set as the coefficient of redistribution, but focuses on the industry structure of a given region compared with some benchmark, for example, the total country or a region (province) that is viewed as more developed. For example, the percentage distribution of employment by industry in Western Canada could be compared with the corresponding distribution for Ontario. The coefficient of specialization would be computed from the deviations between the Western Canada and Ontario distributions. Again, the limits to the value of this coefficient are 0 and 1. If Western Canada had a proportional distribution of industry that was identical to Ontario's the coefficient would be 0. If all

employment in Western Canada were concentrated in a single industry, the coefficient would be 1. Accordingly, computations of this coefficient at different points in time would indicate whether the structure of the Western Canada economy was becoming more or less similar to the Ontario economic structure. The literature and the traditional development goals of the Western provinces would suggest that this could be an important test of diversification in the West and in the other "peripheral" areas of Canada.

Corresponding to the coefficient of redistribution discussed above, a coefficient of redistribution within a region over time can be calculated by comparing, for example, the percentage distribution of employment by industry group in a region for two successive census years. The resulting coefficient of redistribution would illustrate the degree to which inter-industry shifts in employment have taken place in the region during the intervening period. Comparison of these coefficients across regions would point out which regions have experienced the greatest structural change.

The same data used to compute the coefficients of localization and of specialization can be used to calculate localization curves and specialization (or diversification) curves. Because these curves permit a visual comparison, some commentators feel they are a useful complement to their corresponding coefficients. However, because of time constraints, it was not possible to construct these curves for the present assignment. This should be considered in any follow-up work. The interested reader is referred to the Isard text or similar textbook on regional science techniques for discussions of these curves.

Location quotient analysis and the coefficients described above are often employed in conjunction with shift-share

analysis and the computation of a "shift ratio", either across regions within an industry, or on an inter-industry basis within a region. The shift ratio across regions involves the following steps:

1. Calculation of the rate of growth of employment in a given industry on a national basis over an intercensal period.

2. Computation for each region of the difference between the actual employment in the region and the employment that would have resulted had the region's rate of growth in the industry been the same as the national rate. A positive difference indicates a shift in the industry into the region. A negative difference indicates a shift out of the region.

3. Calculation of the shift ratio for the industry through summing all the positive (or negative) shifts in employment and expressing the result as a proportion of total industry employment.

The inter-industry shift ratio for a given region requires basically the same steps except that the region provides the point of reference. In this case, the shift ratio is computed by aggregating all the positive inter-industry shifts in employment for the region and expressing the results as a proportion of the region's total employment.

Shift-share analysis[11] involves the application of similar techniques to attempt to distribute a region's growth performance among two "explanatory" variables: a favourable or unfavourable industrial structure and changing shares of national employment (value added, etc.) within industries. For example, growth in total employment in the region under study which is above the average rate of growth for the country as a whole could be

"explained" by one or both of the following factors: an above average representation in industries that are growing at rates above the norm for all industries in the country as a whole (sometimes called a "favourable" industrial structure), or an ability to attract an increasing proportion of national employment in the majority of industries.

The greatest shortcoming of shift ratios and shift-share analysis is that these techniques fail to take account of changes in other variables, such as regional realignments in population, total income payments, private investment expenditures, and public spending on major infrastructure items. Nonetheless, these techniques can provide a useful guide when used in conjunction with other indicators and information. Because of time constraints, shift ratios and shift-share analysis are not employed in the current assignment. However, they should be considered for any follow-up work.

The coefficients of localization and specialization, shift-ratios, etc. possess many of the same limitations as location quotients. Other potential limitations should be noted:

- The results obtained differ depending on the degree of spatial subdivision and/or industry detail used. For example, the coefficient of localization for an industry (when compared with total employment) would almost certainly be higher if the country were divided into sub-provincial regions rather than the seven provinces and regions used in Chapter 4.

- The magnitude of the coefficient of localization and related concepts will vary depending on the choice of base (population, total manufacturing employment, total employment, etc.).

- These coefficients are of little help in identifying cause and effect relationships. They are essentially index numbers which help to organize and process a great deal of statistical information, and to reveal certain structural tendencies.

In Chapter 4, these coefficients are used selectively to test some of the hypotheses regarding diversification trends in Canada which are suggested by our interviews and other more qualitative information collected by the Study Team.

In order to identify possible cause and effect relationships underlying diversification and related processes, it is necessary to employ econometric models, non-econometric simulation models, principal components analysis, and other more sophisticated statistical techniques. For example, one of the members of the Study Team constructed a cross-sectional econometric model to attempt to explain per capita income differentials in the Atlantic Region with reference to industrial and occupational structure, urbanization, labour force utilization, and other economic and demographic variables.[12] However, because of their complexity and the extensive data base required, econometric models and related techniques have not been applied extensively to the investigation of diversification and its interaction with other critical economic and demographic variables.

In Chapters 3 and 4, other possible indicators of diversification are used. Manufacturing value added per capita by region is used in conjunction with employment data to indicate regional shifts in manufacturing activity in Canada and changes in manufacturing's relative contributions to different regional economies. Out of country exports by province of lading and through British Columbia ports are used to identify emerging international strengths. The Destination of Manufacturing Shipments

Tables for 1967, 1974, and 1979 are used to analyze the proportion of Canadian-produced manufacturing shipments to a region or province which were contributed by the same region/province (sometimes called the "self-supply ratio") and by other regions/provinces. Value of mineral production and farm cash receipts data are evaluated briefly in order to explore diversification trends within the resource sectors. The proportion of total investment accounted for by manufacturing is used as a possible leading indicator of diversification.

Each of these is a helpful "supplementary" indicator, but each has some limitations. To cite a few examples:

- The problems with valued added were noted earlier.
- Exports "by province of lading" do not necessarily indicate where the exports were produced, and some exports through BC customs ports may have been produced outside Western Canada.
- Value of manufacturing shipments, value of mineral production, and farm cash receipts incorporate the costs of materials and supplies which, in many cases, are imported into the region. Changes to these indicators could potentially reflect price increases of imported materials rather than changes in the relative importance of sectors and sub-sectors.
- Investment figures can be dominated by one or two major projects and, therefore, may not be indicative of longer-term trends.

Other problems of a more technical nature are noted in the appropriate sections of the text.

To summarize, this analysis suggests that all potential indicators of diversification have their strengths and weaknesses, and it would be a mistake to totally rely on one or two indicators. Therefore, several indicators are employed and compared in the analysis that follows in Chapters 3 and 4.

FOOTNOTES TO CHAPTER 2

1. The quaternary sector is comprised of those firms and organizations concerned with providing services dominated by the use of specialized knowledge or information. A quaternary service is capable of being exported outside the region or country.

2. K. Norrie and M. Percy, "Westward Shift and Interregional Adjustment", (1981).

3. Ibid, p. 43-86.

4. The Economic Council, in their study, "Living Together: A Study of Regional Disparities", offers a good review of various economic theories and their relevance to regional disparities, diversification, and other regional development issues.

5. See, for example, R. Shearer et al., "Regional and Adjustment Aspects of Trade Liberalization", (1973), p. 36.

6. This is discussed in the booklet, "Save the Crow: The Saskatchewan Solution", prepared in March, 1982 by the Saskatchewan government.

7. In this regard, Clairtone and the Come-by-Chance oil refinery come to mind.

8. In a number of articles and monographs, L. Copithorne has argued that labour in British Columbia has successfully captured a significant portion of the resource rents generated by the province's resource industries. In contrast, Alberta has successfully diverted a significant portion of these rents into the provincial treasury. This could be an important explanatory factor behind the large wage differentials between the two provinces which have continued to the present despite the much higher growth rate enjoyed by the Alberta economy over most of the past decade.

9. In 1980, the unemployment rate in the Atlantic Region was 4 percentage points above the Ontario figure, compared with less than 2 percentage points in 1971.

10. Much of the discussion in the following paragraphs is taken from W. Isard, "Methods of Regional Analysis", (1960),p 123-126 and 249-281. The interested reader should refer to this text for elaboration.

11. This paragraph describes only one of many possible formulations of shift-share analysis. Norrie and Percy, op. cit., offer a more sophisticated version.

12. D. Ireland, "A Model of Income Differentials in the Atlantic Region", Carleton University, 1974 (MA Thesis).

3.0 STRUCTURAL CHANGES IN THE CANADIAN ECONOMY

3.1 Interregional Shifts in Economic Activity

Table 1 in Appendix A highlights the positions of Western Canada and the other Canadian regions within the major economic and demographic indicators. The table confirms the westward shift of economic activity within Canada which has been stressed by many previous analysts. Between 1971 and 1981, the West's share of the total Canadian population increased by 2 percentage points, while the increase in shares for employment, total personal income, and manufacturing value added was about 3 percentage points in each case.[1] In the case of real domestic product, the West's contribution to the national total went up by 4 percentage points, while the corresponding increases for gross product (current dollar values) and total investment were up 7 and 11 percentage points respectively.

Accompanying these trends in the aggregate indicators were significant improvements in average earnings and per capita incomes when comapred with the national average. In Western Canada, average weekly earnings in all industries combined moved from 2% to 8% above the all-Canada norm between 1971 and 1981. Manufacturing wages showed a similar upward trend when compared with the national average. In the case of personal income per capita, the West's relative position went from 1% below to 5% above the all-country norm.

One final indication of the West's growing importance to the national economy is the region's contribution to the country's merchandise trade balance.[2] In 1971, the West's merchandise trade surplus was comparable to the all-country surplus. By 1981, the West's figure was nearly two and a half times larger. This indicates that the West's strength in international markets is allowing the

other Canadian regions, especially Ontario and the Atlantic, to incur substantial deficits in their international trade.

Shifting our attention to the other regions, Table 1 in Appendix A shows that, with few exceptions, Ontario, Quebec, and the Atlantic all experienced decreases in their shares of the aggregate indicators. The major exceptions are as follows:

- Quebec and the Atlantic managed to maintain their shares of total personal income, reflecting the significant advances in federal transfer payments over the past decade.
- The Atlantic Region's shares of manufacturing employment and value added, value of mineral production, and total exports all increased over the ten year period.

In addition, between 1971 and 1981, average weekly earnings in the Atlantic and Quebec for manufacturing and all industries combined moved closer to the national average. Personal income per capita in the Atlantic moved marginally closer to the all-country norm, while for Quebec the relative improvement was quite striking.

In general terms, the West's improvement in relative position was at the expense of all the other regions, with Ontario showing the sharpest decline in relative position. For example, Ontario's contribution to gross national product (in current dollars) fell by over 4 percentage points, and the province's per capita personal income decreased from 17% to 7% above the national average over the last decade.

It would be a mistake, however, to exaggerate the rate of interregional shift occurring in Canada, especially in the case of population. If the rate of shift displayed between 1971 and 1981 were to continue, it would be over 30 years

before Western Canada passes Ontario in terms of population size. For employment and personal income, the periods are about and 15 years, respectively. When Ontario and Quebec are combined, the period required for Western Canada to surpass Central Canada increases to 95 years for population size, 50 years for employment, and 55 years for personal income.

Attention should also be given to the fact that should the West ever pass Central Canada in terms of total population size and income, it would still not offer the concentrated market provided by the Windsor to Quebec City axis. In short, Central Canada will continue to offer the largest and most concentrated market in Canada for longer than any economist is prepared to predict.

It is important to emphasize that not all provinces shared equally in thie westward shift in population and production. Table 1 in Appendix A indicates that Manitoba's position in nearly all indicators decreased significantly over the last decade. Perhaps most significantly, personal income per capita and GDP in Manitoba decreased markedly compared to their corresponding national averages. Saskatchewan shows a mixed, but on balance a positive, performance, with slight decreases in shares of population and employment, and fairly significant improvements in relative position in most of the other indicators. For example, between 1971 and 1981, per capita personal income moved to within 10 percentage points of the national norm, and per capita GDP exceeded the national average in the latter year. Year-to-year comparisons of these indicators for Saskatchewan should be used with some caution because of the continuing importance of net farm income which is still subject to strong year-to-year fluctuations. British Columbia displays positive, but modest, improvements in the indicators illustrated in Table 1. For example, the province's contributions to national population,

employment, gross domestic product, and personal income increased by between 1 and 1.5 percentage points over the ten year period.

It is clear, therefore, that the Alberta boom accounts for most of the so-called "westward shift" of the Canadian economy. This point is dramatized by comparing Alberta's and Western Canada's increase in shares in some of the major economic indicators:

	Increase in Share of National Total* (%)	
Indicator	Alberta	Western Canada
Population	1.7	2.0
Total Employment	2.1	2.6
Gross Domestic Product	5.1	6.9
Total Personal Income	2.2	3.2
Census Value Added in Production	7.7	8.4
Real Domestic Product	3.0	3.6
Total Investment	10.4	11.2
Total Exports	5.0	4.9

*Typically 1971-81, but 1971-80 for some indicators.

Alberta also did extremely well in the per capita measures. Personal income per capita in the province is now nearly 12% above the national average compared to 1% below in 1971. Perhaps most startling, per capita GDP in Alberta moved from 10% to 55% above the all-country norm. (Per capita GDP is probably the best measure available for comparing the relative capacities of different provinces.)

The differences in growth performance between provinces and regions can be illustrated by comparing average annual growth rates in gross provincial product and real domestic product:

	Average Annual Increase (%)	
	Gross Domestic Product 1971-1980	Real Domestic Product 1971-1981
Canada	13.5	3.7
Western Canada	16.4	5.0
Manitoba	12.2	2.5
Saskatchewan	15.7	3.3
Alberta	19.7	6.7
British Columbia	15.1	4.9
Ontario	12.1	3.0
Quebec	12.4	3.3
Atlantic	12.3	3.4

It is noteworthy that the differences in growth performance among the four western provinces are much larger than the differences between the West and the other regions of Canada. For both indicators Alberta was the only province to place above the all-Western average. The so-called westward shift, therefore, is more narrowly based than it might seem at first glance. In the past decade, this shift has been largely dependent on the performance of one province and of a relatively few resource commodities in the world marketplace. An additional element is that the westward shift has been the result not only of increases in the volume of production, but also in favourable shifts in the West's terms of trade resulting from the sharp increases in primary commodity prices relative to manufactured products in Canadian and world markets.[3] This situation helps to explain the fact that over the past decade the West's share of gross domestic product registered a greater increase than the region's contribution to real domestic product.

Because the "westward shift" is so narrowly based and is so dependent on favourable changes in the terms of trade (which history has shown is a "benefit" that can disappear fairly quickly), it can be questioned whether the pace of interregional adjustment displayed between 1971 and 1981 can be sustained over the longer-term. This subject,

however, is beyond the terms of reference for the present paper.

Before closing this sub-section, it may be useful to give closer attention to changes in the distribution of manufacturing activity across Canada. Table 1 of Appendix A indicates that Western Canada's share of manufacturing employment increased quite strongly between 1971 and 1981, with all four provinces contributing to this improvement to varying degrees. The Atlantic Region's position also improved marginally. These figures suggest that there was some decentralization of manufacturing employment in Canada over the past decade. It should be noted, however, that in the case of Western Canada the increased share of manufacturing employment is only in line with the advance in its share of the population. Some analysts feel that because value added captures the effects of changes in employment, productivity, and relative prices between manufactured products, manufacturing value added, computed on a per capita basis, provides a better measure of the relative importance of manufacturing to different regional economies. Table 1 shows that while the West and the Atlantic are still well below the national norm, both regions moved significantly closer to the all-country average in this indicator over the 1971-79 period. The suggestion is, therefore, that unlike manufacturing employment, the interregional shift in manufacturing valued added in favour of Western Canada was much greater than the interregional shift in population. This could reflect either faster growth in manufacturing productivity, a favourable shift in the terms of trade, or a combination of both. Finally, Table 1 indicates a substantial increase in the West's share of manufacturing investment in Canada. To the extent that investment is a reliable "leading indicator", this would suggest that the West's share of manufacturing activity in Canada will continue to increase for at least the medium term.

3.2 Broad Shifts in Economic Structure

Tables 2 through 5 and Table 7 in Appendix A provide information on the broad shifts in economic structure that are occurring in the different regions of the country and the nation as a whole. Different economic aggregates are employed: employment by industry, employment by occupation, real domestic product (which provides a guide to changes in the volume of production), goods production (i.e., census value added in production), exports and investment. The focus is on the last decade, ending in 1981.

The tables suggest that important shifts in economic structure are occurring in all parts of the country, but that there are important differences between regions and economic aggregates. Some of the more important developments are as follows:

- All regions of the country are experiencing shifts in employment in favour of the service industries (Table 2), with community, business, and personal services, finance, and insurance and real estate showing the most significant improvements in relative position.

- Agriculture's contribution to employment has continued to decline in all regions, despite the substantial improvements in prices enjoyed by many farm commodities.

- "Other Primary", which incorporates mining, forestry, and fishing and trapping, decreased marginally in its share of total national employment, but in the West this sector's share of employment increased fairly substantially.

- Manufacturing's contribution to total employment decreased in all parts of the country with the

exception of the three Prairie provinces. In Manitoba a fairly significant increase in share was registered, while in Alberta and Saskatchewan manufacturing's contribution remained about the same between 1971 and 1981.

- Shifts in the occupational distribution of employment (Table 3) show the growing importance of managerial, professional, administrative, and other white collar occupational categories in Canada, and indicate that these changes are common to all parts of the country.

- Changes to the industry structure of real domestic product (Table 4) correspond quite closely to the shifts in the industrial distribution of employment. Where differences arise they are explained by sector differentials in the rate of change in productivity. For example, in most parts of the country, the service industries' contribution to employment showed a larger increase than services' contribution to real domestic product, and manufacturing's share of real domestic product showed a much smaller decline than occurred in the case of employment.

- Between 1971 and 1978, fairly dramatic shifts occurred in the industrial distribution of goods production (Table 5). In particular, mining's contribution increased by nearly one-half in concert with substantial improvements in mining's relative position in the three most westerly provinces. This is a current dollar measure and, therefore, captures the effects of the price increases emjoyed by oil, gas, coal, potash, and many metals over the 1971-78 period.

- End products (which roughly correspond to secondary manufactured goods) are accounting for a growing proportion of Western Canada's export sales, but this

percentage is still very small compared to the West's exports of resource commodities and primary manufactured goods.

Because of the importance of industrial development in the diversification literature and in the development goals of all governments in Canda, special attention should be given to the changing contributions of manufacturing to national/regional employment and output.

It is often postulated that economic development and diversification involves an increasing role for manufacturing, especially secondary industry, in a regional or national economy. Exhibits 3-1 through 3-3 illustrate the changing contributions of manufacturing to three economic aggregates, employment, real domestic product, and goods production, evaluated in terms of the total country, Canada's four broad regions, and the four Western provinces. Applying the hypothesis described above, the exhibits offer very little evidence that the Canadian economy, or that of any of its regions, is experiencing significant industrial diversification in the broad sense of the term. As described earlier, from 1971 to 1981, manufacturing's contribution to total employment and to real domestic product declined in all parts of the country except in the three Prairie provinces. Furthermore, from 1971 to 1978 manufacturing's contribution to total gross production decreased in all areas except the Atlantic and British Columbia. (Differences between this economic indicator and the first two can be partially explained by the utilization of a different terminal year).

It can be argued that because the primary manufacturing industries (such as wood products, paper and allied products, food and beverages, and petroleum and coal products) are closely linked to the resource sectors, the contributions of non-resource based manufacturing provide

EXHIBIT 3-1: MANUFACTURING'S CONTRIBUTION TO TOTAL EMPLOYMENT 1971 AND 1981

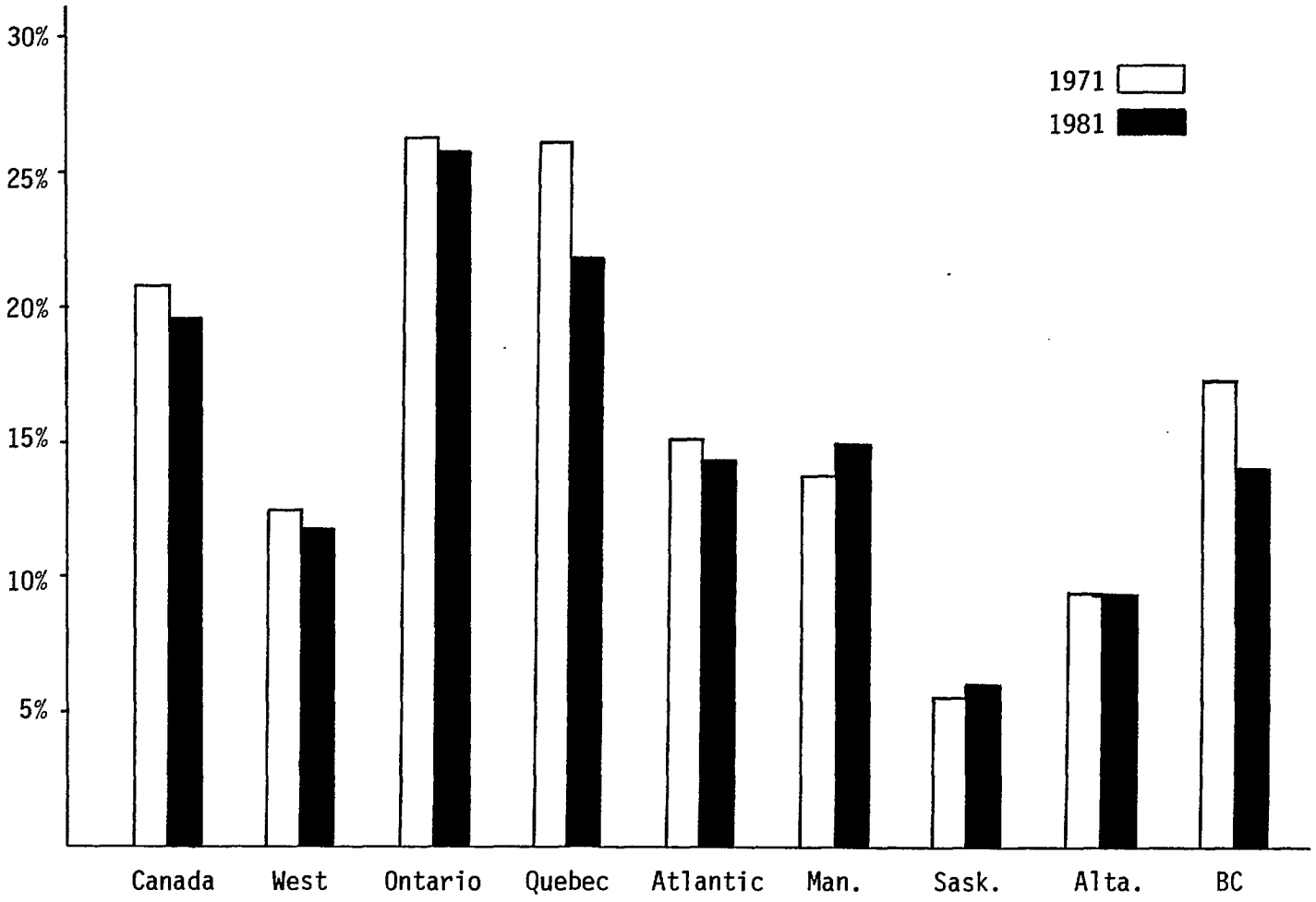


EXHIBIT 3-2: MANUFACTURING'S CONTRIBUTION TO GOODS PRODUCTION 1971 AND 1981

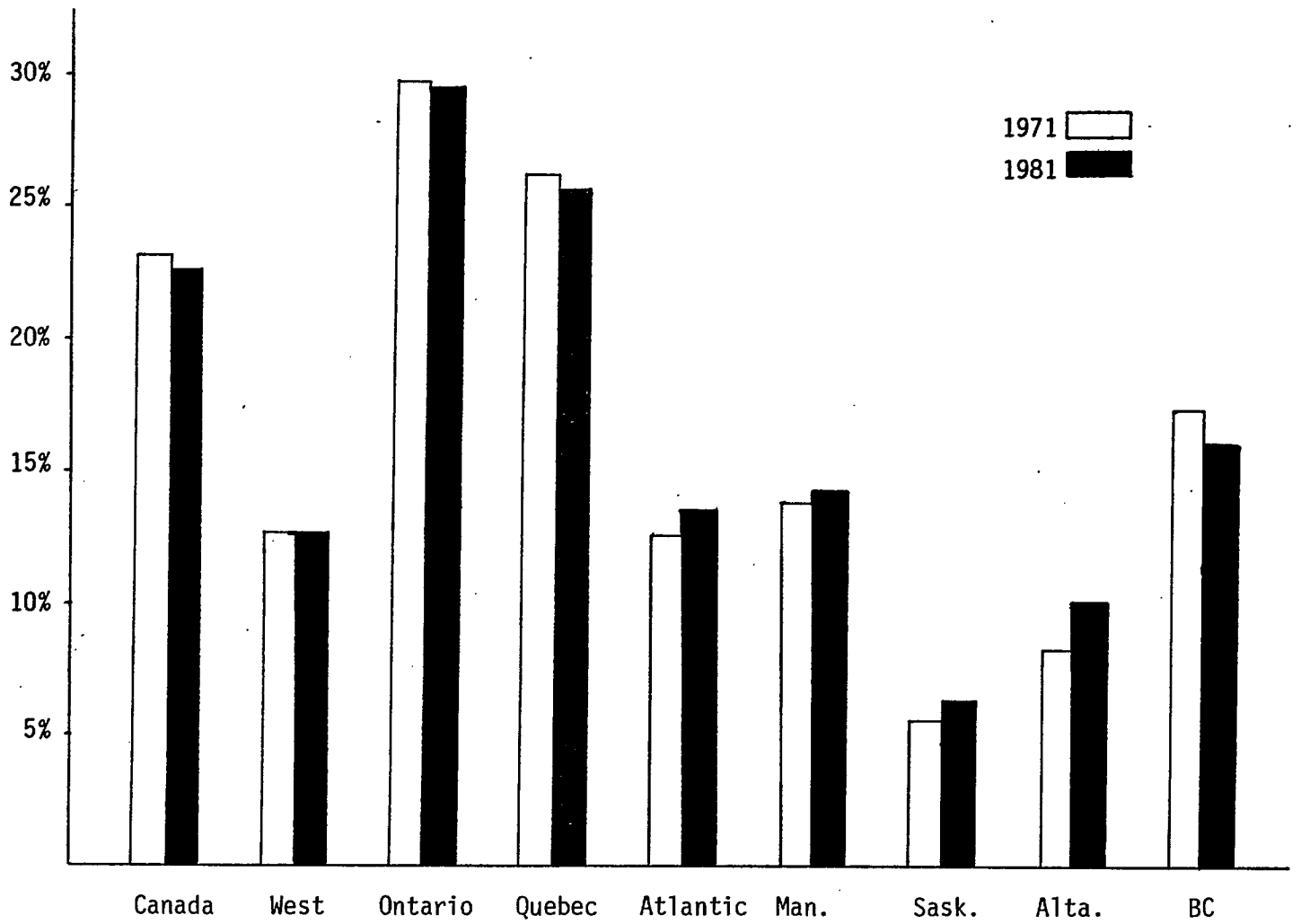
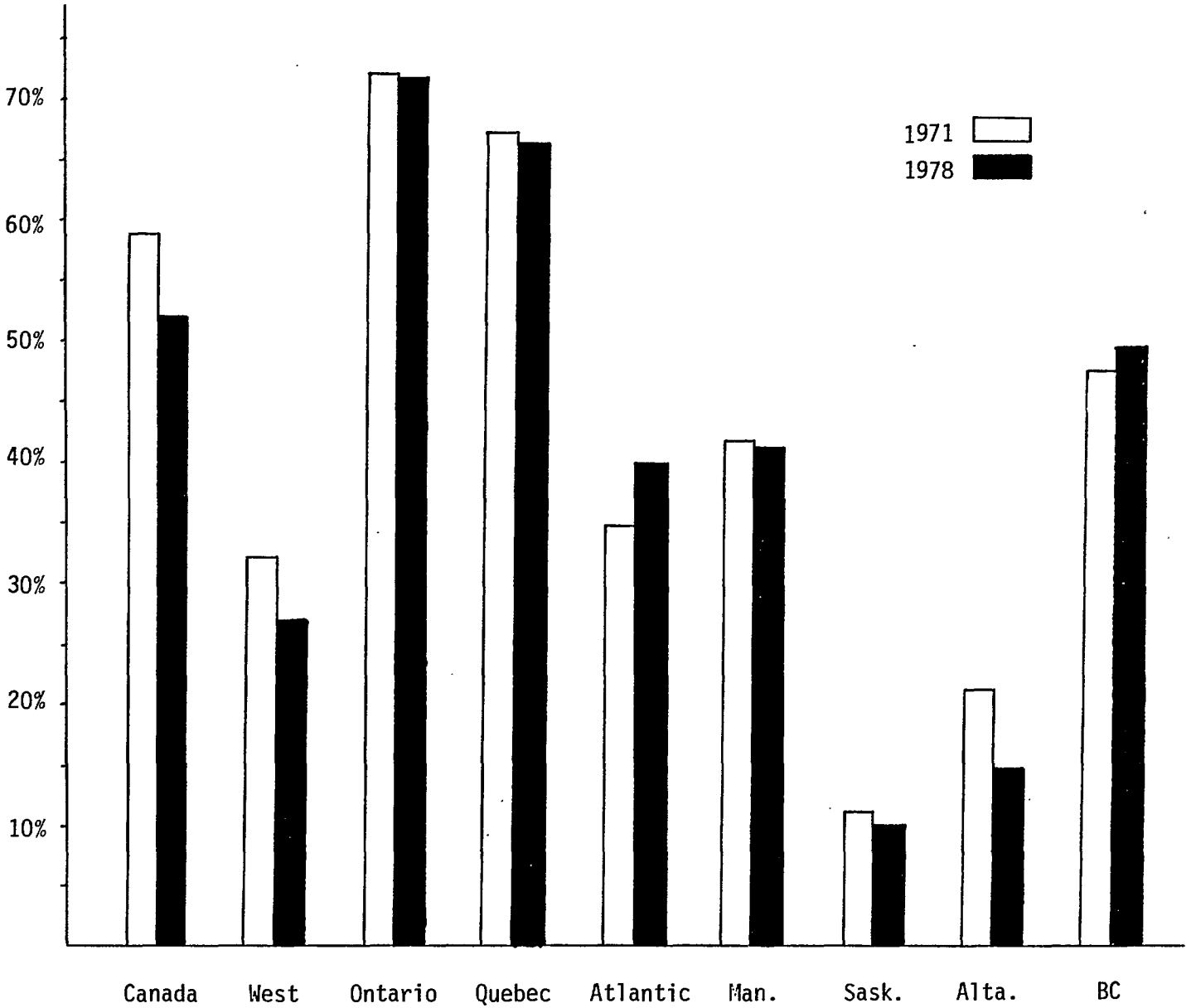


EXHIBIT 3-3: MANUFACTURING'S CONTRIBUTION TO GOODS PRODUCTION 1971 AND 1978



a better indicator of diversification patterns. Exhibit 3-4 highlights the contribution of secondary manufacturing industries to total employment, using the secondary manufacturing employment estimates and the definitions of primary and secondary industry found in Table 12 of Appendix A. For the total country, Ontario, Quebec, and the Atlantic Region, secondary manufacturing's share of employment experienced decreases that were similar to those registered by the total manufacturing sector. This reflects the recent difficulties of the automobile industry and the growing import competition faced by Central and Eastern producers in such industries as clothing, textiles, furniture and fixtures, and consumer electronics. In the case of Western Canada, secondary manufacturing held its own, but accounted for only 5% of the total employed work force. Despite the efforts of the federal government to protect Canada's traditional secondary manufacturing industries plus the efforts of all governments to attract new secondary industry, non-resource based manufacturing continues to play a small role within the Canadian economy.

Exhibit 3-5 displays the position of end products in Canada's export trade. Reflecting the automobile agreement with the United States, end products make a substantial contribution to the export sales of the total country and, in particular, to the exports of Ontario and Quebec. End products also account for a substantial and rising proportion of Manitoba's out-of-country shipments. In the three most westerly provinces and the Atlantic, end products contributions are very small, although they have shown some improvement in recent years. This suggests that some manufacturers in Western Canada are becoming internationally competitive in some higher value added product lines. This possibility will be evaluated in greater detail in the next chapter.

EXHIBIT 3-4: SECONDARY MANUFACTURING'S CONTRIBUTION TO TOTAL EMPLOYMENT 1971 AND 1981

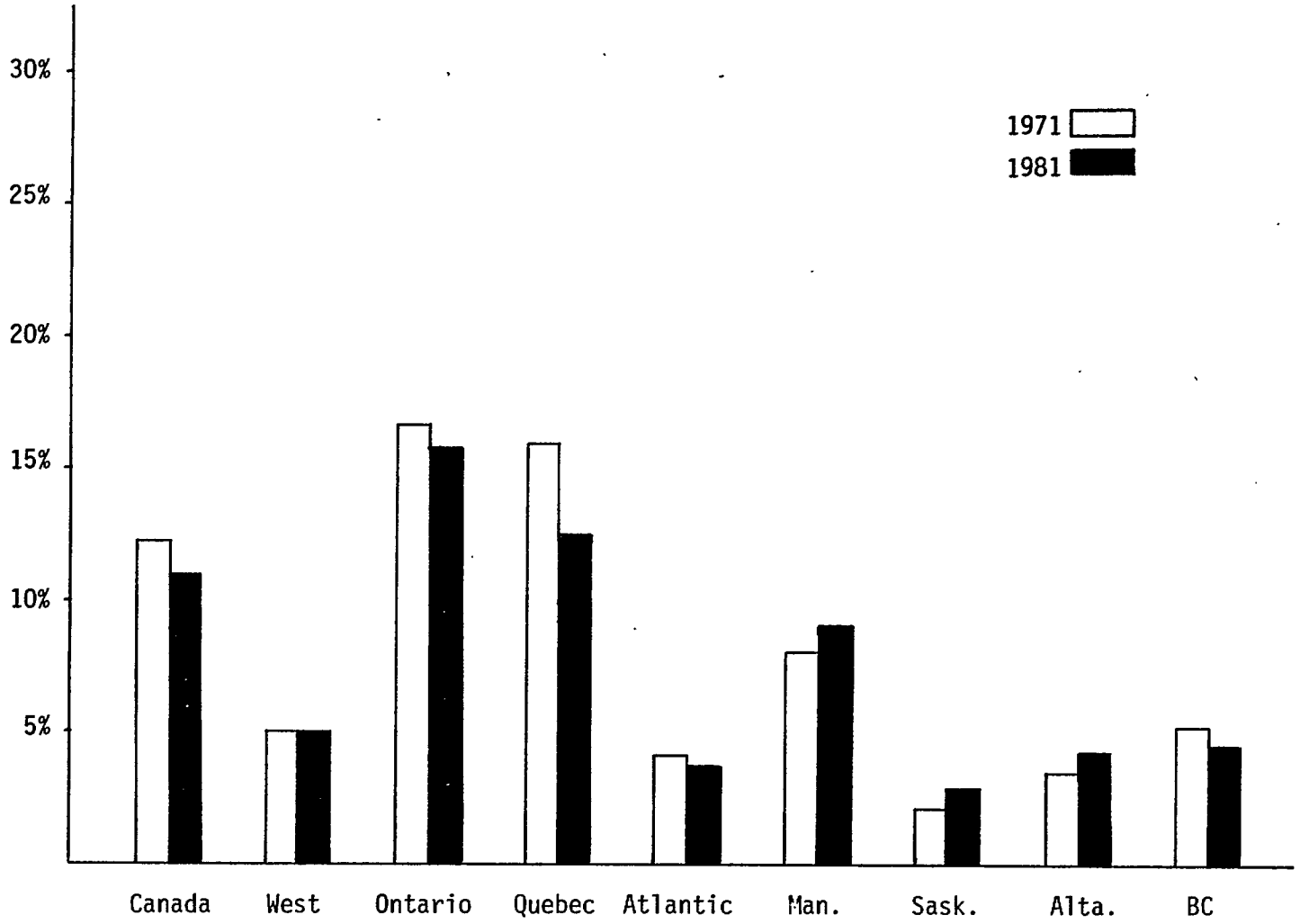
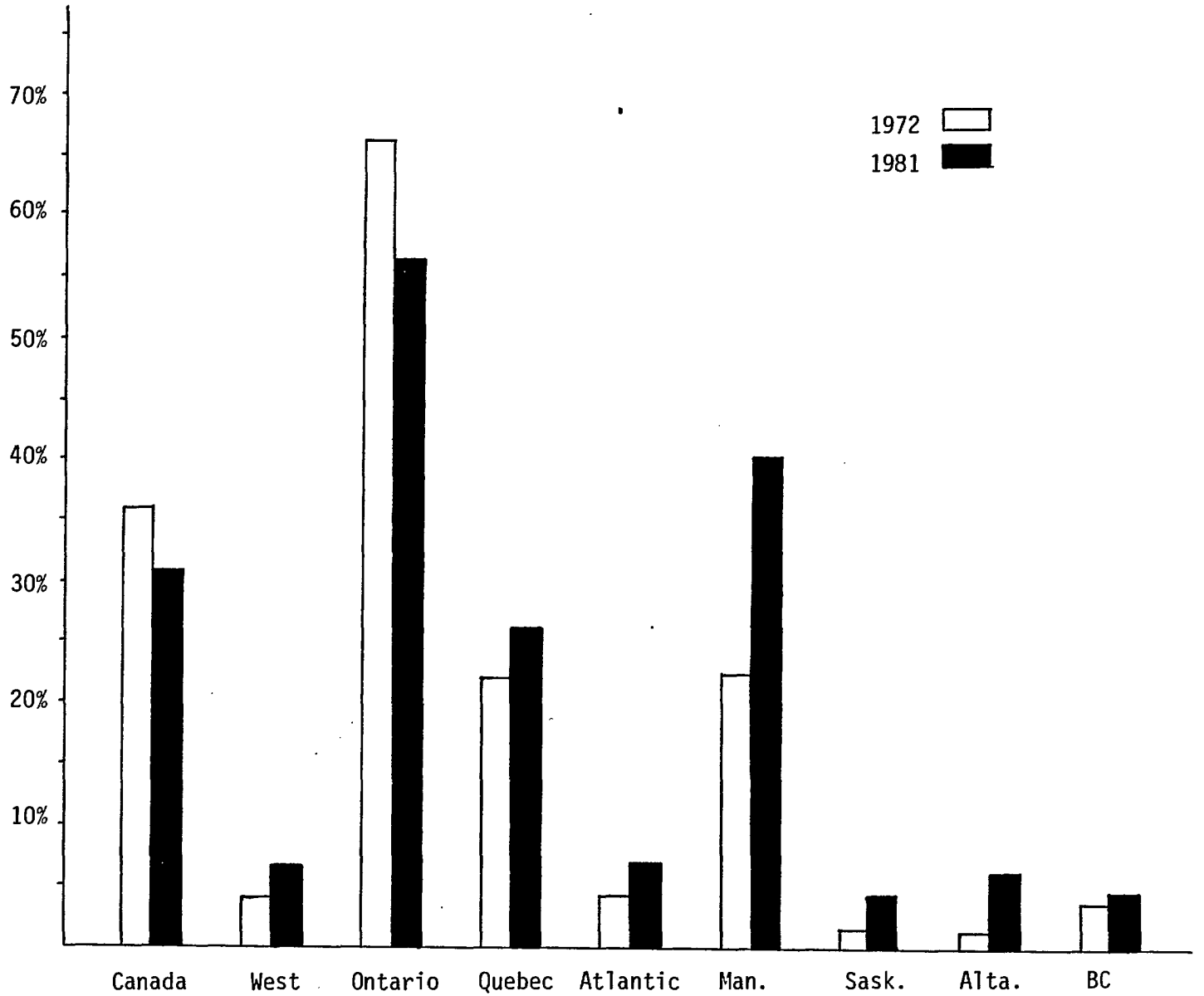


EXHIBIT 3-5: END PRODUCTS' SHARE OF TOTAL EXPORTS 1972 AND 1981



In Chapter 2 it was postulated that trends in the composition of investment could be a forerunner of structural changes in the distribution of production and employment. With this in mind, Table 11 of Appendix A indicates for each year from 1971 to 1981 the proportion of total investment accounted for by the manufacturing sector. Reflecting the impacts of one or a few major projects, manufacturing's share of total investment displays significant year to year variation. In an attempt to correct for this, the following table employs three-year moving averages, beginning in 1972.

Manufacturing's Share of Total Investment (%): 3 Year Moving Averages

Year	Total Canada	Western Canada	Man.	Sask.	Alta.	BC
1972	16.5	10.8	7.5	3.9	8.6	15.5
1973	16.5	10.5	7.5	4.1	9.2	14.5
1974	16.7	9.9	7.6	4.2	8.9	13.5
1975	16.3	9.1	7.0	4.4	7.8	12.9
1976	15.6	8.5	6.0	4.2	7.0	12.8
1977	15.0	8.5	5.4	3.8	7.1	13.0
1978	15.0	8.7	5.7	3.4	7.2	13.9
1979	15.5	9.2	6.4	3.4	6.9	14.7
1980	16.6	10.0	7.7	3.8	7.4	16.1

The above indicates that over the past decade manufacturing has accounted for a relatively modest share of total investment in the country as a whole and in each of the four western provinces. Moreover, until the last year or two, the trend was clearly downward. The upturn at the end of the period largely reflects significant year-to-year increases in manufacturing investment in 1980. It should be noted that for 1980 the figures relate to investment intentions rather than investment expenditures which actually occurred. Regardless, to the extent that investment data provide a reliable guide to the near-term and medium-term future, manufacturing's contribution to total investment provides little indication of a strong industrial diversification trend in Western Canada or the total country.

To summarize, our analysis of broad shifts in economic structure suggests that some important structural adjustments are occurring in the Canadian economy and its constituent regions, but the broad trends provide little evidence that industrial diversification is occurring to any significant degree. On the contrary, the information presented here shows manufacturing, including secondary industry, declining in importance in nearly all parts of the country, with the West in particular becoming increasingly dependent on the incomes, taxes, and economic spin-offs generated by the resource sectors. The next chapter will explore more detailed information in an effort to see if developments of a more specific nature run counter to these broader trends.

The first sub-section in this chapter indicated that manufacturing activity in Canada is shifting in favour of the West, but the second noted that manufacturing's contribution to total production and employment in the region is declining, just as it is in the rest of Canada. These results indicate, therefore, that manufacturing in Western Canada is expanding much faster than in the rest of the nation, but it is barely able to keep up with the pace set by the rest of the Western Canadian economy. Possible reasons for this situation could be the skilled labour shortages, high wage rates, high land and housing costs, and other constraints to economic diversification described in Chapter 2. More fundamentally, this situation points out the difficulty of achieving industrial diversifiaction goals in the middle of a resource boom.

FOOTNOTES

1. For some of these indicators, 1979 or 1980 provides the terminal year.

2. This only relates to Canada's trade with other countries, not to merchandise trade between regions within Canada.

3. See Norrie and Percy, "Westward Shifts and Interregional Adjustment", Table II-9, page 32A, for an analysis of the relative shifts between manufactured goods and resource commodity prices in Canada between 1960 and 1978.

4.0 ECONOMIC DIVERSIFICATION IN THE CANDIAN ECONOMY: DETAILED ANALYSIS

It is not surprising that the analysis of percentage changes in the distributions of employment and production failed to uncover any major evidence regarding diversification in Canada. As noted in Chapter 2, broad shifts in economic structure can be helpful in identifying structural changes in a national or regional economy, but as an indicator of diversification trends, this measure has some important deficiencies. The purpose of this Chapter is to employ more detailed industry data, some of the diversification indicators described in Chapter 2, and more qualitative information collected through the interviews, to further explore the process of economic diversification in Canada. Greatest emphasis will be placed on developments in Western Canada, but comments will be offered on the other regions where appropriate.

4.1 Diversification in the Resource Sectors

A number of the people interviewed for this study commented that an important source of strength of the Western Canadian economy is the diversity displayed by its resource sectors. This diversity is seen in the many primary commodities produced in the West and the many international markets served by those commodities. Table 6 in Appendix A, for example, lists the mineral products produced in Western Canada. The table lists 19 separate commodities; in nine of these the West accounts for the majority of Canadian production. (The West now accounts for over 70% of Canadian mineral production, compared with 50% ten years ago.) Many of these minerals experienced substantial increases in production value over the past decade. These include copper, gold, molybdenum, silver, uranium, asbestos, potash, sodium sulphate, sulphur, and coal, as well as oil and gas.

Similarly, the West is a significant producer in a fairly wide range of farm products, including wheat and other grains, rapeseed, flaxseed, fruits and vegetables, cattle, poultry, and dairy products. A number of farm products have come into prominence in only the last one or two decades. These include rapeseed, potatoes, and corn (limited to date to Manitoba). While wheat remains "king" in Saskatchewan, the farm sectors in Alberta and Manitoba are becoming increasingly diversified and now produce a wide range of farm commodities for national and international markets. The forests of Western Canada, especially in British Columbia, support the production of a fairly wide range of forest products, including lumber, plywood, pulp, newsprint, and other papers.

A related source of strength for the West's resource sectors is the wide range of international markets served by the Region's primary producers. Exhibit 4-1 indicates some of the more important international customers for the West's major resource products. This information is based on exports through British Columbia customs ports in 1980[1] . Nearly all of Canada's trading partners are listed in this exhibit, many of them for a wide range of commodities.

There is no question that the diversity of the West's primary sectors in terms of products and markets lends an important degree of strength and stability to the region's economy. Nonetheless, diversification based on the resource sectors alone may not be enough. As occurrred in the late 1960's and is occurring again in the first half of 1982, world commodity markets can go into a slump together. At the present time, world demands and prices are depressed in the lumber market, most mineral products, potash, plus oil and gas. As well, the resource sectors in

EXHIBIT 4-1: MAJOR INTERNATIONAL CUSTOMERS FOR WESTERN CANADIAN RESOURCE PRODUCTS

Resource Commodity	Major International Customers
Salmon (Various Products)	Spain, West Germany, Denmark, Finland, Japan, Greece, United States, Sweden, United Kingdom, Fiji, New Zealand, Australia
Barley	Italy, USSR, Japan
Wheat	USSR, China, Iraq, Hong Kong, Italy, Algeria, Mexico, Poland, Japan
Dehydrated Alfalfa	Japan
Flaxseed	Japan, West Germany, Mexico
Rapeseed & Rapeseed Oil	France, Netherlands, Bangladesh, China, Algeria, Hong Kong
Logs and Pulpwood	Japan, United States
Copper	China, USSR, Taiwan, West Germany, Romania
Lead	Japan, United States
Gold	Japan, Taiwan, Finland
Silver	China, United States
Molybdenum	Japan, West Germany, Belgium, United Kingdom, United States, Netherlands
Coal	Japan, South Korea, Brazil, West Germany, Denmark, India
Oil and Natural Gas	United States
Asbestos	France, United States, United Kingdom, Malaysia, Taiwan, Australia, Japan

...cont'd

EXHIBIT 4-1: MAJOR INTERNATIONAL CUSTOMERS FOR WESTERN CANADIAN RESOURCE PRODUCTS (Continued)

Resource Commodity	Major International Customers
Sulphur	South Africa, Australia, Brazil, Belgium, Morocco, Tunisia, China, Korea, Taiwan, United States
Lumber	United States, Japan, United Kingdom, West Germany, Australia, Austria , Italy, New Zealand, Finland, Algeria, China, France
Plywood	United Kingdom, France, Belgium, West Germany, Netherlands
Pulp	Japan, United Kingdom, Austria, Greece, Italy, Netherlands, United States, France
Newsprint and Other Papers	United States, Australia, Ecuador, Hong Kong, Australia, United Kingdom, Belgium, Indonesia
Linerboard	Japan, United Kingdom, Belgium, France
Potash	Sri Lanka, China, Brazil, United States, Singapore, Phillipines, Taiwan, Australia
Aluminum	Japan, United States, Thailand, South Korea, Bangladesh

Western Canada, no matter how diverse, continue to generate relatively litte in the way of employment, value added, and backward and forward linkages. This problem arises among the West's newer resource products as well as its traditional commodities. Because of tariff barriers which increase with the degree of processing, rapeseed is generally exported in raw form rather than as rapeseed oil. Because of transportation and market considerations, potash is now shipped unprocessed for blending in fertilizer plants in the United States and overseas. And until breakthroughs are made in coal gasification and related technologies, Western coal will continue to be shipped in unprocessed form to world markets.

4.2 Diversification Through the Development of Forward Linkages

In general terms, Canada, including the West, has had little success in adding greater value to its primary commodities prior to export. During the 1970's, efforts in this regard were focussed on the non-ferrous metals sector. One possible indicator of the degree of processing in this sector is a comparison of the value of production of non-ferrous metal mines with the cost of materials and supplies purchased by the non-ferrous smelting and refining industry. It can be assumed that most of this manufacturing industry's input costs represent purchases of non-ferrous metal ores and concentrates. In 1971 the cost of materials and supplies to the smelting and refining industry amounted to 19.6% of the value of production of non-ferrous metal mines. In 1978 this percentage was marginally lower at 18.8%. Although only a rough guide, this indicator is consistent with more qualitative data showing that the proportion of non-ferrous metals being processed in Canada has not increased over the past decade.

In the recently concluded trade negotiations, the Canadian

negotiators were generally not successful in lowering tariff and non-tariff barriers to the export of more highly processed resource products from Canada. It is anticipated, therefore, that Western Canadian producers will continue to ship most of their resource production in unprocessed form. The major exception is petro-chemicals from Alberta based on natural gas feedstocks, while longer-term possibilities include fertilizer plants based on BC natural gas, uranium enrichment in Saskatchewan, and the potential for a fertilizer plant based on Saskatchewan potash.

4.3 Trade in Manufactured Products

The destination of manufacturing shipments table produced by Statistics Canada in 1967, 1974 and 1979 allows us to analyze trends in manufacturing trade between provinces and regions and the extent to which provinces have been successful in replacing imports from other Canadian producers in their domestic markets. Table 9 shows the manufacturing shipments (all industries combined) between provinces in the three years, while Table 10 indicates the supply ratios between pairs of prairies and regions. The supply ratio is the fraction of the receiving province's (or region's) total manufacturing receipts that comes from a particular supplying province (region). Therefore, the self-supply ratio indicates the share of the receiving province's total manufacturing shipments that are supplied by the province's own manufacturing firms. It should be noted that the supply ratios provide only a partial indicator of "market share" as the denominator in the ratio only includes Canadian produced manufactured goods and does not include competing imports from other countries.

The following indicates the self-supply ratios of the Canadian provinces and regions in 1967, 1974, and 1979.

	Self-supply Ratios (%)		
	1967	1974	1979
Western Canada	57.8	62.5	62.4
Manitoba	42.2	43.1	39.1
Saskatchewan	33.5	31.6	31.0
Alberta	44.9	49.6	49.5
British Columbia	55.0	55.7	58.0
Ontario	81.7	79.6	80.2
Quebec	66.1	66.6	66.1
Atlantic	40.0	43.3	48.0

As would be anticipated, based on population size, industrial base, and related factors, Ontario possesses the highest self-supply ratio, while Quebec and British Columbia are the only other provinces in which local producers account for more than one-half the provincial market for Canadian produced manufactured goods. With the exception of the Atlantic region, the changes over time provide little indication of a sustained import substitution trend among provinces and regions. In the case of the West, the self-supply ratio moved up quite strongly from 1967 to 1974, but showed no further increase to 1979. The lack of change from 1974 to 1979 suggests again that Western manufacturing firms were barely able to keep pace with the strong demands for manufactured goods brought about by the Region's rapid population growth and major capital investments. Therefore, Ontario manufacturers continued to fill the gap. Within the West, British Columbia producers captured a growing proportion of their provincial market for manufactured goods, but Manitoba's position within its own market decreased to a significant degree over the 1974 to 1979 period. In the case of Alberta, shipments from Alberta manufacturers to the provincial market kept pace with the rapidly growing demands for manufactured goods. To repeat, the self-supply ratios indicate that the Western provinces had some success in replacing imports from other Canadian regions in the regional market up to 1974 but little success thereafter. In this context, it is interesting to note that the province building exercises and import

substitution programs of Alberta and, to a lesser degree, the other Western provinces -- exercises that are greatly discussed in the literature[2] -- did not really begin in earnest until the early to mid 1970's.

The supply ratios in Table 10 and the shipment data in Table 9 can be used to provide additional evidence regarding interregional shifts in manufacturing activity and competitiveness in Canada.

- The Atlantic Region not only experienced a sustained increase in its self-supply ratio, but also increased its penetration of the Quebec, Ontario, and Western Canadian markets, although in all three cases the Atlantic's market share remains very small.
- Over the full 1967 to 1979 period, Quebec manufacturers experienced declines in market share in all Candian markets except their own.
- Ontario producers also experienced some deterioration in market position in all regional markets. However, as noted earlier, the decrease in the West was concentrated in the first half of the period before the Western Canadian boom was fully launched.
- Western Canadian producers realized important improvements in market position in all other regions of the country. Particularly noteworthy are the improvements in market position experienced by Alberta manufacturers in the Ontario and Quebec markets.
- Between 1974 and 1979, the proportion of total Ontario manufacturing production that was shipped to the Western Canadian market increased from 8.9% to 9.7%. The corresponding figures for the Quebec manufacturing sector are 6.4% in 1974 and 6.6% in 1979. Despite the efforts of western provincial governments to build up their manufacturing sectors, the Western Canadian market increased in importance to Central Canadian manufacturers over the last half of the 1970's. This is consistent with the findings

derived from the supply ratios in Table 10.

In sum, the self-supply and supply ratios in Table 10 suggest that while Central Canadian producers continue to dominate the nation's markets for manufactured products, manufacturers in the peripheral regions, both West and East, appear to be making some headway in improving their competitiveness in out-of-province markets. Further evidence of this can be provided by analyzing the (out-of-country) export orientation of the manufacturing sector in different regions. The ability to penetrate out-of-country markets can be used as an additional measure of growing diversification -- or at least growing industrial strength -- in different regional economies or the country as a whole. The shipments data in Table 9 can be used to evaluate changes over time in the export orientation of provincial or regional manufacturing sectors. These ratios are presented below, and are included in Table 18 of Appendix A.

	Export Orientation Ratios (%)		
	1967	1974	1979
Canada	16.3	19.8	22.6
Western Canada	21.8	23.3	25.3
Manitoba	5.5	9.2	10.4
Saskatchewan	3.7	11.0	12.4
Alberta	8.5	7.3	9.3
British Columbia	36.5	37.6	40.8
Ontario	14.5	20.3	22.7
Quebec	15.3	13.7	18.7
Atlantic	26.0	34.3	30.9

NB: Export orientation is the percentage of total manufacturing production shipped outside Canada and is derived from data contained in Table 9 of Appendix A.

The export orientation ratios indicate clearly that all regions in Canada are shipping a growing proportion of their manufacturing production to out-of-country markets. The increases in export orientation are particularly

strong in Saskatchewan and Manitoba. As producers, these provinces have clearly succeeded in penetrating new international markets. Other information suggests that the leaders have been clothing and farm implements in the case of Manitoba, and farm implements in the case of Saskatchewan. As well, it is noteworthy that Alberta manufacturers increased their export orientation between 1974 and 1979 despite the high growth in the provincial market. Table 18 of Appendix A also indicates that Alberta manufacturers are selling an increasing proportion of their output to Central and Eastern Canadian markets. These figures suggest that the Alberta manufacturing sector -- as well as manufacturing in the other western provinces -- is not expanding across a broad range of product lines in order to serve local markets and replace imports. Rather, it is specializing in a relatively few product lines which offer the potential for export sales to other provinces and international markets. This theory will be pursued in later sub-sections of this Chapter.

The reader should be cautioned against placing too much weight on trends over time in supply and export orientation ratios based on manufacturing shipments of all industries combined. What may appear to be general trends could, in fact, be changes based on developments in one or a few industries or markets. For example, detailed industry analysis of 1967 to 1974 trends in self-supply ratios indicate that the increase in the self-supply ratio in the Atlantic Region over this seven year period largely reflects the increase in the value of shipments realized by one highly local market oriented industry -- petroleum and coal products.[3] Therefore, the above findings should be viewed as preliminary, pending more detailed analysis of the "Destination of Manufacturing Shipments Table for 1979.

Table 17 in Appendix A presents data on the destination of manufacturing shipments for selected industries. The

table's utility is limited by the large number of industries/provinces that are not reported because of confidentiality concerns. This problem appears to have been more severe in 1979 than in the earlier years. However, the table does provide some insights regarding manufacturing industries in Western Canada.

- Between 1967 and 1979, Manitoba clothing manufacturers experienced impressive increases in sales to the Ontario, Quebec, and international markets.
- Over the twelve-year period, Alberta furniture manufacturers experienced strong gains in sales to their provincial market, and Alberta's primary metals industry and metal fabricators showed impressive gains in a number of markets.
- The industrial machinery industry displayed strength in all four provinces, reflecting the expansion of the farm implement industry and the manufacture of machinery and equipment for other resource industries.
- Transportation and related equipment also experienced impressive gains in shipments in all four provinces. Especially noteworthy are the increased foreign sales by Manitoba and BC manufacturers of transportation equipment.
- The partial data reported by Statistics Canada indicates growing strength in the Western electronics industry, both in domestic sales and foreign exports.
- Alberta producers of chemical products realized major increases in sales across a broad range of markets between 1967 and 1979.

Information derived from the "Destination of Shipments" Tables can be supplemented by analyzing exports through British Columbia customs ports for specific end products categories. Compared with the manufacturing shipments data from Statistics Canada, Canada's export data incorporates much greater industry and product detail. The major

limitation of data on exports through BC customs ports is that the manufacturing origin of the product is not specified, and it can only be assumed that the majority of these products were produced in the West.

Table 8 indicates growth in exports of selected manufactured products from 1971 to 1980. Care was taken to exclude those items that were clearly not produced in the West. The table illustrates that Western Canadian manufacturers have been successfully penetrating international markets in a fairly wide range of manufactured product lines. Products showing particularly impressive gains in export sales (year-over-year increases of 23% plus) include: engines, turbines, and parts; bearings and parts; packaging machinery and parts; conveyors, conveying systems, and parts; cranes and derricks, core drills, and core drill parts; rock drills and parts; earth drilling and related machinery and parts; excavating and drilling machinery and parts; mining and quarrying machinery and parts; pulp and paper industry machinery and equipment; food and beverage industry machinery and parts; agricultural machinery and parts; tractors and parts; trucks and chassis; parts and accessories for boats and ships; aircraft assemblies equipment and parts; tires; measuring and controlling instruments and parts; computers and parts; and shipping containers. These export figures do not suggest broad-based industrial diversification across many product lines, but rather the increasing competitiveness of Western manufacturers in certain specialty lines serving the resource industries (agriculture, forestry, mining and related manufacturing) and other industrial markets. In many of these lines, the size of the export sales remains quite small, but the trends of the last decade can be viewed as encouraging.

Table 19 of Appendix A attempts to summarize Western Canada's portion in Canadian manufacturing through

assessing the region's changing shares of total manufacturing shipments at the two-digit level of the Standard Industrial Classification. The table shows that between 1967 and 1979 Western Canada's position improved in all industry groups except furniture and fixtures. In many cases, these shifts in favour of Western Canada can be explained by the West's growing proportion of the Canadian population. However, in many others, the region's increases in manufacturing activity appear to be much greater than can be explained by population shifts alone. Examples include industrial machinery, transportation and related equipment, electrical products and chemicals. All of these are industries which generate large amounts of value added and typically require highly skilled manpower and professional expertise.

To summarize this sub-section, the analysis of trade in manufactured products between provinces and export sales to international markets does not provide conclusive evidence of broad-based industrial diversification in Western Canada. The results do, however, point toward growing strength and competitiveness in a number of product lines, oriented in particular to the resource industries and other industrial markets.

4.4 Location Quotient Analysis and Related Indicators: Interregional Shifts Within Industries

To this point, the analysis in this Chapter has not taken a comprehensive view, but has focussed on specific issues and sectors that are viewed as important to the diversification process in Western Canada and the rest of the country. The major findings of the previous sections in this chapter are:

- Diversification within the resource sectors lends an important degree of strength and stability to the Western Canadian economy, but significant limitations arising from too great a dependence on resource

commodities remain.

- With the exception of petro-chemicals, Western Canada and the country generally have achieved limited success in adding value to resource commodities prior to export. This situation is not expected to change dramatically in the foreseeable future.
- Analysis of trade in manufactured products does not provide conclusive evidence of broad-based industrial diversification and import substitution on the part of western industry. The analysis, however, does point toward growing strength and competitiveness in certain product lines.

The purpose of this sub-section is to take a more comprehensive view of the diversification process through the use of location quotients and related indicators. Attention will be given not only to the primary and manufacturing industries, but also to the service sector that now employs two out of every three Canadians. The analysis is based on the employment by industry and province (region) figures contained in Table 12 of Appendix A. The figures for 1961 and 1971 were derived from the Statistics Canada Census, and 1981 employment figures were estimated by the Study Team. The techniques used in developing these estimates are fully described in the notes to Table 12.

Table 13 presents location quotients by industry and province (region) for 1961, 1971, and 1981. For this assignment, the location quotient is defined as the province's or region's share of Canadian employment in a given industry divided by its share of the total Canadian population. Therefore, the location quotient for agriculture in Manitoba in 1961 equals:

$$\frac{59,301 \div 640,786}{921,686 \div 18,238,247} = \frac{9.3}{5.1} = 1.81$$

Location quotients can be used both to assess interregional shifts within a specific industry, and to identify emerging export strengths and import substitution developments in a particular province or region. The first issue will be analyzed in some depth before we turn our attention to the second.

The location quotients can be used to identify which industries have become more or less concentrated across regions over the past twenty years. The location quotients in Table 13 suggest that the following industries experienced a significant decentralizing trend between 1961 and 1981[4]: fishing and trapping; metal mining; rubber products; textiles; knitting mills; clothing; paper and allied products; chemicals; industrial machinery; storage; utilities; finance; insurance and real estate; amusement and recreation; business services; and the federal government. However, there are also a number of industries that became more regionally concentrated[5], including: agriculture; forestry; food and beverage; wood industries; furniture and fixtures; primary metals; transportation equipment; electrical products; construction; transportation services; and accommodation and food services. In other industries, there appeared to be little change in the degree of regional concentration, but significant interregional shifts occurred in employment. Examples include: forestry, where the West replaced Quebec as the dominant region; mineral fuels in which the West replaced the Atlantic; non-metallic minerals, where the West joined Quebec as the dominant region; tobacco products (Ontario joined Quebec); non-metallic mineral products (the West improved its position, but Quebec's decreased); petroleum and coal products (the Atlantic and Ontario replaced the West and Quebec); wholesale trade (Ontario's position improved at the expense[6] of the other regions); accommodation and food services; and miscellaneous services.

The broader industry groupings can be divided as follows:

Less Regional Concentration: Fishing and Trapping.

Greater Regional Concentration: Mining, Construction, Transportation, Communications and Other Utilities.

Significant Interregional Shifts: Agriculture, Forestry, Primary Manufacturing, Secondary Manufacturing, Commercial Services; Public Administration and Defense.

Little Change in Regional Distribution: Trade, Non-Commercial Services.

Comparisons between this classification and the classification based on more detailed industry categories illustrate that the broad industry groupings tend to obscure important decentralizing trends and interregional shifts within individual industries. This points out the danger of conducting interindustry and interregional analyses based on the broad industry groupings available in the annual employment surveys published by Statistics Canada.

The coefficients of localization provide a more direct measure of the regional concentration of a given industrial activity. These coefficients are presented below for 1961 and 1981 for selected industries, using the four western provinces plus Ontario, Quebec, and the Atlantic Region in the calculations. In this case, the regional distribution of population is used as the point of comparison. By employing this indicator, we are attempting to identify industries which experienced interregional shifts in employment that are greater or less than can be "explained" by the interregional shifts in population.

	Coefficient of Localization	
	1961	1981
Agriculture	.266	.310
Forestry	.304	.329
Metal Mining	.207	.135
Mineral Fuels	.684	.703
Food and Beverage	.045	.103
Rubber Products	.328	.307
Clothing	.354	.335
Wood Industries	.324	.357
Primary Metals	.213	.264
Metal Fabricating	.221	.231
Industrial Machinery	.390	.258
Transportation Equipment	.211	.285
Electrical Products	.321	.347
Chemicals	.250	.211
Construction	.034	.131
Transportation Services	.054	.082
Finance	.079	.073
Insurance & Real Estate	.124	.108
Business Services	.131	.116
Accommodation & Food Services	.067	.085
Federal Government	.147	.107

The coefficients of localization are consistent with the results based on visual analysis of location quotients. However, the coefficients tend to obscure important interregional shifts in employment, shifts which are "netted out" in the computation of the coefficients. For example, the coefficient of localization indicates that the electrical products manufacturing industry became moderately more concentrated on a regional basis between 1961 and 1981. What it does not show is the emergence of fairly significant electrical products industries in the Atlantic and the West at the apparent "expense" of Quebec. Similarly, the coefficient shows that federal government employment became significantly less concentrated on a regional basis, but does not indicate the important improvements that occurred in Quebec and the Atlantic mainly at the expense of Ontario. These findings suggest that coefficients of localization should be used in conjunction with location quotients in analyzing shifts in economic activity between regions.

The location quotients and localization coefficients

provide useful information concerning the interregional shifts that occurred over the past twenty years, but tell us nothing about why these shifts occurred. This is, of course, the greatest failing of these and related indicators. In order to indentify underlying causes, other information must be collected and analyzed, and judgement needs to be applied.

Our analysis of 1961-1981 trends occurring in regional concentration and dispersion of industries did not uncover any general patterns that could be applied to a number of economic activities and regions. Some industries are becoming more concentrated, some more dispersed, while many others are experiencing major interregional shifts without incurring any change in concentration. In many cases, the interregional shifts appear to be based on forces that are specific to the industry under study, such as changes in comparative advantages between regions, changing national and international demands for the products and sub-industries that make up the industry, or linkages with other economic activities. In other cases, the establishment of one or a few major operations or the closing of an existing one would be major explanatory factors. To cite a few examples:

- The greater concentration of agriculture in Saskatchewan and Manitoba likely reflects the continuing strength of wheat and other grains compared with other food products.
- The interregional shifts in mineral fuels reflect, of course, the tremendous growth in the Alberta oil and gas sector plus the cutback in Cape Breton coal mining.
- The emergence of the Atlantic in food and beverage manufacturing could well reflect slower production growth in this manufacturing industry in the region compared with the rest of the country.
- The Atlantic's stronger position in rubber products reflects the establishment of the two Michelin plants

in Nova Scotia.

- Ontario's stronger position in primary metals likely results from the strength of the province's iron and steel industry.
- Interregional shifts in electrical products are perhaps the consequence of two factors: the weakness of Canada's consumer electronics industry, which explains, in part, the declining position of Quebec, and the development of a "high-tech" electronics industry which is largely concentrated in the Ottawa Valley and Toronto but is also beginning to develop in the Western provinces.
- The location quotients trace the growth of the Alberta chemical industry, but to date, this growth has not been "at the expense" of Ontario. Instead, Quebec is experiencing a relative decline in this industry.
- The growing concentration of the construction industry -- which tends to bely its local market oriented nature -- is consistent with currently high levels of investment in the three most westerly provinces (especially Alberta) and weak investment elsewhere in the country (particularly Quebec).
- The growing concentration of the transportation services industry in Western Canada is likely a response to the concentration of the agricultural sector in the West and the heavy transportation demands of other Western-based resource sectors (e.g., coal, metals, sulphur, forest products).
- Consistent with the development of Calgary as a major financial centre, Alberta's position in the finance industry has improved noticeably. However, Ontario continues to possess the largest location quotient in this activity.

The location quotients do indicate, however, that Western Canada's position showed significant improvements in the majority of economic activities. This can be seen in the

tendency for many of the Region's location quotients that were well below 1 in 1961 to be closer to unity twenty years later. What this implies for the structure and diversification of the Western Canadian economy will be investigated in the next sub-section. It should be noted, however, that important interprovincial shifts in employment occurred within the Western economy. In most cases, these shifts were at the expense of Manitoba. This tendency can be seen in the following industries: services incidental to mining, communications, wholesale trade, finance, insurance and real estate, and business services. These shifts between Western provinces result from the decreasing role of Winnipeg as a distribution and service centre for the Prairie provinces.

4.5 Location Quotient Analysis: Structural Change By Province and Region

At this point, the focus will change from interregional shifts within industries to structural changes and evidence of diversification on a province-by-province and region-by-region basis. In particular, the location quotients in Table 13 will be employed to identify the extent to which import competing industries have developed and new export activities have emerged in Western Canada over the past twenty years. The Atlantic Region will also be evaluated to provide a point of comparison and to identify industry developments common to both peripheral regions. Exhibit 4-2 lists two types of activities in each region: import competing industries that have experienced a significant increase in location quotient (typically 10% or more) over the period and new export activities which emerged between 1961 and 1981. In categorizing industries, other information and judgement was used in addition to the location quotients in Table 13.

EXHIBIT 4-2: IDENTIFICATION OF SUCCESSFUL IMPORT COMPETING AND NEW EXPORT ACTIVITIES

Western Canada	Atlantic Region
A. Successful Import Competing Industries	
Rubber Products	Services Incidental to Mining
Textiles	Textiles
Clothing	Clothing
Paper & Allied	Furniture & Fixtures
Printing & Publishing	Industrial Machinery
Metal Fabrication	Electrical Products
Industrial Machinery	Chemical Products
Transportation Equipment	Misc. Manufacturing
Electrical Products	Storage
Non-Metallic Mineral Products	Utilities
Chemicals	Insurance & Real Estate
Miscellaneous Manufacturing	Amusement and Recreation
	Business Services
	Accommodation & Food Services
	Provincial and Local Government
B. New Export Industries	
Non-Metallic Minerals	Metal Mines
	Food & Beverage
	Rubber Products
	Petroleum & Coal Products

Turning first to Western Canada, the location quotients identify only one new export activity, non-metallic mineral mining, reflecting the development of the potash industry in Saskatchewan. In broad terms, therefore, the West's export base did not change dramatically over the past two decades. It simply became much larger and more profitable. The location quotients do indicate significant improvements in a number of import competing manufacturing activities. However, the West's position in most of these activities remains quite modest, and in most cases the growth was to serve industrial rather than consumer markets. The location quotients, supplemented by the information presented earlier, clearly indicate that the West continues to satisfy the majority of its demands for consumer goods from Central Canadian production and imports. Finally, the location quotients suggest that while the West experienced strong growth in a number of key service industries (such as finance, insurance and real estate, and business services), the rate of increase was typically in line with growth in population and the overall Western economy.

In the case of the Atlantic Region, the location quotients suggest the emergence of four new export activities: metal mining (the iron ore mines in Labrador), rubber products (the Michelin plants in Nova Scotia), petroleum and coal products (new refining capacity), and food and beverages (perhaps a reflection of expanded fish plant capacity but regional differentials in productivity growth may also be important). As well, the Atlantic's position improved significantly in a number of important competing activities both in manufacturing and services.

The increases in some of the service sector location quotients seem particularly noteworthy. The improvements in mining services, insurance and real estate, and in business services, indicate that the Atlantic is capturing a growing share of the more highly skilled tertiary and

quaternary activities in Canada, while the improvement in accommodation and food services could be a reflection of the growth in Atlantic tourism. Both developments suggest a stronger and more diverse Atlantic economy compared with twenty years ago. The gains in a few of these activities should be interpreted with some caution: for example, the growth in utilities and in provincial and local government employment does not reflect important substitutions in the traditional sense of the term. Rather, these gains result from improvements in the Region's government services which brought the Atlantic much closer to national standards. Despite these increases in location quotients, the Atlantic's position in most of these activities, especially the manufacturing industries, remains quite modest.

A few comments should also be offered regarding structural changes in the Ontario and Quebec economies. The location quotients suggest that the structure of the Ontario economy has changed very little over the past twenty years. The location quotients in a few resource and primary manufacturing activities (e.g., metal mines, food and beverage, and wood products) declined, but in a number of resource manufacturing and service industries, Ontario improved at the apparent expense of Quebec. This was the situation for agriculture, forestry, quarries and sand pits, tobacco products, leather industries, textiles, knitting mills, furniture and fixtures, primary metals, transportation equipment, electrical products, petroleum and coal products, chemicals, and miscellaneous services. The only non-resource activities in which Ontario apparently lost ground to the West or the Atlantic were industrial machinery, finance, insurance and real estate, business services, and accommodation and food services. In most of these, the decreases in relative position were small.

Quebec's economic structure also experienced very little

fundamental change. However, the province lost ground in nearly all its major economic sectors. In addition to the industries listed earlier in discussing Ontario, there were other activities in which Quebec apparently lost ground to the West and the Atlantic: non-metallic mineral products, food and beverage, rubber products, paper and allied, metal fabricating, non-metallic mineral products, transportation services, insurance and real estate, accommodation and food services, and business services. In short, the location quotients do not suggest a wholesale shift of economic activity from Ontario to the West. In this regard, the Ontario economy has more than held its own. However, the analysis indicates that Quebec has experienced a loss in relative position in a wide range of economic activities, especially to Ontario. It is sometimes said that Western prosperity is largely based on "more of the same." It can also be said that Quebec's economic difficulties are largely based on "less of the same."

An earlier paragraph in this sub-section noted the importance of interprovincial shifts in economic activity within the Region. The following will highlight the major structural changes occurring in each province.

Manitoba: The location quotients illustrate a mixed performance in the resource activities, but a very strong performance in most manufacturing industries. In manufacturing, most of the location quotients increased, some quite dramatically. In light of the slow growth in the provincial market, the quotients suggest that Manitoba manufacturers have been quite successful in penetrating new markets in other Western provinces and elsewhere. Manitoba manufacturers have not enjoyed the strong local market growth that has stimulated industrial expansion in other parts of the West, but they apparently have made the most of the market opportunities available to them. Where

Manitoba has lost ground is in some of the critical service industries: storage, communications, wholesale trade, finance, insurance and real estate, business services, and accommodation and food services. As noted earlier, this situation largely reflects the strong reduction and readjustment in Winnipeg's role within the Prairie economy.

Saskatchewan. Over the past twenty years, Saskatchewan has consolidated and enhanced its position within the resource sectors. As well, significant improvements in location quotients were experienced in nearly all of the manufacturing industries and in a number of key service activities: communications, finance, insurance and real estate, accommodation and food services, and the federal government. A number of the improvements in the service sector were at the apparent expense of Manitoba. The Saskatchewan economy continues to be dominated by its resource sector, but its resource base is now more diverse and some important expansion has occurred in the rest of the economy. This expansion is largely based on the development of forward and backward linkages out of the resource sectors and the growth of activities serving the expanding provincial market.

Alberta. The location quotients in this province improved significantly in nearly all activities. The only significant declines occurred in agriculture, storage, and amusement and recreation. However, in many respects, the changes in economic structure are quite modest: the resource sectors continue to dominate; no new export activities emerged; and with a few exceptions, the improvements in the consumer products industries are quite small (most consumer demands are still satisfied by imports from Manitoba, Central Canada and other countries).

It appears that existing activities have responded

favorably to the strong growth in population and per capita income provided by the resource development and major projects. However, very few new activities have appeared (at the level of industry detail employed here). The most important developments relate to the growing strength of many manufacturing and service activities which supply the resource industries and other industrial markets. These developments can be seen in the significant increases in location quotients registered by primary metals, metal fabricating, industrial machinery, electrical products, chemicals, finance and business services. Information presented earlier suggests that Alberta and the West generally may be developing international strengths in some of the specialty product lines and specialized resources that are a part of these activities. This, however, is a very recent phenomenon which, as yet, has not resulted in any fundamental changes to the structure of the Alberta economy.

British Columbia. The British Columbia economy has experienced very little structural change over the past two decades and, if anything, has increased its dependence on the resource sector (albeit a resource sector which is quite highly diversified). No new activities were added to the province's export base, and the location quotients for its traditional resource activities and related manufacturing and service industries -- forestry, fishing, metal mining, mineral fuels, wood products, paper and allied industries, transportation services, and accommodation and food services -- remained very high and in some cases increased. Some of the manufacturing activities oriented toward consumer and industrial markets in Western Canada registered increases in location quotients, but in most cases the improvements were smaller than in the other Western provinces.

One of the people interviewed expressed the view that some British Columbia manufacturers and service firms are

relocating to Alberta because of its lower wages. The location quotients provide little apparent evidence of this. The only instances in which significant improvements in the Alberta quotient could be viewed as "at the expense" of British Columbia occurred in food and beverages, furniture and fixtures, primary metals, and business services. Wage differentials may have played a part in these interprovincial shifts in economic activity, but other economic factors, such as proximity to markets and sources of supply, may be of equal or greater significance.

The analysis up to this point provides some evidence that modest structural changes are occurring in the Western Canadian economy -- changes that could be interpreted as part of a diversifying trend. These changes are most apparent in the Alberta and Saskatchewan economies. As noted earlier, the location quotients that provide the basis for this preliminary finding employ as a benchmark the structural adjustments which have occurred in the national economy and take full account of interregional shifts in population. To repeat, location quotients that are below 1, but merging towards unity -- a situation which is occurring with some regularity in both Western Canada and the Atlantic -- are indicative of two developments: (1) the regional industry is capturing an increasing share of national employment in that industry; and (2) the increase in share is greater than the advance that would result from interregional shifts in population. These two developments, acting in concert, would suggest that not only are structural adjustments occurring over the 1961-81 period, but the adjustments are resulting in distributions of economic activity in the West and the Atlantic that are "more similar" to the national economic structure. This situation would satisfy both of the definitions of "quantitative" diversification that were offered in Chapter 2.

This hypothesis can be tested more directly through the employment of coefficients of specialization. As noted in Chapter 2, this coefficient measures the extent to which the distribution of employment by industry classes deviates from the same distribution for the total country or for some benchmark region which is viewed as more highly developed. A coefficient of zero indicates that the two distributions are identical. If employment in the region under review is concentrated in some activity, the coefficient approaches unity. The coefficients of specialization for 1961 and 1981 for Western Canada, its constituent provinces, and the Atlantic are presented below. The coefficients are based on the employment estimates by industry in Table 12 and employ as the benchmark the structure of the Ontario economy (rather than the nation as a whole). This is viewed as a stronger test of diversification since structural changes at the national level reflect, in part, the changes occurring in the West and the Atlantic.

	Coefficients of Specialization	
	1961	1981
Western Canada	.204	.176
Manitoba	.152	.140
Saskatchewan	.350	.243
Alberta	.238	.209
British Columbia	.187	.174
Atlantic Region	.248	.226

Turning first to Western Canada, it appears that Manitoba is most similar to Ontario in terms of economic structure, followed by British Columbia, Alberta, and Saskatchewan. This ranking, which did not change over the twenty-year period, is consistent with "conventional wisdom". With respect to changes over time, all four provinces tended to converge towards Ontario in terms of the distribution of employment, with Saskatchewan showing the greatest degree of convergence and Manitoba the least. The ranking of provinces by degree of convergence is the exact opposite

of the ranking based on similarity of structure. This suggests that the four provinces not only converged toward the Ontario structure, but also became more similar among themselves (at least in terms of the industry detail employed here). This is consistent with the results from studies on cross-country comparisons of economic structure. These studies illustrated that as countries achieve higher degrees of economic development and standards of living, their industrial distributions tend to become more similar. Specialization and divisions of labour still occur, but these are realized within industries rather than between industries. The analysis in the current assignment indicates that a similar process is occurring among Western provinces and between Western Canada and the rest of the country.

The coefficients of specialization illustrate that the Atlantic Region's distribution of employment also tended to converge towards the Ontario benchmark. This is consistent with the findings based on location quotients. Accordingly, the results of this sub-section provide evidence that the Western and Atlantic economies have achieved some degree of diversification in the sense that (1) structural changes which are resulting in a more equal distribution of employment between industries have been occurring, and (2) these changes have brought about some convergence between the structures of the Western and Atlantic economies on the one hand, and the structures of the Ontario economy and the total country on the other. Therefore, the two definitions of statistical or quantitative diversification have been satisfied, albeit to a modest degree only. The question of what this diversification implies for the "quality" of the Western economy will be left for the final chapter.

4.6 Urbanization and Diversification

The literature views economic diversification and urbanization as two highly interrelated forces. Manufacturing and higher order service firms are typically attracted to larger centres because of the skilled labour, intermediate inputs, and agglomeration economies they provide. As well, expanding metropolitan areas offer the concentrated, high income markets necessary to encourage the development of local-market oriented industry. A full analysis of the contributions made by the West's larger centres to the Region's economic development cannot be conducted until the complete 1981 Census results are available. However, Tables 14 through 16 of Appendix A provide partial information on recent trends in the West's largest cities. Table 14 shows that with the exception of Winnipeg, the West's metropolitan areas from 1971 to 1981 experienced much stronger growth than the metropolitan areas in the rest of the country. As expected, the most rapid growth was achieved by Calgary and Edmonton followed by Saskatoon, Victoria, and Regina. The most noteworthy feature of the other regions is the very modest gains in population achieved by the metropolitan areas (mainly Montreal) in Quebec.

Using data from the Large Firms Survey of Statistics Canada, Table 15 compares employment growth in selected industries across ten cities in Canada. The 1971-81 growth in employment is consistent with trends in population. Calgary has experienced the most rapid gains in employment, followed by Edmonton, Saskatchewan and Regina. Montreal displayed the least growth in employment over the past ten-year period. In all of the Western metropolitan areas, the service industries recorded much faster growth in employment than manufacturing, with particularly rapid increases indicated for finance, insurance and real estate, and commercial services. This is consistent with the national and region-wide growth patterns discussed

earlier, and illustrates (as would be expected) that the West's metropolitan areas captured the lion's share of the jobs created in business services, finance, and other higher order services. The suggestion is that the Region's larger centres were the locations of most of the economic diversification identified earlier on a province and region-wide basis. This, however, can be confirmed only when the full Census information is available.

It is noteworthy, however, that from 1971 to 1981 growth in the Region's metropolitan areas only kept pace with growth in the total regional population. A number of the West's secondary centres and resource towns achieved important gains in population and employment over the past decade. Table 16 illustrates that the most rapid gains were realized by Fort McMurray, Kelowna, Red Deer, Medicine Hat, Nanaimo, Kamloops, Prince George, and Lethbridge. All of these centres achieved population advances that compare favorably with the advances in the West's metropolitan area. Decentralizing growth among different regions and communities is an objective of all four provincial governments, as well as the federal government, in Western Canada. Table 16 suggests that from 1971 to 1981 this objective was achieved in Alberta and British Columbia, and that Saskatchewan and Manitoba have also had some success in this regard.

FOOTNOTES TO CHAPTER 4

1. Province of British Columbia, "External Trade Report", 1980.

2. See for example, Nonie and Percy, "Westward Shift and Interregional Adjustment",

3. See Mallon and Potter, "Changes in the Apparent Relative Market Positions of Manufacturers of Particular Regions, 1967-1974", Canadian Statistical Review, 1979.

4. These are industries in which location quotients by region tended to merge towards unity over the 1961-81 period.

5. These are industries in which location quotients by region tended to diverge from unity over the 1961-81 period.

6. The term "at the expense of" is used in this Chapter in a statistical sense only, and does not imply that firms relocated from one province to another.

5.0 CONCLUDING COMMENTS

5.1 Summary of Major Findings from Chapters 3 and 4

1. Analysis of the West's relative position in the major economic indicators confirms the westward shift in the national economy. However, it would be a mistake to exaggerate the speed of this shift -- especially in population.

   Not all provinces shared equally in the West's recent growth and prosperity. Regardless of developments over the last decade, the West may never surpass the Windsor to Quebec axis in terms of market size and concentration.

2. The westward shift has been highly concentrated both geographically (mostly in Alberta) and sectorally (mostly in a few resource commodities). As well, shifts in the terms of trade in favour of the West made an important contribution. These factors place in question whether the pace of interregional adjustment displayed between 1971 and 1981 can be sustained over a longer term.

3. The West's share of national manufacturing employment increased over 1971-81, but only in line with its growing share of the national population. However, manufacturing value added per capita in the region moved closer to the national norm.

4. When broad industry groupings are analyzed, all regions of the country show shifts in employment in favour of the service industries. As well, manufacturing's contributions to employment and production show a decrease in all regions with the exception of the Prairies. The contributions of secondary manufacturing industries displayed a similar

decline, while manufacturing's share of total investment tended to decrease in the West and in the entire nation.

5. The shifts in major industry groupings indicate that some important structural adjustments have occurred, but that very little industrial diversification has taken place in Canada and its constituent regions over the last decade.

6. The West's industrial performance over the past decade points out the difficulty of achieving industrial diversification goals in the middle of a resource boom.

7. The diversity of the West's resource sectors lends an important degree of strength and stability to the region's economy. However, because world commodity markets move together through time, and because of the limited employment and spin-off benefits traditionally provided by the West's resource production, diversification based on the resource sectors alone may not be enough.

8. As was generally true for the rest of Canada, the West achieved little success over the past decade in adding value to its resource commodities prior to export. The major exception is petro-chemicals in Alberta.

9. Analysis of supply and self-supply ratios derived from destination of manufacturing shipments data for 1967, 1974, and 1979 provides little indication of a sustained import substitution trend in Western Canada. In particular, the West's self-supply ratio showed no change from 1974 to 1979 despite the import substitution programs of the provincial governments. On the other hand, the Atlantic's self-supply ratio increased steadily, reflecting in part the industrial

incentives programs of the federal and provincial governments over this twelve year period.

10. While Central Canadian producers continue to dominate the nation's markets for manufactured goods, manufacturers in the peripheral regions, both East and West, appear to be making some headway in penetrating markets in other provinces.

11. Western Canadian manufacturers are selling a growing proportion of their output in international markets. More detailed industry and product data do not suggest broad based industrial diversification, but rather increasing competitiveness in certain specialty lines serving the resource industries and other industrial markets.

12. When points 9 through 11 are considered together, it seems that the Western manufacturing sector, rather than expanding across a broad range of product lines to replace imports, is specializing in a relatively few product lines which offer the potential for export sales.

13. The location quotients and localization coefficients indicated that some industries became less concentrated on a regional basis over the last two decades. However, about the same number became more concentrated. In general, the assessment of interregional shifts did not bring to light any overall patterns relevant to a number of economic activities and regions. Each industry should be evaluated separately.

14. Viewed on a regional basis, Western Canada's position showed significant improvements in the majority of economic activities. However, important interprovincial shifts in employment occurred within

the Western economy. In particular, Manitoba lost ground to Alberta and Saskatchewan in a number of higher order service activities.

15. There were no major additions to the West's export base over the past two decades, but a number of (apparent) import competing industries experienced significant improvements. The West's position in most of these remains quite modest, and, in most cases, the growth was directed toward industrial, rather than consumer, markets.

16. The location quotients in the Atlantic showed the addition of some activities to the region's export base, but a more significant development was the improvement in a number of import competing activities, particularly in higher order services.

17. Between 1961 and 1981, the economic structures of Quebec and Ontario experienced little fundamental change. However, Quebec lost ground to Ontario in the majority of manufacturing activities. In contrast, Ontario lost ground to the West and the Atlantic in relatively few industries. A number of the improvements in the West and the Atlantic appeared to be "at the expense of" Quebec.

18. Manitoba experienced significant improvements in the majority of manufacturing industries, while recording relative declines in many service functions.

19. Saskatchewan, while consolidating and expanding its resource base, recorded significant improvements in location quotients in nearly all of the manufacturing activities as well as in some of the key service functions.

20. Alberta experienced improvements in nearly all the

location quotients, but in other respects the changes in economic structure were quite modest. The resource sectors continued to dominate, no new export activities emerged, and the improvements in the consumer products industries were quite small. The location quotients further suggest that the most important developments involve the growing strengths of many manufacturing and service activities which supply the resource industries and other industrial markets.

21. The British Columbia economy experienced very little structural change over the past two decades. If anything, it increased its dependence on the resource sectors. For those manufacturing industries with location quotients below 1, fewer displayed improvements than in the other Western provinces. Those that did display improvement typically recorded smaller gains.

22. Coefficients of specialization indicate that in terms of the distribution of economic activity Manitoba is the western province that is most similar to Ontario, followed by British Columbia, Alberta, and Saskatchewan. This ranking did not change between 1961 and 1981. In terms of changes over time, the degree of convergence, in fact, was in the reverse order. This suggests that all four provinces became more similar to Ontario and to each other in terms of economic structure over the 1961 to 1981 period.

23. The location quotients and related indicators provide evidence that the Western and Altantic economies have achieved some degree of diversification in the sense that: (a) structural changes leading to a more equal distribution of employment between industries have been occurring, and (b) these changes have brought about some convergence between the structures of the

Western and Atlantic economies on the one hand and of the Ontario and national economies on the other.

24. The analysis of population and employment trends in the West's metropolitan areas suggests that the region's larger centres were the locations for most of the economic diversification which was identified on a province and region-wide basis.

5.2 Diversification and Its Implications for Western Economic Strength and Future Prospects

The analysis of broad industry groupings in Chapter 3 identified very little in the way of structural change that could be viewed as consistent with the diversification process. However, as greater industry detail and more sophisticated techniques were employed, it became possible to discern some structural changes that could be interpreted as diversification in the statistical sense of the term. The amount of diversification appears to be modest, since the West is still satisfying most of its consumer product and industrial demands from imports from other provinces and countries. However, a diversification process appears to be getting underway. If it were possible to get down to the level of the individual product and establishment, even more diversification might become apparent.

Important questions remain concerning the significance of these developments for the Western and Canadian economies. The indicators employed in this analysis measure diversification only in a statistical sense. They are unable to answer more fundamental questions regarding long-term economic structure and prospects. It may be too early to tell whether the developments identified here reflect a fundamental change in the structure of the Western economy. However, the Western economy will likely remain dependent on its resource base for a long time to

come.

It appears that the West is starting to derive larger benefits from its primary sectors than it has in the past, and these benefits are taking the form of greater backward linkages and expanded populations and incomes to support local market oriented manufacturing and service activities. Some of these resource-related activities are generating products and services that are becoming competitive on world markets. These benefits also have an important human dimension: a high school or university graduate today in Western Canada can choose among a greater range of occupations than a graduate twenty years ago, and fewer graduates will be forced to leave the West to pursue a career elsewhere.

The process of diversification will doubtless be slow, but it is possible that these developments will lay the foundation for a less resource dependent economy in Western Canada at some point in the future.

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APPENDIX A

TABLE 1: REGIONAL PERFORMANCE IN MAJOR INDICATORS: 1971 - 1971

	Total Canada	Man.		Sask.		Alta.		B. C.		Western Canada		Ont.		Que.		Atlantic	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total Population ('000)																	
1971	21,568	988	4.6	926	4.3	1,628	7.5	2,185	10.1	5,727	26.6	7,703	35.7	6,028	27.9	2,058	9.5
1981	24,105	1,017	4.2	957	4.0	2,208	9.2	2,716	11.3	6,899	28.6	8,552	35.5	6,378	26.5	2,210	9.2
Total Employment ('000)																	
1971	8,104	379	4.7	334	4.1	643	7.9	834	10.3	2,190	27.0	3,113	40.9	2,175	26.8	625	7.7
1981	10,933	462	4.2	432	4.0	1,093	10.0	1,247	11.4	3,234	29.6	4,186	38.3	2,685	24.6	827	7.6
Manufacturing Employment ('000)																	
1971	1,766	51	2.9	19	1.1	59	3.3	144	8.2	273	15.5	830	47.0	569	32.2	94	5.3
1981	2,120	68	3.2	25	1.2	101	4.8	180	8.5	374	17.6	1,044	49.2	586	27.6	117	5.5
Provincial Gross Domestic Product ($ Million)																	
1971	95,071	3,948	4.2	3,507	3.7	7,951	8.4	10,289	10.8	25,695	27.0	39,829	41.9	23,620	24.8	5,698	6.0
1980	297,450	11,106	3.7	13,041	4.4	40,174	13.5	36,507	12.3	100,828	33.9	111,740	37.6	67,792	22.8	16,168	5.4
Gross Domestic Product Per Capita ($)																	
1971	4,408	3,996	90.7	3,787	85.9	4,884	110.8	4,709	106.8	4,487	101.8	5,171	117.3	3,918	88.9	2,769	62.8
1980	12,438	10,804	86.9	13,458	108.2	19,324	155.4	13,844	111.3	15,120	121.6	13,039	104.8	10,756	86.5	7,141	57.4
Real Domestic Product (Millions of 1971 $)																	
1971	83,227	3,537	4.2	3,199	3.8	7,390	8.9	9,071	10.9	23,197	27.9	34,619	41.6	20,018	24.1	5,104	6.1
1981	119,649	4,538	3.8	4,408	3.7	14,183	11.9	14,561	12.2	37,690	31.5	46,677	39.0	27,721	23.2	7,143	6.0
Total Personal Income ($ Millions)																	
1971	74,092	3,192	4.3	2,555	3.4	5,534	7.5	8,182	11.0	19,463	26.3	30,966	41.8	18,369	24.8	5,076	6.9
1980	237,272	9,133	3.8	8,757	3.7	23,030	9.7	29,111	12.3	70,031	29.5	91,002	38.4	59,144	24.9	16,261	6.9
Personal Income Per Capita ($)																	
1971	3,435	3,231	94.1	2,759	80.3	3,399	99.0	3,745	109.0	3,398	98.9	4,020	117.0	3,047	88.7	2,466	71.8
1980	9,913	8,876	89.5	9,028	91.1	11,067	111.6	11,027	111.2	10,419	105.1	10,614	107.1	9,370	94.5	7,181	72.4
Personal Disposable Income Per Capita ($)																	
1971	2,777	2,656	95.6	2,377	85.6	2,767	99.6	3,017	108.6	2,780	100.1	3,189	114.8	2,489	89.6	2,080	74.9
1980	8,040	7,533	93.7	7,634	95.0	8,967	111.5	8,999	111.9	8,567	106.6	8,635	107.4	7,414	92.2	5,968	74.2
Census Value Added In Production ($ Millions)																	
1971	39,880	1,334	3.3	1,623	4.1	3,756	9.4	4,043	10.1	10,756	27.0	17,330	43.5	9,510	23.8	2,186	5.5
1978	103,624	3,263	3.1	4,537	4.4	17,705	17.1	11,176	10.8	36,681	35.4	38,719	37.4	22,272	21.5	5,442	5.3

TABLE 1: REGIONAL PERFORMANCE IN MAJOR INDICATORS: 1971 - 1971 (cont'd)

	Total Canada	Man.		Sask.		Alta.		B. C.		Western Canada		Ont.		Que.		Atlantic	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Census Value Added in Manufacturing ($ Millions)																	
1971	23,188	559	2.4	218	.9	785	3.4	1,913	8.2	3,475	15.0	12,537	54.1	6,406	27.6	767	3.3
1979	64,354	1,661	2.6	693	1.1	3,016	4.7	6,485	10.1	11,855	18.4	32,747	50.9	17,110	26.6	2,632	4.1
Manufacturing Value Added Per Capita ($)																	
1971	1,075	566	52.7	235	21.9	482	44.8	876	81.5	607	56.5	1,628	151.4	1,063	98.9	373	34.7
1979	2,719	1,609	59.2	723	26.6	1,499	55.1	2,623	92.8	1,803	66.3	3,851	141.6	2,723	100.1	1,172	43.1
Average Weekly Earnings: Industrial Composite ($, June)																	
1971	138.06	123.75	89.6	122.28	88.6	138.93	100.6	153.42	111.1	140.54	101.8	144.09	104.4	132.23	95.8	112.80	81.7
1981	355.43	316.07	88.9	338.31	95.2	393.70	110.8	409.06	115.1	382.78	107.7	348.21	98.0	351.97	99.0	304.17	85.6
Average Weekly Earnings: Manufacturing ($, June)																	
1971	144.45	126.09	87.3	141.70	98.1	149.90	103.8	163.50	113.2	151.78	105.1	153.10	106.0	132.22	91.5	111.76	77.4
1981	383.09	330.55	86.3	390.03	101.8	425.59	111.1	453.42	118.4	420.68	109.8	388.79	101.5	361.60	101.5	327.27	85.4
Total Investment ($ Millions)																	
1971	26,244	1,075	4.1	963	3.7	2,718	10.4	3,713	14.1	8,469	32.3	9,778	37.3	5,453	20.8	2,329	8.9
1981	*99,485	3,100	3.1	5,351	5.4	20,688	20.8	14,111	14.2	43,250	43.5	29,625	29.8	18,369	18.5	6,701	6.7
Manufacturing Investment ($ Million)																	
1971	4,477	90	2.0	40	.9	187	4.2	637	14.2	954	21.3	2,081	46.5	892	19.9	550	12.3
1981	*17,972	292	1.6	200	1.1	1,857	10.3	2,394	13.3	4,743	26.4	8,765	48.8	3,435	19.1	1,029	5.7
Farm Cash Receipts ($ Million)																	
1971	4,564	373	8.2	908	19.9	781	17.1	225	4.9	2,287	50.1	1,428	31.3	692	15.2	158	3.5
1981	18,544	1,622	8.7	3,962	21.4	3,873	20.9	877	4.7	10,334	55.7	4,970	26.8	2,639	14.2	602	3.2
Value of Mineral Production ($ Million)																	
1971	5,198	233	4.5	399	7.7	1,552	29.9	457	8.8	2,641	50.8	1,299	25.0	650	12.5	453	8.7
1981	33,085	671	2.0	2,410	7.3	17,571	53.1	2,972	9.0	23,624	71.4	4,318	13.1	2,383	7.2	4,567	13.8
Retail Trade ($ Million)																	
1971	30,646	1,318	4.3	1,139	3.7	2,467	8.0	3,613	11.8	8,537	27.9	11,877	38.8	7,681	25.1	2,532	8.3
1980	83,889	3,152	3.8	3,468	4.1	9,354	11.2	10,514	12.5	26,488	31.6	29,644	35.3	20,884	24.9	6,635	7.9
Cheques Cashed ($ Million)																	
1971	900,114	42,866	4.8	16,656	1.9	53,489	5.9	64,994	7.2	178,005	19.8	462,323	51.4	239,105	26.6	20,377	2.3
1981	6,594,336	197,791	3.0	69,223	1.0	555,938	8.4	519,385	7.9	1,342,337	20.4	4175,583	63.3	981,636	14.9	94,779	1.4

* Revised Intentions: Mid-Year October 1981

TABLE 1: REGIONAL PERFORMANCE IN MAJOR INDICATORS: 1971 - 1981 (cont'd)

Total Exports ($ Million)																
1971	17,820	349	2.0	317	1.8	1,171	6.6	2,836	15.5	4,673	26.2	7,949	44.6	4,215	23.7	876	4.9
1981	83,352	1,376	1.7	1,851	2.2	9,682	11.6	13,010	15.6	25,919	31.1	33,786	40.5	18,592	22.3	5,034	6.0
Merchandise Trade Balance [1] ($ Million)																
1971	2,202	(128)	(5.8)	203	9.2	726	33.0	1,496	67.9	2,297	104.3	(786)	(35.7)	346	15.7	167	7.6
1981	4,687	(907)	(19.4)	837	17.9	6,454	137.7	5,051	107.8	11,435	244.0	(8,806)	(187.8)	2,383	50.8	(339)	(7.2)

Source: Various Statistics Canada Publications and the Conference Board.

[1] Brackets indicate a negative trade balance.

TABLE 2: INDUSTRIAL DISTRIBUTION OF EMPLOYMENT: 1971 AND 1981

	Total Canada		Man.		Sask.		Alta.		BC		Western Canada		Ont.		Que.		Atlantic Canada	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
1. Agriculture	492	484	46	43	89	88	89	87	24	26	248	244	129	142	92	77	23	21
% of Total	6.1	4.4	12.1	9.3	26.6	20.4	13.8	8.0	2.9	2.1	11.3	7.5	4.1	3.4	4.2	2.9	3.7	2.5
2. Other Primary	221	314	6	6	7	15	26	69	40	62	79	152	57	60	43	51	42	51
% of Total	2.7	2.5	1.6	1.3	2.1	3.5	4.0	6.3	4.8	5.0	3.6	4.7	1.8	1.4	2.0	1.9	6.7	6.2
3. Sub-Total Primary	773	798	52	49	96	103	115	156	64	88	327	396	186	202	135	128	65	72
% of Total	9.5	7.3	13.7	10.6	28.7	23.8	17.9	14.3	7.7	7.1	14.9	12.2	6.0	4.8	6.2	4.8	10.4	8.7
4. Manufacturing	1766	2120	51	68	19	25	59	101	144	180	273	374	830	1044	569	586	94	117
% of Total	21.8	19.4	13.5	14.7	5.7	5.8	9.2	9.2	17.3	14.4	12.5	11.6	26.7	24.9	26.2	21.8	15.0	14.1
5. Construction	489	645	18	21	16	28	43	114	59	91	136	254	189	217	117	123	47	51
% of Total	6.0	5.9	4.7	4.5	4.8	6.5	6.7	10.4	7.1	7.3	6.2	7.9	6.1	5.2	5.4	4.6	7.5	6.2
6. Transportation etc.	696	904	44	51	27	33	56	90	86	126	213	300	229	300	184	227	70	77
% of Total	8.6	8.3	11.6	11.0	8.1	7.6	8.7	8.2	10.3	10.1	9.7	9.3	7.4	7.2	8.5	8.5	11.2	9.3
7. Trade	1310	1875	65	80	53	76	110	193	158	227	386	576	478	678	334	462	112	160
% of Total	16.2	17.1	17.2	17.3	15.9	17.6	17.1	17.7	18.9	18.2	17.6	17.8	15.4	16.2	15.4	17.2	17.9	19.3
8. Finance, Insurance and Real Estate	383	592	18	24	10	19	29	57	44	71	101	171	163	250	99	139	20	32
% of Total	4.7	5.4	4.7	5.2	3.0	4.4	4.5	5.2	5.3	5.7	4.6	5.3	5.2	6.0	4.6	5.2	3.2	3.9
9. Community, Business & Personal Services	2087	3238	99	135	81	117	171	307	217	384	568	943	768	1223	590	828	161	244
% of Total	25.8	29.6	26.1	29,2	24.3	27.1	26.6	28.1	26.0	30.8	25.9	29.2	24.7	29.2	27.1	30.8	25.8	29.5
10. Public Admin.	515	761	26	35	21	31	39	75	48	80	134	221	202	273	132	192	47	75
% of Total	6.4	7.0	7.7	7.6	6.3	7.2	6.1	6.9	5.8	6.4	6.1	6.8	6.5	6.5	6.1	7.2	7.5	9.1
11. Sub-Total: Services	4991	7370	252	325	192	276	405	722	553	888	1402	2211	1840	2724	1339	1848	410	588
% of Total	61.6	67.4	66.5	70.3	57.5	63.9	63.0	66.1	66.3	71.2	64.0	68.4	59.1	65.1	61.6	68.8	65.6	71.1
12. Total: All Industries	8104	10933	379	462	334	432	643	1093	834	1247	2190	3234	3113	4186	2175	2685	625	827

TABLE 3: DISTRIBUTION OF EMPLOYMENT BY OCCUPATION: 1975 and 1981

	Canada		Man.		Sask.		Alta.		B. C.		West.Canada		Ont.		Que.		Atlantic	
	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981
Managerial, Administrative & Professional	2,026	2,585	84	107	65	88	160	263	212	292	521	750	821	995	545	658	139	184
% of Total	21.6	23.6	20.0	23.2	17.4	20.4	20.6	24.1	21.0	23.4	20.2	23.2	22.7	23.8	22.2	24.5	19.3	22.2
Clerical	1,640	1,934	69	77	48	58	121	184	173	218	411	537	661	771	453	494	115	131
% of Total	17.5	17.7	16.4	16.7	12.9	13.4	15.6	16.8	17.1	17.5	16.0	16.6	18.3	18.4	18.5	18.4	16.0	15.8
Sales	1,039	1,125	46	45	39	43	94	114	125	139	304	341	410	422	242	274	83	87
% of Total	11.1	10.3	11.0	9.7	10.5	10.0	12.1	10.4	12.4	11.1	11.8	10.5	11.3	10.1	9.9	10.2	11.5	10.5
Service	1,138	1,468	53	66	38	56	88	134	143	185	322	441	434	555	291	352	91	120
% of Total	12.2	13.4	12.6	14.3	10.2	13.0	11.3	12.3	14.2	14.8	12.5	13.6	12.0	13.3	11.9	13.1	12.7	14.5
Primary	625	672	43	47	110	95	120	108	43	61	316	311	150	187	103	110	56	65
% of Total	6.7	6.1	10.2	10.2	29.5	22.0	15.4	9.9	4.3	4.9	12.3	9.6	4.2	4.5	4.2	4.1	7.8	7.9
Processing	1,486	1,664	59	65	28	33	77	109	136	160	300	367	630	720	460	468	96	110
% of Total	15.5	15.2	14.0	14.1	7.5	7.6	9.9	10.0	13.5	12.8	11.6	11.3	17.4	17.2	18.8	17.4	13.4	13.3
Construction	652	658	31	24	23	30	61	98	84	94	199	246	234	223	148	131	71	58
% of Total	7.0	6.0	7.4	5.2	6.2	6.9	7.8	9.0	8.3	7.5	7.7	7.6	6.5	5.3	6.0	4.9	9.9	7.0
Transportation	389	409	20	18	11	15	31	47	50	54	112	134	128	143	110	94	39	38
% of Total	4.2	3.7	4.8	3.9	2.9	3.5	4.0	4.3	5.0	4.3	4.3	4.1	3.5	3.4	4.5	3.5	5.4	4.6
Materials, Handling & Other Crafts	368	417	14	15	11	14	23	36	43	45	91	110	146	171	102	104	29	32
% of Total	3.9	3.8	3.3	3.2	2.9	3.2	3.0	3.3	4.3	3.6	3.5	3.4	4.0	4.1	4.2	3.9	4.0	3.9
Total: All Occupations	9,363	10,933	420	462	373	432	778	1,093	1,009	1,247	2,576	3,237	3,613	4,186	2,452	2,685	719	827

TABLE 4: STRUCTURE OF REAL DOMESTIC PRODUCT: 1971 AND 1981 - MILLIONS OF 1971 DOLLARS

	Total Canada		Man.		Sask.		Alta.		B. C.		Western Canada		Ont.		Que.		Atlantic Canada	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
Agriculture	2,696	3,029	250	312	761	734	456	594	112	209	1,579	1,849	683	747	351	426	81	87
% of Total	3.2	2.5	7.1	6.9	23.8	16.7	6.2	4.2	1.2	1.4	6.8	4.9	2.0	1.6	1.8	1.5	1.6	1.2
Forests	668	707	5	6	7	9	10	13	351	386	373	414	100	106	136	127	60	59
% of Total	.8	.6	.1	.1	.2	.2	.1	.1	3.9	2.7	1.6	1.1	.3	.2	.7	.5	1.2	0.8
Fishing	148	182	3	5	2	2	2	3	40	39	47	49	7	10	9	8	85	114
% of Total	.2	.2	.1	.1	.1	.0	.0	.0	.4	.3	.2	.1	.0	.0	.0	.0	1.7	1.6
Mining	3,145	3,271	147	92	260	282	1,091	1,416	275	334	1,773	2,124	674	482	338	269	246	300
% of Total	3.8	2.7	4.2	2.0	8.1	6.4	14.8	10.0	3.0	2.3	7.6	5.6	1.9	1.0	1.7	1.0	4.8	4.2
Manufacturing	19,034	26,402	464	624	176	278	652	1,441	1,583	2,336	2,875	4,679	10,228	13,701	5,292	7,052	637	966
% of Total	22.9	22.1	13.1	13.8	5.5	6.3	8.8	10.2	17.5	16.0	12.4	12.4	29.5	29.4	26.4	25.4	12.5	13.5
Construction	5,848	6,888	218	142	178	362	691	1,813	791	1,046	1,878	3,363	2,074	1,660	1,277	1,266	562	477
% of Total	7.0	5.8	6.2	3.1	5.6	8.2	9.4	12.8	8.7	7.2	8.1	8.9	6.0	3.6	6.4	4.6	11.0	6.7
Utilities	2,194	3,878	105	175	100	150	197	396	226	425	628	1,146	805	1,217	597	1,152	155	344
% of Total	2.6	3.2	3.0	3.9	3.1	3.4	2.7	2.8	2.5	2.9	2.7	3.0	2.3	2.6	3.0	4.2	3.0	4.8
Total Goods	33,733	44,356	1,193	1,357	1,484	1,816	3,099	5,676	3,378	4,695	9,154	13,544	14,571	17,923	7,999	10,300	1,826	2,348
% of Total	40.5	37.1	33.7	29.9	46.4	41.2	41.9	40.0	37.2	32.2	39.5	35.5	42.1	38.4	40.0	37.2	35.8	32.9
Trans., etc.	7,894	12,943	560	822	484	693	921	2,009	1,135	2,186	3,100	5,710	2,407	3,612	1,805	2,668	563	929
% of Total	9.5	10.8	15.8	18.1	15.1	15.7	12.5	14.2	12.5	15.0	13.4	15.1	7.0	7.7	9.0	9.6	11.0	13.0
Trade	9,784	14,861	463	613	312	529	781	1,707	1,180	1,591	2,736	4,440	3,956	5,519	2,403	3,555	684	957
% of Total	11.8	12.4	13.1	13.5	9.8	12.0	10.6	12.0	13.0	10.5	11.8	11.8	11.4	11.8	12.0	12.8	13.4	13.4
Finance, Ins., & Real Estate	9,585	15,615	422	616	266	444	730	1,519	1,095	1,969	2,513	4,548	4,246	6,812	2,272	3,337	544	885
% of Total	11.5	13.1	11.9	13.6	8.3	10.1	9.9	10.7	12.1	13.5	10.8	12.1	12.3	14.6	11.3	12.0	10.7	12.4
Community Bus. & Pers.Serv.	16,079	23,780	608	783	432	616	1,362	2,420	1,654	2,796	4,047	6,615	6,962	9,932	4,264	6,110	774	1,065
% of Total	19.3	19.9	17.2	17.3	13.2	14.0	18.4	17.1	18.2	19.2	17.4	17.6	20.1	21.3	21.3	22.0	15.2	14.9
Public Admin. & Defense	6,152	8,092	290	354	231	309	498	853	628	964	1,647	2,471	2,477	2,878	1,275	1,750	724	961
% of Total	7.4	6.8	8.2	7.6	7.2	7.0	6.7	6.0	6.9	6.6	7.1	6.6	7.2	6.2	6.4	6.3	14.2	13.5
Total Services	49,494	75,291	2,344	3,180	1,715	2,592	4,291	8,507	5,693	9,866	14,043	24,145	20,048	28,754	12,019	17,420	3,278	4,794
% of Total	59.5	62.9	66.3	70.1	53.6	58.8	58.1	60.0	62.8	67.8	60.5	64.1	57.9	61.6	60.0	62.8	64.2	67.1
All Industries	83,227	119,649	3,537	4,538	3,199	4,408	7,390	14,183	9,071	14,561	23,197	37,690	34,619	46,677	20,018	27,721	5,014	7,143

TABLE 5: STRUCTURE OF GOODS PRODUCTION - 1971 AND 1978 - MILLIONS OF DOLLARS

	Total Canada		Man.		Sask.		Alta.		B. C.		Western Canada		Ont.		Que.		Atlantic Canada	
	1971	1978	1971	1978	1971	1978	1971	1978	1971	1978	1971	1978	1971	1978	1971	1978	1971	1978
Agriculture	2,686	6,739	256	646	749	1,735	467	1,359	122	303	1,594	4,043	682	1,669	329	811	81	216
% of Total	6.7	6.5	19.1	19.7	46.1	38.2	12.4	7.6	3.0	2.7	14.8	11.0	3.9	4.3	3.4	3.6	3.7	3.9
Fish.& Trap.	217	765	4	17	3	11	3	12	59	255	69	295	10	32	12	40	123	392
% of Total	0.5	0.7	.2	.5	.1	.2	.0	.0	1.4	2.2	.6	.8	.0	.0	.1	.1	5.6	7.2
Forestry	698	1,648	5	16	7	31	10	32	357	849	379	928	107	254	145	324	67	152
% of Total	1.7	1.5	.3	.4	.4	.6	.2	.1	8.8	7.5	3.5	2.5	.6	.6	1.5	1.4	3.0	2.7
Manufacturing	23,188	54,635	559	1,339	218	568	785	2,544	1,913	5,553	3,475	10,004	12,537	27,787	6,406	14,633	767	2,202
% of Total	58.1	52.7	41.9	41.0	13.4	12.5	20.8	14.3	47.3	49.6	32.3	27.2	72.3	71.7	67.3	65.7	35.0	40.4
Electric Power	1,685	5,279	80	326	66	143	109	369	175	567	430	1,405	582	1,917	526	1,440	137	488
% of Total	4.2	5.0	5.9	9.9	4.0	3.1	2.9	2.0	4.3	5.0	3.9	3.8	3.3	4.9	5.5	6.4	6.2	8.9
Construction	7,581	19,648	283	696	321	844	895	4,279	1,099	2,460	2,508	8,279	2,689	5,609	1,655	4,124	728	1,411
% of Total	19.0	18.9	21.2	21.3	14.2	18.6	23.8	24.1	27.1	22.0	23.3	22.5	15.5	14.4	17.4	18.5	33.3	25.9
Mining	3,826	14,912	148	223	349	1,216	1,486	9,110	317	1,189	2,300	11,738	724	1,450	436	900	283	580
% of Total	9.5	14.2	11.0	6.8	21.5	26.8	39.5	51.4	7.8	10.5	21.3	32.0	4.1	3.7	4.5	4.0	12.9	10.6
Total Goods Production	39,880	103,624	1,334	3,263	1,623	4,537	3,756	17,705	4,043	11,176	10,756	36,681	17,330	38,719	9,510	22,272	2,186	5,442

Source: Statistics Canada, Catalogue No. 61-202

TABLE 6: VALUE OF MINERAL PRODUCTION WESTERN CANADA: SELECTED MINERALS - 1971 AND 1981 ($ Million)

	Man.		Sask.		Alta.		B. C.		Total Western Canada		Total Canada		West as % of Canada	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
Cobalt	1.4	13.9	-	-	-	-	-	-	1.4	13.9	9.4	102.0	14.9	13.6
Copper	58.4	127.8	11.8	12.2	-	-	148.1	684.0	218.3	824.0	760.0	1,590.8	28.7	51.8
Gold	1.1	22.1	0.9	5.4	-	2.1	3.2	136.2	5.2	165.8	79.9	881.1	6.5	18.8
Lead	-	0.4	-	-	-	-	33.5	78.0	33.5	78.4	109.5	267.9	30.6	29.3
Iron Ore	-	-	-	-	-	-	18.2	24.2	18.2	24.2	555.1	1,917.6	3.3	1.3
Molybdenum	-	-	-	-	-	-	37.0	299.7	37.0	299.7	38.4	317.2	96.4	94.5
Silver	1.1	11.3	0.4	2.3	-	-	12.0	156.7	13.5	170.3	71.8	487.3	18.8	34.9
Uranium	-	-	1.2	301.7	-	-	-	-	1.2	301.7	8.2	769.6	14.6	39.2
Zinc	8.4	47.2	2.9	7.6	-	-	51.1	74.7	62.4	129.5	418.2	1,193.5	14.9	10.9
Nickel	210.6	255.0	-	-	-	-	3.5	-	214.1	255.0	800.1	1,414.7	26.8	18.0
Asbestos	-	-	-	-	-	-	17.8	78.4	17.8	78.4	204.0	589.2	8.7	13.3
Potash	-	-	135.0	1,050.5	-	-	-	-	135.0	1,050.5	135.0	1,050.5	100.0	100.0
Sodium Sulphate	-	-	5.8	37.0	1.2	3.3	-	-	7.0	40.3	7.1	40.3	98.6	-
Sulphur (Elemental)	-	-	0.3	-	19.6	675.0	0.4	19.7	20.3	694.7	21.3	695.9	95.3	99.8
Coal	-	-	6.4	54.5	42.4	309.4	46.0	532.6	94.8	896.5	121.7	1,045.5	77.9	85.7
Natural Gas	-	-	9.0	20.4	290.7	5,728.0	36.3	336.5	336.0	6,084.9	342.5	6,156.9	98.1	98.8
Natural Gas By Products	-	-	2.8	13.5	186.3	2,357.7	4.1	26.9	193.2	2,398.1	193.2	2,398.2	100.0	100.0
Crude Petroleum	15.4	64.0	217.8	826.8	1,055.8	8,255.0	64.0	238.0	1,353.0	9,383.8	1,356.9	9,411.2	99.7	99.7
Grand Total: All Minerals	329.9	671.3	408.8	2,409.9	1,641.2	17,571.4	543.7	2,971.7	2,923.6	23,624.3	5,968.0	33,084.3	49.0	71.4

Source: Statistics Canada, Catalogue No. 26-202

TABLE 7: EXPORTS BY PROMISE OF TRADING - 1972 AND 1981 ($ Million)

	Total Canada		Man.		Sask.		Alta.		B. C.		Western Canada		Ont.		Que.		Atlantic Canada	
	1972	1981	1972	1981	1972	1981	1972	1981	1972	1981	1972	1981	1972	1981	1972	1981	1972	1981
Live Animals	86	229	10	35	6	18	10	50	3	17	29	120	38	84	17	22	2	3
% of Total	.4	.3	2.5	2.6	1.7	1.0	.7	.5	.1	.1	.5	.5	.4	.3	.4	.1	.2	.1
Food & Beverage	2,269	9,176	86	168	21	48	40	139	599	2,700	746	3,055	427	1,414	785	3,304	310	1,401
% of Total	11.5	11.3	24.6	12.6	6.0	2.6	2.8	1.5	17.7	21.0	13.6	12.0	4.8	4.4	18.6	18.3	30.9	28.5
Crude Materials Inedible	3,560	15,168	28	149	130	838	1,160	6,566	669	3,086	1,987	10,639	779	1,311	630	2,708	99	402
% of Total	18.1	18.8	8.0	11.2	37.0	45.7	82.2	69.2	19.7	24.0	36.1	41.7	8.8	4.1	15.0	15.0	9.9	8.2
Fabricated Materials Inedible	6,568	30,535	143	432	186	855	171	1,665	2,005	6,525	2,505	9,477	1,685	11,075	1,829	7,216	548	2,764
% of Total	33.4	37.7	40.5	32.4	53.0	46.6	12.1	17.5	59.2	50.7	45.5	37.1	19.0	34.3	43.4	40.0	54.6	56.3
End Products Inedible	7,136	25,129	81	545	8	68	28	607	108	515	225	1,735	5,929	18,313	940	4,751	42	329
% of Total	36.3	31.1	23.1	40.5	2.3	3.7	2.0	6.4	3.2	4.0	4.1	6.8	66.8	56.7	22.3	26.3	4.2	6.7
Special Transactions	42	659	2	5	1	6	3	464	4	21	10	496	20	99	10	54	2	9
% of Total	.2	.8	.6	.4	.3	.3	.2	4.9	.1	.2	.2	1.9	.2	.3	.2	.3	.2	.2
Total Domestic Exports	19,661	80,895	350	1,334	351	1,834	1,412	9,492	3,388	12,865	5,501	25,525	8,878	32,296	4,212	18,054	1,004	4,909

Source: Statistics Canada Catalogue No. 65-001.

TABLE 8: EXPORTS THROUGH BC CUSTOMS PORTS 1971 AND 1980 ($'000)

	1971		1980		Average Annual Increase: 1971-1980
	$	% of Total	$	% of Total	
By Commodity Group					
Total	2,761,150		14,966,276		20.7
Live Animals	5,346	0.2	48,125	0.3	27.7
Food & Beverages	542,870	19.7	2,009,661	13.4	15.7
Crude Materials, Inedible	925,320	33.5	5,944,752	39.7	23.0
Fabricated Mat'l, Inedible	1,183,958	42.5	6,291,204	42.0	20.4
End Products, Inedible	100,606	3.6	656,672	4.4	23.2
Special Transactions	3,050	0.1	15,860	0.1	20.1
End Products: Specific Items					
Engines, Turbines & Parts	307		5,700		38.3
Generators	374		853		9.6
Electric Motors	124		674		20.7
Bearings & Parts	273		1,832		23.6
Gears, Power Transmission	120		627		20.2
Air & Gas Compressors & Parts	89		465		20.2
Pumps, Pumping Systems, & Parts	1,521		6,229		17.0
Packaging Machinery & Parts	237		1,537		23.1
Gen'l Purpose Industrial Machinery & Parts	638		3,215		19.7
Conveyors, Conveying Systems & Parts	119		2,013		36.9
Cranes & Derricks	205		5,989		45.5
Winches & Windlasses	4,290		11,444		11.5
Hoisting Machinery & Parts NES	2,357		8,924		15.9
Indust'l Lift Trucks & Parts	-		2,414		-
Woodland Log Handling Equipment & Parts	4,718		8.014		6.1
Core Drille & Bits	134		1,660		32.3
Rock Drills & Parts	243		1,923		25.8
Rock Drill Bits	650		600		(0.9)
Earth Drilling & Related Machinery & Parts	1,020		16,834		36.5
Excavating & Dredging Machinery & Parts	493		5,969		31.9
Mining & Quarryinh Machinery & Parts	1,291		11,856		27.9
Construction & Maintenance Machinery & Equipment & Parts	-		6.617		-
Machine Tools Metalwork & Parts	-		2,242		-
Metalworking Machinery & Parts	1,257		3,422		11.8

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NB. Blanks in 1971 indicate exports of less than $75,000.

TABLE 8: EXPORTS THROUGH BC CUSTOMS PORTS 1971 AND 1980 continued

	1971		1980		Annual Average Increase: 1971-1980
	$	% of Total	$	% of Total	
Dies for Metalworking Machinery	-		914		-
Chainsaws, Parts, etc.	4,725		24,106		19.8
Saws, Sawmill Machinery, etc.	3,080		11,977		16.3
Woodworking Machinery & Equipment	729		3,217		17.9
Pulp & Paper Industry Machinery & Equipment	1,606		15,257		28.4
Food & Beverage Industry Machinery & Parts	128		1,529		31.7
Special Industry Machinery and Parts	772		4,105		20.4
Agricultural Machinery and Parts	178		20,455		69.4
Tractors & Parts	731		14,712		39.6
Trucks & Chassis	17,231		113,033		23.2
Trailers & Commercial Semi Trailers	408		1,378		14.5
Parts & Accessories for Motor Vehicles	2,964		18,696		22.7
Pleasure Craft	713		4,095		21.4
Parts & Accessories for Ships & Boats	1,166		12,297		29.9
Aircraft Engines & Parts	561		1,741		13.4
Aircraft Assemblies Equipment & Parts	1,919		40,963		40.5
Tires	334		4,794		34.4
Telephone Apparatus Equipment & Parts	3,348		2,287		(4.1)
Commercial Telecommunications Equipment	2,501		11,020		17.9
Electronic Equipment Components	1,191		6,951		21.7
Transformers & Parts	-		1,347		-
Measuring & Controlling Instruments & Parts	706		4,733		23.5
Laboratory Optical Instruments & Parts	445		2,418		20.7
Safety & Sanitation Equipment & Parts	-		2,059		-
Household Furniture	639		3,199		19.6
Computers & Parts	206		7,994		50.2
Sporting & Recreation Equipment & Parts	922		3,668		16.6
Carpets	-		2,389		-
Prefabricated Buildings, Structures, Fences, etc.	2,279		9,805		17.6
Shipping Containers	506		22,519		52.5

NB. These figures are in current dollars.
Source: Province of BC, External Trade Report, 1980.

TABLE 9: DESTINATION OF MANUFACTURING SHIPMENTS - TOTAL, ALL INDUSTRIES - DESTINATION OF SHIPMENTS ($ '000)

Prov. Origin	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon NWT	Out. Canada	Other	Total
1967														
Nfld.	69,944	27	2,172	101	x	446	15	x	x.	x	x	110,752		183,746
P.E.I.	2,281	21,712	8,946	4,090	x	1,414	87	x	x	x	x	2,794		49,950
N.S.	21,810	17,008	266,199	42,488	59,104	46,224	6,236	2,317	7,405	5,982	52	112,229		587,054
N.B.	10,285	9,855	34,737	242,231	49,137	71,977	4,234	1,487	2,818	x	x	134,911		565,175
Que.	89,579	27,002	145,499	147,063	5,864,769	2,098,236	180,818	112,996	200,986	281,713	4,955	1,658,766		10,812,382
Ont.	137,058	34,223	259,788	237,390	2,644,862	11,579,302	502,704	342,889	620,736	747,439	20,603	2,901,658		20,028,652
Man.	3,351	580	7,345	5,642	53,104	149,165	594,766	77,927	66,946	33,397	290	57,839		1,050,352
Sask.	529	135	5,907	3,037	20,651	22,357	24,197	346,743	22,012	7,261	21	17,573		470,425
Alta.	1,817	513	1,122	2,183	114,128	79,292	45,584	97,623	883,716	158,732	12,953	129,328		1,526,991
B.C.	4,380	1,192	8,254	4,970	63,475	121,170	50,351	52,919	163,092	1,512,948	5,669	1,141,660		3,130,280
Canada	341,034	112,268	739,968	689,195	8,878,015	14,169,801	1,408,991	1,034,939	1,967,742	2,750,958	48,042	6,267,510		38,408,484
1974														
Nfld.	151,043	119	7,018	10,104	66,938	6,732	x	x	x	x	x	442,435	27,021	711,731
P.E.I.	6,307	28,872	15,407	8,133	5,270	6,262	x	x	x	x	x	7,531	16,102	94,142
N.S.	75,581	48,235	595,873	82,204	152,877	141,371	11,287	3,911	7,102	11,849	x	431,000	x	1,696,091
N.B.	40,617	26,914	111,593	472,651	143,837	148,021	4,717	3,138	6,550	6,754	x	522,774	x	1,585,655
Que.	190,730	78,548	293,534	322,364	11,096,470	4,331,676	315,076	199,610	416,893	499,162	18,471	3,071,943	1,562,370	22,396,846
Ont.	261,874	78,895	472,352	379,991	4,652,058	20,845,790	915,239	499,257	1,136,851	1,229,726	25,317	8,422,957	2,584,051	41,404,361
Man.	3,205	1,273	23,407	16,509	120,662	265,697	1,075,144	125,925	137,480	73,745	5,392	209,914	221,344	2,279,697
Sask.	1,931	756	16,285	8,034	45,456	64,401	74,820	528,434	82,475	44,491	2,197	114,462	61,416	1,045,160
Alta.	2,600	956	3,913	3,895	266,040	118,524	99,302	224,978	2,155,906	472,980	34,659	277,146	160,501	3,821,305
B.C.	9,124	2,760	19,267	17,272	119,541	246,157	97,014	85,961	404,395	2,935,043	25,051	2,786,473	663,045	7,411,103
Canada	743,012	267,427	1,558,656	1,321,157	16,669,149	26,175,270	2,492,910	1,671,356	4,347,835	5,274,004	113,699	16,286,634	5,533,998	82,455,110
1979**														
Nfld.	321,400	x	49,500	18,900	19,100	15,500	x	x	1,500	x	-	534,800	x	1,028,000
P.E.I.	8,900	68,600	29,100	17,500	12,600	17,400	x	x	-	x	-	37,500	x	212,500
N.S.	122,200	x	1,347,500	137,400	276,900	341,000	56,500	13,700	31,500	51,600	x	671,300	110,100	3,212,500
N.B.	90,800	55,600	194,600	894,500	289,700	246,300	14,700	9,300	43,700	33,400	x	1,048,700	x	2,970,500
Que.	320,400	84,500	410,500	474,600	19,228,500	6,696,500	560,100	311,600	873,300	821,000	23,600	7,331,300	1,981,400	39,117,300
Ont.	434,500	150,100	804,700	772,200	7,997,800	37,524,600	1,428,400	887,600	2,739,600	2,321,400	42,200	17,320,000	3,797,100	76,220,200
Man.	19,600	7,200	37,000	24,800	267,600	515,400	1,626,000	2,998,000	335,400	188,400	3,800	407,900	181,800	3,914,700
Sask.	1,600	800	8,200	3,800	101,200	82,700	127,800	901,500	190,500	64,200	x	230,200	x	1,863,300
Alta.	9,200	700	24,000	19,700	536,700	867,800	195,100	316,700	4,972,600	735,900	29,900	833,400	398,300	8,946,000
B.C.	14,000	4,600	28,400	44,300	244,700	467,600	151,100	167,600	863,400	5,827,800	68,800	5,963,600	781,900	14,627,800
Canada	1,342,500	430,200	2,933,600	2,407,800	28,974,700	46,775,000	4,160,900	2,908,900	10,051,500	10,044,400	191,500	34,378,600	7,533,400	152,133,100

* Includes Yukon and Northwest Territories

** Preliminary

Other - Unalloted, plus Custom and Repair Work, which was not distributed among provinces in 1974

Source: Statistics Canada Catalogue No. 31-504 in 1967, 31-522 in 1974, and 31-530 in 1979.

TABLE 10: SUPPLY RATIOS FOR TOTAL MANUFACTURING SHIPMENTS

Prov./Region of Origin	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
1967								
Man.	42.2	7.5	3.4	1.2	10.8	1.1	0.6	0.9
Sask.	1.7	33.5	1.1	0.3	5.6	0.2	0.2	0.5
Alta.	3.2	9.4	44.9	5.8	16.6	0.6	1.3	0.3
B. C.	3.6	5.1	8.3	55.0	24.8	0.9	0.7	1.0
West.Canada	50.7	55.5	57.7	62.3	57.8	2.7	2.8	2.7
Ont.	35.7	33.1	31.5	27.2	30.9	81.7	29.8	35.5
Que.	12.8	10.9	10.2	10.2	10.8	14.8	66.1	21.7
Altantic	0.8	0.5	0.6	0.3	0.5	0.8	1.3	40.0
1974								
Man.	43.1	7.5	3.2	1.4	10.2	1.0	.7	1.1
Sask.	3.0	31.6	1.9	.8	5.3	.2	.3	0.7
Alta.	4.0	13.5	49.6	9.0	21.4	.5	1.6	0.3
B. C.	3.9	5.1	9.3	55.7	25.6	.9	.7	1.2
West.Canada	54.0	57.7	64.0	66.9	62.5	2.6	3.3	3.3
Ont.	32.7	29.9	26.1	23.3	26.7	79.6	27.9	30.7
Que.	12.6	11.9	9.6	9.5	10.4	16.5	66.6	22.7
Atlantic	.7	.5	.3	.3	.4	1.3	2.2	43.3
1979								
Man.	39.1	10.3	3.3	1.9	9.0	1.1	.9	1.2
Sask.	3.1	31.0	1.9	.6	4.7	.2	.3	.2
Alta.	4.7	10.9	49.5	7.3	22.9	1.9	1.9	.8
B. C.	3.6	5.8	8.6	58.0	25.8	1.0	.8	1.3
West.Canada	50.5	58.0	63.3	67.8	62.4	4.2	3.9	3.5
Ont.	34.3	30.5	27.3	23.1	27.2	80.2	27.6	30.4
Que.	13.5	10.7	8.7	8.2	9.4	14.3	66.4	18.1
Atlantic	1.7	.8	.7	.9	1.0	1.3	2.1	48.0

Supply ratio is the fraction of the receiving province's (or region's) total receipts that comes from a particular supply province (region). This indicator provides only a partial measure of "market share" as the denominator (total manufacturing shipments received by a province from Canadian origins/does not include competing imports from other countries.

Source: See Table 9.

TABLE 11: SHARE OF MANUFACTURING IN TOTAL INVESTMENT: WESTERN PROVINCES 1971 - 1981 ($ Million)

	Manitoba			Saskatchewan			Alberta			BC			Western Canada			Total Canada		
	Total	Man.		Total	Man.		Total	Man.		Total	Man.		Total	Man.		Total	Man.	
		$	%		$	%		$	%		$	%		$	%		$	%
1971	1,075	90	8.4	963	40	4.2	2,718	187	6.9	3,713	637	17.2	8,469	954	11.3	26,244	4,477	17.1
1972	1,247	84	6.7	1,153	41	3.6	2,998	246	8.2	3,779	586	15.5	9,177	957	10.4	28,792	4,605	16.0
1973	1,469	108	7.4	1,355	54	4.0	3,668	394	10.7	4,506	628	13.9	10,998	1,184	10.8	34,226	5,587	16.3
1974	1,759	150	8.5	1,687	79	4.7	4,706	416	8.8	5,401	762	14.1	13,553	1,407	10.4	42,072	7,260	17.3
1975	1,973	138	7.0	2,261	89	3.9	6,053	441	7.3	5,824	724	12.4	16,111	1,392	8.6	48,371	7,967	16.5
1976	2,330	130	5.6	2,707	121	4.5	8,254	592	7.2	6,807	839	12.3	20,098	1,682	8.4	55,412	8,357	15.1
1977	2,439	130	5.3	2,802	114	4.1	9,249	614	6.6	7,312	1,000	13.7	21,802	1,858	8.5	59,055	8,919	13.1
1978	2,592	139	5.4	3,071	83	2.7	11,150	842	7.6	8,258	1,073	13.0	25,071	2,137	8.5	65,055	9,622	14.8
1979	2,701	176	6.5	3,820	132	3.5	13,573	1,001	7.4	9,315	1,396	15.0	29,409	2,705	9.2	73,636	11,215	15.2
1980	2,883	211	7.3	4,206	172	4.1	16,363	941	5.8	11,404	1,843	16.2	32,261	3,167	9.8	83,651	13,760	16.4
1981	3,100	292	9.4	5,351	200	3.7	20,688	1,857	9.0	14,111	2,394	17.0	43,250	4,743	11.0	99,485	17,972	18:1

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981

	Canada	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
All Industries									
1961	6,471,850	342,642	325,589	489,511	577,648	1,735,390	2,393,015	1,768,119	561,632
1971	8,117,380	392,960	356,190	653,985	846,375	2,249,510	3,176,905	2,017,160	655,560
1981	10,975,000	479,000	461,000	1,112,000	1,266,000	3,318,000	4,272,000	2,490,000	867,000
Agriculture									
1961	640,786	59,301	119,237	103,573	23,290	305,401	168,775	131,197	35,356
1971	471,515	46,550	99,710	85,690	21,645	253,595	126,730	71,035	20,140
1981	466,700	43,500	98,600	83,800	23,400	249,300	139,500	59,500	18,400
Forestry									
1961	108,580	1,328	1,132	2,784	21,068	26,312	17,935	42,441	21,809
1971	62,370	630	810	1,845	24,550	27,835	7,370	16,270	10,750
1981	70,400	700	1,000	2,200	24,700	28,600	10,400	18,300	12,900
Fishing & Trapping									
1961	36,263	1,284	1,136	839	4,478	7,737	2,185	3,029	21,625
1971	23,865	320	270	145	3,405	4,140	1,335	1,715	16,300
1981	53,800	1,900	1,700	2,000	15,000	20,600	2,000	6,800	24,400
Mines: Total									
1961	121,702	5,620	4,007	17,350	8,179	35,156	42,660	25,854	16,030
1971	130,010	6,805	6,795	25,155	13,265	52,020	38,895	23,375	13,555
1981	189,200	6,500	12,100	69,600	20,300	108,500	37,700	24,000	15,300
Metal Mines									
1961	68,931	4,686	1,510	226	4,270	10,692	36,693	15,737	3,968
1971	63,770	5,110	1,070	170	7,505	13,855	30,275	12,350	5,560
1981	76,000	5,100	1,400	300	12,300	19,400	30,700	14,600	7,900
Mineral Fuels									
1961	19,765	53	941	7,165	1,122	9,281	546	76	9,849
1971	28,005	115	1,275	18,550	1,685	21,625	935	480	4,890
1981	62,100	100	1,000	49,400	5,900	56,400	700	100	4,900
Non-Metallic									
1961	11,465	254	246	193	1,232	1,925	1,216	6,702	1,610
1971	15,270	120	2,860	290	795	4,065	1,445	7,355	2,145
1981	18,100	300	5,000	400	1,300	7,000	1,800	7,100	2,200
Quarries & Sand Pits									
1961	6,120	229	132	486	421	1,268	2,381	2,137	334
1971	6,365	445	105	335	545	1,430	2,780	1,810	335
1981	6,600	300	100	1,300	500	2,200	2,900	1,300	300
Services Incidental to Mining									
1961	15,421	398	1,178	9,280	1,134	11,987	1,824	1,202	269
1971	16,685	1,015	1,485	5,805	2,740	11,045	3,450	1,380	650
1981	26,900	300	1,500	18,500	2,300	22,600	2,100	1,500	600

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981 (cont'd)

	Canada	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Manufacturing: Total									
1961	1,404,865	46,713	15,177	42,117	113,019	217,026	643,284	446,443	77,771
1971	1,593,595	53,690	18,860	58,850	136,305	267,705	772,325	462,035	91,085
1981	1,929,000	71,600	24,800	100,700	170,400	367,500	971,400	475,800	113,400
Sub-Total: Primary Manufacturing*									
1961	638,206	20,365	10,618	27,446	84,095	142,424	253,067	186,213	56,163
1971	691,820	20,415	12,110	33,600	93,855	159,980	283,370	181,090	66,200
1981	853,600	25,600	13,600	53,500	117,400	209,900	357,600	202,900	83,100
Sub-Total: Secondary Manufacturing									
1961	766,659	26,348	4,559	14,671	28,924	74,602	390,217	260,230	21,608
1971	901,775	33,275	6,750	25,250	42,450	107,725	488,955	280,945	24,885
1981	1,075,400	46,000	11,200	47,200	53,000	157,600	613,800	272,900	30,300
Food & Beverage									
1961	219,185	11,397	6,624	13,317	18,226	49,564	84,558	58,730	26,280
1971	225,365	11,270	6,905	15,200	17,960	51,335	80,770	56,620	36,045
1981	266,700	12,600	6,300	21,600	22,300	62,800	97,200	58,300	48,300
Tobacco Products									
1961	8,833	10	3	6	16	35	1,925	6,853	20
1971	8,355	70	25	75	105	275	2,920	5,055	115
1981	8,000	-	-	200	-	200	3,900	3,800	100
Rubber & Plastic Prod.									
1961	23,978	56	19	625	235	935	15,047	7,904	92
1971	41,955	395	135	1,115	940	2,585	27,135	11,530	710
1981	52,000	800	100	1,900	1,800	4,600	34,400	10,400	2,600
Leather Industries									
1961	33,166	558	15	137	297	1,007	14,385	17,299	474
1971	26,165	710	20	230	320	1,280	12,495	12,140	225
1981	24,000	600	-	200	300	1,100	13,800	8,900	300
Textile Industries									
1961	62,252	689	95	227	906	1,917	22,669	36,388	1,278
1971	63,940	665	135	725	1,240	2,765	26,785	32,810	1,585
1981	67,800	900	100	1,100	1,300	3,400	34,000	28,500	1,900
Knitting Mills									
1961	19,746	278	3	33	331	645	7,983	10,086	1,032
1971	16,635	340	-	115	300	755	5,785	8,950	1,155
1981	13,200	600	-	100	200	900	6,100	5,500	700
Clothing Industries									
1961	91,928	5,803	373	1,409	1,830	9,417	23,762	57,940	799
1971	87,260	6,230	360	1,630	2,205	10,425	19,320	56,920	535
1981	95,800	7,000	1,000	2,000	4,600	14,600	25,400	54,500	1,300

* For purposes of this study, primary manufacturing is defined to include food and beverage products, wood industries, paper and allied products, primary metals, non-metallic mineral products, petroleum and coal products, and chemicals and chemical products.

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981 (cont'd)

	Canada	Man.	Sask.	Alta.	B. C.	Western Canada	Ont.	Que.	Atlantic Canada
Wood Industries									
1961	98,871	1,320	929	3,055	40,842	46,146	19,967	22,441	10,208
1971	92,335	1,545	1,195	4,240	42,020	49,000	16,285	19,520	7,440
1981	116,300	2,900	2,200	4,500	54,700	64,300	20,900	23,200	7,800
Furniture & Fixtures									
1961	35,696	1,938	176	1,044	2,326	5,484	16,151	13,413	647
1971	41,185	1,785	225	1,750	2,575	6,335	18,745	15,265	835
1981	49,500	2,400	300	3,500	2,700	8,900	25,600	13,800	1,200
Paper & Allied									
1961	101,640	2,007	198	1,327	11,545	15,077	37,723	37,965	10,875
1971	115,800	2,185	775	1,460	16,955	21,375	43,140	38,545	12,755
1981	141,700	3,100	1,000	2,900	21,500	28,500	55,600	44,200	13,500
Printing & Publishing									
1961	84,265	4,150	1,825	3,685	7,020	16,680	42,506	21,475	3,578
1971	297,550	4,660	2,095	5,130	9,110	20,995	48,450	24,130	4,015
1981	126,400	5,400	2,700	10,300	11,900	30,300	65,700	25,800	4,500
Primary Metals									
1961	90,156	2,016	435	1,208	8,062	11,721	50,026	24,178	4,229
1971	111,930	2,205	1,030	3,255	7,550	14,040	68,135	25,310	4,560
1981	137,000	2,500	1,500	5,100	8,500	17,500	84,800	30,500	4,200
Metal Fabricating									
1961	103,216	3,834	1,056	3,723	6,129	14,742	58,093	26,585	3,792
1971	126,720	4,255	1,355	5,995	9,775	21,380	73,645	28,030	3,660
1981	147,500	5,900	2,000	11,100	11,600	30,500	86,400	27,400	3,200
Machinery									
1961	49,821	1,265	221	734	1,749	3,969	36,446	8,879	527
1971	73,300	2,820	905	2,065	3,455	9,245	49,945	13,035	1,060
1981	94,900	5,400	2,500	6,800	6,000	20,800	56,700	15,900	1,400
Transportation Equip.									
1961	118,021	5,407	381	1,790	4,844	12,422	65,303	32,782	7,507
1971	152,410	7,760	585	3,415	6,505	18,265	98,720	28,695	6,720
1981	202,800	11,900	1,100	4,300	10,100	27,400	126,300	38,900	10,200
Electrical Products									
1961	84,924	1,250	102	400	1,476	3,228	54,403	26,345	948
1971	109,085	2,075	450	1,410	3,250	7,185	69,975	29,550	2,360
1981	119,400	2,700	700	2,600	3,600	9,700	83,800	23,300	2,500
Non Metallic Mineral Products									
1961	47,019	1,545	850	3,445	1,917	7,657	22,249	14,815	2,193
1971	52,610	1,475	895	3,625	4,630	10,625	26,985	12,730	2,345
1981	62,900	2,200	1,400	7,000	5,300	15,900	30,900	13,400	2,700

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981 (cont'd)

	Canada	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Petroleum & Coal Products									
1961	16,959	904	1,182	2,419	1,333	5,838	5,085	4,901	1,067
1971	19,025	570	800	2,455	1,230	5,055	7,735	5,090	1,135
1981	30,100	800	500	4,700	1,400	7,400	13,100	6,200	3,400
Chemicals & Chemical Products									
1961	64,376	1,176	400	2,675	2,170	6,421	33,459	23,183	1,311
1971	74,755	1,165	510	3,365	3,510	8,550	40,320	23,275	1,920
1981	98,900	1,500	700	7,700	3,700	13,500	55,100	27,100	3,200
Misc. Manufacturing									
1961	50,813	1,110	290	980	1,765	4,073	31,544	14,281	914
1971	57,760	1,520	470	1,610	2,680	6,280	35,135	14,835	2,100
1981	73,000	1,600	500	2,700	2,800	7,600	46,200	17,500	1,700
Construction									
1961	431,093	20,900	17,338	37,360	36,338	111,936	153,866	126,361	38,203
1971	483,965	20,065	15,925	47,485	57,975	141,450	190,035	103,790	47,805
1981	647,200	23,400	27,900	125,900	89,400	266,600	218,200	109,100	51,900
Transportation, Communications & Other Utilities									
1961	603,286	39,735	30,315	47,435	62,806	180,291	195,223	161,268	64,632
1971	638,275	38,295	26,665	52,355	81,875	199,190	212,670	162,355	61,855
1981	831,300	44,400	32,600	84,100	120,000	281,100	278,600	200,300	68,000
Transportation									
1961	385,031	25,186	16,646	29,985	41,739	113,556	116,330	107,690	46,109
1971	382,000	23,630	14,310	30,365	52,550	120,855	119,150	101,345	39,195
1981	452,100	27,400	14,700	48,300	72,900	163,300	146,600	104,800	37,300
Storage									
1961	17,677	2,785	3,891	3,242	2,244	12,162	3,649	1,398	465
1971	15,265	1,920	2,785	2,145	1,615	8,465	4,215	2,065	620
1981	16,300	1,000	3,200	2,400	2,000	8,600	4,600	2,300	600
Communications									
1961	130,074	7,574	6,608	9,582	12,536	36,300	46,132	34,654	12,653
1971	156,400	8,090	6,610	13,820	18,830	47,350	54,560	39,700	14,330
1981	240,000	10,100	10,700	23,900	30,000	74,700	83,700	60,200	19,900
Utilities									
1961	70,504	4,190	3,171	4,626	6,287	18,274	29,112	17,526	5,405
1971	84,610	4,650	2,965	6,025	8,870	22,510	34,735	19,245	7,820
1981	122,600	6,000	3,800	9,600	15,100	34,600	43,900	33,200	10,300
Trade: Total									
1961	991,490	57,348	45,601	80,096	99,278	282,323	370,540	248,038	89,697
1971	1,193,465	61,650	49,360	98,770	137,305	347,085	469,075	274,955	100,635
1981	1,709,300	75,900	70,800	173,000	197,300	517,000	665,300	380,300	143,800

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981 (cont'd)

	Canada	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Wholesale									
1961	289,884	20,208	14,257	27,483	32,074	94,022	102,733	69,334	23,685
1971	329,420	19,000	13,440	29,060	40,025	101,525	127,980	73,715	25,915
1981	445,300	19,600	16,900	50,200	54,700	141,400	179,300	96,200	26,100
Retail									
1961	701,606	37,140	31,344	52,613	67,204	188,301	267,807	178,704	66,012
1971	864,045	42,650	35,925	69,705	97,290	245,570	341,100	201,245	74,735
1981	1,264,000	56,300	53,900	122,800	142,600	375,600	486,000	284,100	117,700
Finance, Insurance & Real Estate									
1961	228,905	12,226	7,116	14,695	22,642	56,679	98,454	62,163	11,515
1971	343,730	15,205	10,235	24,350	39,835	89,625	149,610	86,620	17,580
1981	531,800	20,300	19,400	47,900	64,300	151,900	229,500	121,600	28,100
Finance									
1961	110,936	5,337	3,878	7,925	10,707	27,847	45,770	30,698	6,556
1971	177,725	7,665	6,010	13,715	20,565	47,955	72,535	46,880	10,145
1981	293,500	10,000	10,500	28,800	35,100	84,300	121,700	71,900	15,200
Insurance & Real Estate									
1961	117,939	6,889	3,238	6,770	11,935	28,832	52,684	31,465	4,959
1971	166,005	7,540	4,225	10,635	19,270	41,670	77,075	39,740	7,435
1981	238,300	10,300	8,900	19,100	29,200	67,600	107,700	49,800	14,900
Community Business & Personal Services									
1961	1,263,362	65,042	58,762	93,424	123,782	341,010	467,127	350,864	102,958
1971	1,936,380	90,135	77,910	159,480	210,565	538,090	749,750	493,470	151,145
1981	3,017,500	122,900	112,500	286,300	373,000	894,700	1,194,000	692,500	229,100
Sub-Total: Non-Commercial Services									
1961	761,800	37,400	41,500	53,700	68,700	201,200	262,400	218,300	78,300
1971	1,202,000	55,100	54,500	96,100	114,600	320,300	450,400	317,800	110,800
1981	1,557,500	68,000	68,000	128,700	179,700	444,400	570,000	391,100	143,400
Sub-Total: Commercial Services									
1961	501,600	27,600	17,300	39,700	55,100	139,800	204,700	132,600	24,700
1971	734,400	35,000	23,400	63,400	96,000	217,800	299,400	175,700	40,300
1981	1,460,000	54,900	44,500	157,600	193,300	450,300	624,000	301,400	85,700
Education & Related									
1961	266,901	13,476	14,363	20,984	24,044	72,867	88,731	79,539	25,257
1971	554,390	24,830	23,680	47,990	51,015	47,515	211,985	146,575	47,130
1981	584,100	25,500	24,500	55,900	63,000	168,900	218,500	146,500	51,700

TABLE 12: EMPLOYMENT BY INDUSTRY: 1961, 1971 AND 1981 (cont'd)

	Canada	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Health & Welfare									
1961	307,433	17,571	17,330	23,270	31,776	89,947	114,200	75,049	27,728
1971	497,655	25,955	22,045	41,090	50,630	139,720	189,430	125,955	41,720
Religious Organizations									
1961	53,130	2,024	2,432	2,801	2,455	9,712	14,523	23,699	4,966
1971	46,360	1,910	2,340	2,720	3,025	9,995	14,795	16,680	4,770
Amusements & Recreation									
1961	39,837	1,930	1,348	3,244	4,103	10,735	16,895	9,944	2,236
1971	66,395	2,990	1,930	5,415	8,360	18,695	29,375	14,635	3,615
1981	130,200	6,500	3,000	11,300	14,300	35,100	51,100	36,100	7,600
Services & Buriness Management									
1961	98,987	4,099	2,538	7,185	10,939	24,761	44,655	25,601	3,889
1971	196,625	6,820	4,245	16,015	24,255	51,335	87,235	48,480	10,385
1981	407,800	10,500	8,100	41,500	50,600	110,700	183,700	92,000	20,700
Personal Services									
1961	198,577	8,774	7,884	12,558	16,942	46,158	72,687	58,879	20,069
1971	167,085	7,065	7,335	11,520	17,360	43,280	63,025	44,745	15,840
Accommodation & Food Services									
1961	238,941	12,997	10,631	18,303	26,079	68,010	91,366	63,825	15,499
1971	298,830	15,340	12,485	24,130	41,205	93,160	110,015	73,025	21,550
1981	615,200	24,800	26,500	66,300	84,000	201,600	243,100	119,800	47,800
Miscellaneous Services									
1961	59,556	3,171	2,126	5,079	7,444	17,820	24,070	14,328	3,314
1971	109,030	5,205	3,855	10,595	14,715	34,370	43,900	23,380	8,995
1981	223,000	9,300	6,100	27,800	27,300	70,500	105,000	34,800	11,800
Public Admin. & Defense									
1961	482,925	26,523	18,259	38,627	46,001	129,410	181,263	99,194	69,841
1971	616,460	32,790	25,475	52,615	54,855	165,735	239,165	133,950	74,185
1981	812,100	40,600	33,400	92,500	76,100	242,600	282,900	178,900	102,200
Federal									
1961	284,953	16,812	8,311	20,945	27,409	73,477	111,553	43,962	52,892
1971	317,500	17,315	11,925	23,810	30,930	83,980	125,950	54,815	50,635
1981	354,100	19,400	12,500	27,300	31,200	90,400	128,900	72,300	62,700
Provincial									
1961	68,761	3,274	4,177	6,859	6,652	20,962	20,402	20,977	6,413
1971	155,770	7,910	7,870	15,035	12,485	43,300	54,630	41,640	15,150
1981	254,700	11,100	12,500	38,000	27,700	89,300	73,100	63,800	26,000
Local									
1961	123,729	6,381	5,767	10,796	11,827	34,771	48,569	33,747	6,566
1971	141,090	7,635	5,665	13,735	11,355	38,390	58,340	36,715	7,515
1981	200,500	10,200	8,300	27,100	17,100	62,700	80,600	41,900	12,300

Source: Statistics Canada Census in 1961 and 1971; DPA estimate in 1981.

Notes to Table 12

1. The 1961 data relate to the "experienced" labour force and, therefore, include some of the unemployed (i.e., the unemployed with previous work experience). However, the unemployment rate in 1961 was very low -- coming to 3.3% -- and, therefore, the inclusion of some unemployed in that year should not seriously influence the results.

2. The Standard Industrial Classification system changed between 1961 and 1971, but the alterations were quite minor.

3. The Canadian totals include the Yukon and the Northwest Territories.

4. The 1981 estimates were developed to be consistent with the 1971 Census figures and utilized employment figures from a wide range of sources.

   - Labour Force Survey (Statistics Canada No. 71-001)
   - Large Firms Survey (72-002)
   - Estimates of Employees by Province and Industry (72-516, etc.)
   - Manufacturing Industries of Canada (31-203)
   - Federal Government Employment (72-004)
   - Provincial Government Employment (72-007)
   - Local Government Employment (72-009)
   - Education Statistics (81-568)
   - Fisheries Statistics (Discontinued in 1976)
   - Dun and Bradstreet (D&B) Types of Employment by Industry and Province for August, 1978 and October, 1981.

5. The data sources were used in the following sequence:

   (1) The Labour Force Survey provided estimates for the broad industry groupings. The 1981 estimates were made consistent with the 1971 Census by applying the ratio of 1971 Census to 1971 Labour Force Survey, by industry grouping to the 1981 figures from the Labour Force Survey. This consistency was maintained throughout the estimation.

   (2) "Estimates of Employees by Province and Industry" was used to break out mining and forestry from "other primary", and commercial and non-commercial services from "community, business, and personal services."

   (3) Most of the industry detail was derived from the June, 1981 figures from the Large Firms Survey. This source provides the most comprehensive and up-to-date employment estimates of any Statistics Canada publication.

   (4) Manufacturing Industries data for 1979 were used to fill in the gaps in the manufacturing sector.

   (5) The remaining Statistics Canada sources and the Dun and Bradstreet estimates were used to fill in any remaining gaps. (D&B was always used last.)

Notes to Table 12 continued

6. The technique utilized is best explained through an example. Manufacturing employment by industry in Ontario was estimated for 1981 through the following steps:

   (a) Employment by manufacturing industry was taken from the Large Firms Survey for June, 1971 and June, 1981.
   (b) The percentage distributions of manufacturing employment (i.e., industry i as a percentage of total manufacturing employment) were computed for each year and the 1981 distribution was subtracted from the 1971 distribution.
   (c) The percentage point increases and decreases derived from (b) were applied to the percentage distribution of manufacturing employment computed from the 1971 Census.
   (d) The new percentage distribution was then applied to total manufacturing employment in 1981 (derived from the Labour Force Survey) to provide estimates of manufacturing employment by industry for 1981.
   (e) The same technique was employed using "Manufacturing Industries" (31-203) data for 1971 and 1979, to fill in any gaps that remained.

7. This technique recognizes the important differences between Statistics Canada surveys, but assumes that these differences remain constant over time. Stated differently, it is assumed that while the absolute figures will remain different, the percentage point changes in distribution will be comparable between the two surveys.

8. It was hoped that the D&B tape could be used in a similar manner. However, for this assignment, it was not possible to obtain D&B employment figures for any years prior to 1978. This greatly limited the usefulness of this data source. 1981 comparisons between D&B and the Large Firms Survey showed major differences related to problems in the former in distributing employment among provinces in the case of a multi-plant company. Therefore, the D&B estimates were used with great care, and typically only to fill gaps in which estimates based on other sources provided appropriate constraints. Once D&B figures for the early 1970's become available, it may be possible to develop more detailed employment estimates for 1981.

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981

Industry	Man.	Sask.	Alta.	B. C.	Western Canada	Ont.	Que.	Atlantic Canada
Agriculture								
1961	1.81	3.65	2.21	.41	1.80	.77	.71	.53
1971	2.15	4.92	2.42	.45	1.99	.75	.54	.45
1981	2.23	5.28	1.95	.44	1.87	.84	.48	.43
Forestry								
1961	.24	.20	.35	2.18	.92	.48	1.36	1.93
1971	.22	.30	.39	3.90	1.68	.33	.94	1.81
1981	.24	.36	.34	3.10	1.42	.56	.98	1.99
Fishing & Trapping								
1961	.69	.61	.32	1.39	.81	.18	.29	5.73
1971	.29	.26	.08	1.41	.65	.16	.26	7.19
1981	.84	.79	.40	2.47	1.34	.10	.48	4.93
Mines: Total								
1961	.91	.65	1.95	.76	1.09	1.02	.74	1.27
1971	1.14	1.23	2.58	1.01	1.50	.84	.64	1.10
1981	.82	1.60	4.00	.95	2.01	.56	.48	.88
Metal Mines								
1961	1.33	.43	.05	.70	.59	1.56	.79	.55
1971	1.74	.39	.04	1.17	.82	1.33	.69	.92
1981	1.60	.46	.04	1.43	.89	1.13	.72	1.13
Mineral Fuels								
1961	.05	.93	4.97	.64	1.78	.08	.01	4.79
1971	.09	1.06	8.83	.60	2.90	.09	.06	1.84
1981	.04	.40	8.65	.84	3.18	.03	-	.86
Non Metallic								
1961	.43	.42	.23	1.21	.64	.31	2.03	1.35
1971	.17	4.36	.25	.52	1.00	.27	1.73	1.48
1981	.39	6.91	.24	.64	1.35	.28	1.48	1.32
Quarries & Sand Pits								
1961	.74	.42	1.09	.77	.78	1.14	1.21	.52
1971	1.52	.38	.70	.85	.84	1.22	1.02	.55
1981	1.08	.38	2.14	.67	1.17	1.24	.74	.49
Services Incidental to Mining								
1961	.51	1.50	8.24	.83	2.94	.35	.27	.17
1971	1.32	2.07	4.64	1.63	2.49	.58	.30	.41
1981	.26	1.39	7.48	.76	2.94	.22	.21	.24
Manufacturing								
1961	.65	.21	.41	.90	.59	1.34	1.10	.53
1971	.73	.28	.49	.85	.63	1.36	1.04	.60
1981	.88	.32	.57	.78	.67	1.42	.93	.64

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

Industry	Man.	Sask.	Alta.	B. C.	Western Canada	Ont.	Que.	Atlantic Canada
Sub-Total: Primary Manufacturing								
1961	.63	.33	.59	1.48	.84	1.16	1.01	.85
1971	.64	.41	.65	1.34	.87	1.15	.94	1.01
1981	.71	.40	.84	1.22	.86	1.18	.90	1.06
Food & Beverage								
1961	1.02	.59	.83	.93	.86	1.13	.93	1.15
1971	1.09	.71	.90	.79	.86	1.00	.90	1.68
1981	1.12	.59	.88	.74	.82	1.03	.82	1.97
Tobacco Prod.								
1961	.02	.0	.0	.02	.02	.64	2.69	.02
1971	.18	.07	.12	.12	.12	.98	2.17	.14
1981	-	-	.27	-	.09	1.84	1.79	.14
Sub-Total: Secondary Manufacturing								
1961	.67	.12	.26	.42	.39	1.49	1.18	.27
1971	.80	.17	.37	.47	.45	1.52	1.12	.29
1981	1.02	.26	.48	.44	.51	1.61	.96	.31
Rubber Prod.								
1961	.05	.02	.36	.11	.15	1.83	1.14	.04
1971	.20	.06	.35	.22	.23	1.81	.99	.18
1981	.37	.05	.40	.31	.31	1.86	.75	.54
Leather Ind.								
1961	.33	-	.06	.10	.12	1.27	1.81	.14
1971	.59	.02	.12	.12	.18	1.34	1.66	.09
1981	.60	-	.09	.11	.16	1.62	1.40	.14
Textile Ind.								
1961	.22	.03	.05	.16	.12	1.06	2.03	.20
1971	.23	.05	.15	.19	.16	1.17	1.84	.26
1981	.32	.04	.18	.17	.18	1.41	1.59	.30
Knitting Mills								
1961	.28	-	.02	.19	.12	1.18	1.77	.50
1971	.44	-	.09	.18	.17	.97	1.93	.73
1981	1.08	-	.08	.13	.24	1.30	1.57	.58
Clothing Ind.								
1961	1.24	.08	.21	.22	.39	.76	2.19	.08
1971	1.55	.10	.25	.25	.45	.62	2.34	.06
1981	1.74	.26	.23	.42	.53	.75	2.15	.15
Wood Ind.								
1961	.26	.18	.42	4.64	1.78	.59	.79	.99
1971	.36	.30	.61	4.51	2.00	.49	.76	.85
1981	.59	.47	.42	4.16	1.93	.51	.75	.73

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

Industry	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Furniture & Fixtures								
1961	1.06	.10	.40	.73	.58	1.32	1.30	.17
1971	.94	.13	.57	.62	.58	1.27	1.33	.21
1981	1.15	.15	.77	.48	.63	1.47	1.05	.26
Paper & Alloil								
1961	.39	.04	.18	1.28	.56	1.09	1.30	1.03
1971	.41	.16	.17	1.45	.69	1.04	1.19	1.16
1981	.52	.18	.22	1.34	.70	1.11	1.18	1.04
Printing & Pub.								
1961	.97	.42	.60	.94	.75	1.47	.88	.41
1971	1.04	.50	.70	.92	.81	1.78	.89	.43
1981	1.02	.53	.89	.83	.84	1.46	.77	.39
Primary Metal								
1961	.44	.09	.18	1.00	.49	1.62	.93	.45
1971	.43	.21	.39	.68	.47	1.71	.81	.43
1981	.43	.46	.40	.55	.45	1.74	.84	.33
Metal Fabricating								
1961	.73	.20	.49	.67	.54	1.65	.89	.35
1971	.73	.25	.65	.76	.63	1.63	.79	.30
1981	.95	.34	.82	.70	.72	1.65	.70	.24
Machinery								
1961	.50	.09	.20	.39	.30	2.14	.62	.10
1971	.84	.29	.38	.47	.47	1.91	.64	.15
981	1.35	.66	.63	.56	.77	1.68	.63	.16
Transportation Equipment								
1961	.90	.06	.21	.46	.40	1.62	.96	.61
1971	1.11	.09	.30	.42	.45	1.81	.67	.46
1981	1.40	.14	.23	.44	.47	1.75	.72	.55
Electrical Products								
1961	.29	.02	.06	.20	.14	1.87	1.08	.11
1971	.41	.10	.17	.30	.25	1.80	.97	.23
1981	.54	.15	.24	.27	.28	1.98	.74	.23
Non Metallic Mineral Prod.								
1961	.64	.35	1.00	.46	.62	1.38	1.09	.45
1971	.61	.40	.92	.87	.76	1.44	.87	.47
1981	.83	.56	1.21	.74	.88	1.38	.80	.47
Petroleum & Coal Prod.								
1961	1.05	1.37	1.95	.88	1.30	.88	1.00	.61
1971	.65	.98	1.72	.64	1.00	1.14	.96	.63
1981	.63	.42	1.70	.41	.86	1.23	.78	1.23
Chemical Prod.								
1961	.36	.12	.57	.38	.38	1.52	1.25	.20
1971	.34	.16	.60	.47	.43	1.51	1.12	.27
1981	.36	.18	.85	.33	.48	1.57	1.03	.35

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

Industry	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Misc. Manufacturing								
1961	.43	.11	.24	.39	.30	1.82	.98	.17
1971	.57	.19	.37	.46	.41	1.70	.92	.38
1981	.52	.17	.40	.34	.36	1.78	.90	.25
Construction								
1961	.95	.79	1.19	.95	.98	1.04	1.02	.85
1971	.90	.77	1.31	1.19	1.10	1.10	.77	1.04
1981	.86	1.08	2.11	1.22	1.44	.95	.64	.87
Transportation, Communications & Other Utilities								
1961	1.29	.99	1.08	1.17	1.13	.95	.93	1.03
1971	1.30	.97	1.09	1.27	1.17	.93	.91	1.02
1981	1.27	.98	1.10	1.28	1.18	.94	.91	.89
Transportation								
1961	1.28	.85	1.07	1.22	1.12	.88	.97	1.15
1971	1.34	.87	1.06	1.36	1.19	.87	.95	1.08
1981	1.44	.81	1.16	1.43	1.26	.91	.87	.90
Storage								
1961	3.09	4.32	2.51	1.43	2.61	.60	.27	.25
1971	2.73	4.24	1.87	1.05	2.08	.77	.48	.43
1981	1.46	4.91	1.60	1.08	1.84	.80	.53	.40
Communications								
1961	1.14	1.00	1.01	1.08	1.06	1.04	.93	.94
1971	1.12	.98	1.18	1.19	1.14	.98	.91	.96
1981	1.00	1.11	1.08	1.11	1.09	.98	.95	.90
Utilities								
1961	1.17	.88	.90	1.00	.98	1.21	.86	.74
1971	1.19	1.28	.95	1.04	1.00	1.15	.82	.97
1981	1.17	.77	.85	1.09	.99	1.01	1.02	.91
Trade: Total								
1961	1.13	.90	1.11	1.13	1.08	1.09	.87	.87
1971	1.12	.96	1.10	1.14	1.09	1.10	.83	.89
1981	1.06	1.04	1.10	1.02	1.06	1.10	.84	.91
Wholesale								
1961	1.37	.96	1.30	1.24	1.23	1.04	.83	.79
1971	1.25	.95	1.18	1.20	1.16	1.09	.80	.83
1981	1.05	.95	1.23	1.09	1.11	1.13	.82	.64
Retail								
1961	1.04	.88	1.03	1.08	1.02	1.12	.88	.90
1971	1.07	.97	1.08	1.11	1.07	1.10	.83	.91
1981	1.06	1.07	1.06	1.00	1.04	1.08	.85	1.01

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

Industry	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Fin., Insurance & Real Estate								
1961	1.05	.61	.88	1.11	.94	1.26	.94	.48
1971	.96	.69	.94	1.15	.98	1.22	.90	.54
1981	.91	.91	.98	1.07	1.00	1.22	.86	.57
Finance								
1961	.94	.69	.98	1.08	.95	1.21	.96	.57
1971	.94	.79	1.03	1.15	1.01	1.14	.95	.60
1981	.81	.89	1.07	1.06	1.00	1.17	.92	.56
Insurance & Real Estate								
1961	1.15	.54	.79	1.14	.93	1.31	.93	.40
1971	.99	.59	.85	1.15	.94	1.30	.86	.47
1981	1.03	.93	.87	1.08	.99	1.27	.79	.68
Community Business & Personal Services								
1961	1.01	.91	1.01	1.10	1.02	1.08	.96	.78
1971	1.01	.94	1.10	1.08	1.04	1.08	.91	.82
1981	.97	.93	1.03	1.09	1.04	1.11	.87	.83
Sub-Total: Non Commercial Services								
1961	.96	1.07	1.07	1.01	1.00	1.01	1.00	.99
1971	1.00	1.05	1.06	.94	1.00	1.05	.95	.97
1981	1.04	1.09	.90	1.02	1.00	1.03	.95	1.00
Sub-Total: Commercial Services								
1961	1.08	.68	1.08	1.23	1.06	1.19	.92	.47
1971	1.04	.74	1.15	1.29	1.11	1.14	.86	.58
1981	.90	.76	1.17	1.17	1.08	1.20	.78	.64
Education & Related								
1961	.99	1.06	1.08	1.01	1.03	.97	1.03	.91
1971	.97	.99	1.15	.91	1.00	1.07	.95	.89
1981	1.04	1.05	1.04	.95	1.01	1.05	.95	.96
Health & Welfare								
1961	1.12	1.11	1.04	1.16	1.11	1.09	.85	.87
1971	1.13	1.03	1.10	1.01	1.06	1.07	.91	.88
Religious Organizations								
1961	.75	.90	.72	.52	.69	.80	1.55	.90
1971	.90	1.17	.78	.65	.81	.89	1.30	1.08
Amusement & Recreation								
1961	.95	.72	1.12	1.16	1.02	1.24	.87	.54
1971	.98	.68	1.09	1.25	1.06	1.24	.79	.57
1981	1.19	.58	.94	.97	.94	1.11	1.05	.63

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

Industry	Man.	Sask.	Alta.	B.C.	Western Canada	Ont.	Que.	Atlantic Canada
Services to Bus. Management								
1961	.81	.50	.99	1.24	.95	1.32	.90	.38
1971	.75	.50	1.09	1.22	.98	1.24	.88	.56
1981	.61	.50	1.10	1.10	.95	1.27	.85	.55
Personal Services								
1961	.87	.78	.87	.96	.88	1.07	1.03	.97
1971	.92	1.02	.92	1.03	.97	1.06	.95	1.03
Accommodation & Food Services								
1961	1.07	.87	1.05	1.24	1.08	1.34	.93	.62
1971	1.12	.97	1.08	1.37	1.17	1.03	.88	.76
1981	.96	1.08	1.17	1.21	1.15	1.11	.73	.84
Miscellaneous Services								
1961	1.04	.70	1.17	1.40	1.13	1.18	.84	.54
1971	1.04	.82	1.30	1.34	1.19	1.13	.77	.87
1981	.99	.68	1.36	1.08	1.01	1.33	.59	.58
Public Administration & Defence								
1961	1.08	.74	1.10	1.07	1.02	1.10	.71	1.39
1971	1.16	.96	1.17	.88	1.01	1.09	.78	1.27
1981	1.19	1.03	1.24	.83	1.04	.98	.83	1.37
Federal								
1961	1.16	.57	1.01	1.08	.98	1.14	.54	1.78
1971	1.19	.87	1.00	.96	.99	1.11	.62	1.68
1981	1.30	.88	.84	.78	.89	1.03	.77	1.92
Provincial								
1961	.93	1.19	1.37	1.09	1.15	.87	1.06	.90
1971	1.10	1.18	1.29	.79	1.05	.98	.96	1.02
1981	1.04	1.23	1.62	.96	1.23	.81	.95	1.11
Local								
1961	1.01	.91	1.20	1.07	1.06	1.15	.95	.51
1971	1.18	.93	1.30	.80	1.02	1.16	.93	.56
1981	1.21	1.03	1.47	.75	1.09	1.13	.79	.67
Other Government								
1961	.20	.01	.19	.23	.17	.39	.33	6.96
1971	.26	.17	.22	.38	.28	.82	.73	4.53
Industry Unspecified								
1961	.94	.93	.96	1.19	1.03	.95	1.12	.74
1971	.94	.90	1.01	1.03	.98	.99	1.08	.85
1981	.91	.91	.67	1.14	.93	.95	1.17	.90

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

The location quotient is defined as the province's share of Canadian employment in a given industry, divided by the province's share of the total Canadian population. Therefore, the location quotient for agriculture in Manitoba in 1961 equals:

$$\frac{59,301 \div 640,786}{921,686 \div 18,238,247} = \frac{9.3}{5.1} = 1.82$$

The population shares used in this analysis are as follows:

POPULATION SHARES USED IN COMPUTING LOCATION QUOTIENTS

Man.	5.1	4.6	4.2
Sask.	5.1	4.3	4.0
Alta.	7.3	7.5	9.2
B. C.	8.9	10.1	11.3
Western Canada	26.4	26.6	28.6
Ont.	34.2	46.7	35.5
Que.	28.8	27.9	26.5
Atlantic	10.4	9.5	9.2

Two related coefficients employed in the text are the coefficient of localization and the coefficient of specialization. The coefficient of localization is computed as follows.

	Regions			
Item	A	B	C	D
1. % of Employment of Industry i	20	30	35	15
2. % of Total Canadian Population	15	20	30	35
Difference (Row 1 - Row 2)	+5	+10	+5	-20

Adding all positive (or negative) differences and dividing by 100, the coefficient of localization is equal to

$$\frac{20}{100} = 0.2$$

The coefficient of specialization is computed in a similar fashion.

TABLE 13: LOCATION QUOTIENTS, BY PROVINCE/REGION - 1961, 1971 AND 1981 (cont'd)

	Industries			
	1	2	3	4
1. % of Total Employment in Region A	20	30	35	15
2. % of Total Employment in Region B	15	20	30	35
Difference (Row 1 - Row 2)	+5	+10	+5	-20

Adding all positive (or negative) differences, the coefficient of specialization is equal to

$$\frac{20}{100} = 0.2$$

TABLE 14: CENSUS METROPOLITAN AREAS: WESTERN CANADA AND OTHER CANADIAN REGIONS

	1971	1976	1981	Average Annual Increase: 1971-81
Calgary	403,343	471,397	585,033	3.8
Edmonton	496,014	55,6271	647,832	2.7
Regina	140,734	151,191	162,981	1.5
Saskatoon	126,449	133,793	152,747	1.9
Vancouver	1,082,352	1,166,348	1,257,105	1.5
Victoria	195,800	218,250	231,072	1.7
Winnipeg	549,808	578,217	580,299	.5
TOTAL CMA's	2,994,500	3,275,467	3,617,089	1.9
% OF WESTERN CANADA POPULATION	52.3	52.4	52.4	-
CMA POPULATION IN OTHER REGIONS				
Ontario	5,144,000	5,529,000	5,755,359	1.1
% of Ont.Population	66.8	66.9	67.3	-
Quebec	3,357,000	3,473,000	3,505,552	.4
% of Que.Population	55.7	55.7	55.0	-
Atlantic Provinces	484,000	524,000	540,998	1.1
% of Atlantic Pop.	23.5	24.0	24.5	-
Total CMA Population in Canada	11,985,000	12,799,000	13,418,998	1.1
% of Canada Pop.	55.6	55.7	55.7	-

Source: Statistics Canada, Interim Population Counts from 1981 Census.

TABLE 15: GROWTH IN LARGE FIRMS EMPLOYMENT IN CMA's: JUNE 1971 AND 1981 (cont'd)

	Halifax - Dartmouth		
	1971	1981	Ave. Annual Inc.
Manufacturing	7.8	7.5	- .4
- Durable	-	-	-
- Non-durable	4.4	4.6	.4
Construction	3.0	2.7	-1.0
Transportation	7.9	9.4	1.8
Trade	10.1	13.7	3.1
F.I.R.E.	3.4	6.2	6.2
Service	5.6	9.6	5.5
- Bus. Services	-	-	-
Industrial Comp.	38.1	49.4	2.6

Source: Statistics Canada, Catalogue No 72-002

TABLE 15: GROWTH IN LARGE FIRMS EMPLOYMENT IN CMA's: JUNE 1971 AND 1981

	Victoria			Vancouver			Calgary		
	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.
Mining	-	-	-	-	-	-	6.5	21.3	12.6
Manufacturing	4.6	4.8	.4	59.9	68.0	1.3	15.1	21.9	3.8
- Durable	2.8	3.5	2.3	35.0	37.4	.7	7.1	10.0	3.5
- Non-durable	1.8	1.3	-3.2	24.9	30.7	2.1	7.9	11.9	4.2
Construction	-	-	-	14.1	16.7	1.7	7.3	17.3	9.0
Transportation,etc.	3.8	4.9	2.6	37.0	52.8	3.6	11.5	23.3	7.3
Trade	5.5	7.0	2.4	46.1	62.1	3.0	19.0	33.5	5.8
Fin., Ins., etc.	-	-	-	16.2	26.1	4.9	6.4	13.7	7.9
Service	4.2	8.2	6.9	32.2	56.3	5.7	15.4	30.4	7.0
- Bus. Services	-	-	-	8.7	16.3	6.5	-	-	-
Industrial Comp.	21.1	28.8	3.2	206.2	284.6	3.3	81.1	161.4	7.1

	Edmonton			Saskatoon			Regina		
	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.
Manufacturing	19.1	26.9	3.5	3.9	5.5	3.5	5.0	6.0	1.8
- Durable	7.5	12.7	5.4	-	-	-	-	-	-
- Non Durable	11.6	14.2	2.0	-	-	-	-	-	-
Construction	8.6	17.0	7.1	1.5	1.6	.6	-	-	-
Transportation	15.1	27.0	6.0	2.5	4.1	5.1	5.5	8.0	3.8
Trade	23.5	39.1	5.2	6.0	8.8	3.9	7.4	10.4	3.5
F.I.R.E.	5.6	12.5	8.4	-	-	-	2.6	4.0	4.4
Service	14.3	29.8	7.6	3.5	5.9	5.4	3.9	7.0	6.0
- Bus. Services	-	-	-	-	-	-	-	-	-
Industrial Comp.	87.5	155.2	5.9	19.1	28.3	4.0	26.6	37.2	3.4

	Winnipeg			Toronto			Montreal		
	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.	1971	1981	Av. Annual Inc.
Manufacturing	38.2	40.4	.6	285.8	317.6	1.1	260.7	251.6	-.4
- Durable	16.1	20.3	2.3	132.5	141.1	.6	100.5	101.6	.1
- Non Durable	22.1	20.0	-1.0	153.3	176.5	1.4	160.2	150.0	-.7
Construction	6.8	4.6	-3.8	41.5	32.0	-2.6	27.5	20.2	-3.0
Transportation	23.1	24.7	.7	72.5	98.4	3.1	87.4	101.7	1.5
Trade	31.7	39.0	2.1	132.9	181.7	3.2	99.8	119.3	1.8
F.I.R.E.	9.6	13.1	3.2	66.4	107.4	4.9	49.7	60.6	2.0
Service	17.3	24.0	3.3	85.9	166.1	6.8	65.8	96.2	3.9
- Bus. Services	-	-	-	29.4	56.2	6.7	17.7	29.2	5.1
Industrial Comp.	126.9	146.0	1.4	687.2	905.7	2.8	592.5	650.5	.9

TABLE 16: GROWTH IN SECONDARY CENTERS IN WESTERN CANADA

	Population				Industrial Composite Employment ('000) June		
	1971	1976	1981	Av. Ann. Inc. 71-81	1971	1981	Av. Ann. Inc. 71-81
Kamloops	46,765	59,172	64,340	3.2	4.9	8.1	5.2
Kelowna	40,097	65,207	76,703	6.7	-	-	-
Prince George	49,365	59,929	65,561	2.9	8.1	11.4	3.5
Nanaimo	34,029	40,336	46,492	3.2	-	-	-
Fort McMurray	6,907	15,424	30,368	16.0	-	-	-
Red Deer	27,684	32,503	45,693	5.1	2.8	8.8	12.1
Lethbridge	41,217	47,286	53,378	2.6	6.0	9.9	5.1
Medicine Hat	26,518	32,838	39,843	4.2	3.0	6.1	7.4
Prince Albert	28,464	28,960	30,906	.8	3.4	4.1	1.9
Moose Jaw	31,854	32,581	33,357	.5	3.0	3.7	2.1
Brandon	32,713	34,901	35,894	.9	4.1	5.3	2.6

Source: Statistics Canada, Interim Population Counts from 1981 Census and Catalogue No. 72-002.

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alberta	B.C.	Ontario	Quebec	Out.Canada
Food & Beverage								
Man.	'67	216,095	14,105	17,166	10,954	87,415	32,703	18,322
	'74	451,450	25,195	30,491	26,246	124,652	66,979	38,460
	'79	605,769	77,131	49,027	x	198,271	x	73,610
Sask.	'67	8,559	140,946	6,166	5,679	15,601	19,665	10,706
	'74	21,309	239,697	30,199	24,478	40,711	28,783	22,178
	'79	x	348,360	x	x	x	x	50,380
Alta.	'67	12,112	23,510	341,164	90,703	31,431	93,047	36,107
	'74	13,048	67,793	804,579	234,181	39,075	219,519	49,457
	'79	x	64,003	1,474,720	339,640	x	444,567	202,189
B. C.	'67	12,372	12,064	41,989	409,563	28,628	12,537	62,508
	'74	26,716	24,362	79,984	753,391	35,495	18,045	160,081
	'79	44,383	45,279	141,831	1,286,785	70,427	43,574	319,643
Ont.	'67	50,064	28,663	53,519	73,036	2,203,284	326,287	191,652
	'74	103,302	55,847	110,150	151,663	4,069,609	612,603	299,131
	'79	179,612	86,991	256,538	293,437	6,731,774	1,161,993	466,876
Que.	'67	20,578	10,912	20,645	28,982	216,139	1,559,882	104,039
	'74	34,846	27,585	51,294	59,019	481,590	2,781,728	178,336
	'79	51,171	22,163	61,028	69,038	604,843	4,862,893	412,329
Clothing								
Man.	'67	19,339	6,687	6,698	6,760	17,585	10,033	4,228
	'74	33,690	9,471	9,315	8,374	24,100	15,269	9,803
	'79	24,097	x	x	14,790	60,232	42,419	30,173

Source: Statistics Canada Catalogue 31-504 for 1967, 31-522 for 1974, and 31-530 for 1979.
- No shipments recorded.
x Value of shipments not reported because of confidentiality concerns.

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin	Destination of Shipments						
	Manitoba	Sask.	Alberta	B.C.	Ontario	Quebec	Out.Canada
Clothing (cont'd)							
Sask. '67	----	2,971	1,667	----	----	----	----
'74	4,484	1,674	x	x	1,567	x	x
'79	x	x	x	x	x	x	x
Alta. '67	543	2,761	8,151	x	5,248	938	x
'74	x	x	x	x	x	x	x
'79	x	x	20,465	x	9,097	x	x
B. C. '67	610	602	3,084	14,299	1,900	488	1,734
'74	x	x	3,042	20,730	3,100	1,900	3,563
'79	2,867	4,123	15,115	32,489	x	x	x
Ont. '67	13,258	9,518	16,662	21,681	164,425	36,985	3,172
'74	14,997	12,099	23,622	30,285	214,875	61,478	5,093
'79	32,998	23,851	53,585	67,967	419,337	139,718	18,803
Que. '67	28,935	22,157	31,645	48,338	208,695	359,162	14,240
'74	38,161	33,306	48,181	64,038	319,569	576,629	51,901
'79	80,716	57,804	100,933	136,923	546,427	965,024	71,668
Wood Products							
Man. '67	12,879	1,028	170	x	x	33	x
'74	34,665	5,054	5,569	222	4,320	x	x
'79	52,561	12,319	x	x	5,318	x	x
Sask. '67	1,945	11,898	703	x	1,585	x	2,379
'74	x	18,636	2,709	x	x	x	x
'79	x	55,173	x	x	2,061	x	x
Alta. '67	6,494	8,871	48,407	3,622	5,036	3,221	11,158
'74	9,221	12,350	98,357	20,470	7,084	3,894	44,624
'79	x	29,250	226,971	22,882	x	x	92,571

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alberta	B. C.	Ontario	Quebec	Out.Canada
Wood Products (cont'd)								
B. C.	'67	x	17,227	38,194	229,327	59,798	28,213	503,183
	'74	35,854	26,810	82,564	502,994	112,488	60,821	1,115,644
	'79	56,924	63,987	263,103	961,650	177,202	104,988	3,034,599
Ont.	'67	2,031	679	2,261	1,926	214,779	18,380	36,154
	'74	5,235	1,278	2,677	2,020	400,224	41,552	93,717
	'79	x	x	x	15,265	683,659	87,992	335,015
Que.	'67	976	563	919	x	36,384	198,696	x
	'74	2,833	1,091	2,210	3,910	113,889	419,711	133,442
	'79	x	x	x	x	246,088	834,589	364,853
Furniture & Fixtures								
Man.	'67	17,059	x	x	1,339	x	x	x
	'74	17,670	8,347	7,360	4,038	3,866	1,078	466
	'79	x	x	x	x	5,746	x	x
Sask.	'67	----	1,267	----	----	----	----	----
	'74	x	x	x	x	----	----	----
	'79	x	x	x	x	x	x	x
Alta.	'67	x	1,960	14,217	x	x	x	----
	'74	1,493	3,005	31,719	4,110	x	x	x
	'79	x	x	56,700	8,865	x	x	x
B. C.	'67	60	x	1,342	34,740	566	414	283
	'74	x	245	1,777	35,504	x	x	185
	'79	x	x	x	49,375	x	x	x
Ont.	'67	9,568	5,605	x	x	x	x	x
	'74	15,678	12,090	26,319	28,385	350,831	61,500	25,641
	'79	x	x	63,738	55,215	555,373	106,176	69,207
Que.	'67	5,179	3,748	6,288	7,202	46,033	146,698	x
	'74	12,598	8,008	17,044	20,582	110,333	219,424	16,838
	'79	16,082	x	x	21,234	124,446	315,579	23,009

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alberta	B. C.	Ontario	Quebec	Out.Canada
Paper & Allied Products								
Man.	'67	24,818	3,026	4,191	2,696	4,511	x	11,541
	'74	x	x	x	x	x	x	x
	'79	69,748	19,177	x	x	x	x	57,088
Sask.	'67	x	x	x	x	x	x	x
	'74	x	x	x	x	x	x	x
	'79	x	x	x	x	x	x	x
Alta.	'67	1,973	1,866	19,064	1,933	989	577	22,638
	'74	x	5,538	79,295	6,841	x	x	x
	'79		x	88,564	x	x	x	x
B. C.	'67	5,951	5,130	20,591	111,614	7,729	6,110	394,767
	'74	7,323	9,970	57,099	276,581	3,473	5,009	1,181,617
	'79	13,987	10,055	109,615	415,186	23,652	17,832	1,923,955
Ont.	'67	x	x	10,338	12,009	588,990	x	x
	'74	50,589	14,769	27,925	30,912	1,288,936	285,848	662,434
	'79	76,535	24,594	57,437	55,827	1,731,860	405,035	1,356,377
Que.	'67	5,147	2,264	x	3,927	208,591	401,528	494,184
	'74	10,839	5,483	6,491	7,855	452,237	952,542	870,667
	'79	27,179	16,611	22,357	17,068	556,071	1,048,084	2,183,473
Primary Metals								
Man.	'67	44,506	2,895	2,776	1,095	2,330	394	x
	'74	37,834	x	5,792	3,705	11,397	x	3,002
	'79	101,849	x	x	x	x	x	x
Sask.	'67	x	x	x	x	x	x	x
	'74	x	x	x	x	x	x	x
	'79	x	x	x	x	x	x	x
Alta.	'67	2,900	13,183	50,736	x	1,601	2,907	28,039
	'74	13,161	10,122	95,741	27,252	15,417	1,744	66,526
	'79	31,518	30,163	214,351	63,723	29,208	x	131,284

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alta.	B.C.	Ontario	Quebec	Out.Canada
Primary Metals (cont'd)								
B. C.	'67	1,110	1,414	6,154	88,458	1,385	356	116,315
	'74	x	2,684	30,369	87,161	21,653	372	x
	'79	x	x	x	191,742	x	x	x
Ont.	'67	61,902	7,202	49,994	39,792	1,213,703	174,848	219,757
	'74	67,617	12,188	69,501	76,175	2,367,573	424,110	477,284
	'79	147,911	29,329	295,170	119,421	4,546,516	727,467	1,268,269
Que.	'67	7,050	3,998	4,769	12,977	157,023	271,790	325,297
	'74	18,300	8,364	x	x	490,926	464,854	473,393
	'79	x	x	x	x	838,071	980,896	782,689
Metal Fabricating								
Man.	'67	60,656	10,283	5,916	1,595	4,739	1,524	x
	'74	91,310	7,432	10,921	x	11,808	3,700	2,498
	'79	144,581	29,248	51,407	17,334	21,186	x	x
Sask.	'67	494	26,654	x	145	x	----	x
	'74	x	27,597	x	849	475	x	x
	'79	1,489	39,062	10,151	x	x	x	x
Alta.	'67	2,461	7,880	83,062	2,856	686	149	17
	'74	7,019	7,182	166,662	12,313	3,182	1,214	719
	'79	8,669	18,696	431,265	16,324	x	x	x
B. C.	'67	923	1,530	14,523	139,431	x	2,283	5,624
	'74	5,220	x	52,424	236,356	9,221	4,921	25,633
	'79	x	x	x	371,382	x	14,520	56,649
Ont.	'67	37,283	28,233	57,747	66,230	x	x	95,914
	'74	39,377	43,109	126,163	124,115	1,830,871	338,835	324,171
	'79	113,967	68,655	288,974	211,822	3,010,976	483,303	752,532
Que.	'67	x	6,958	13,727	x	135,697	395,738	37,667
	'74	17,247	9,312	39,729	34,695	232,723	651,940	122,145
	'79	x	x	117,034	52,381	339,979	1,078,368	680,444

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alta.	B.C.	Ontario	Quebec	Out.Canada
Machinery								
Man.	'67	13,503	17,375	12,706	1,493	3,725	1,407	x
	'74	30,361	23,200	19,669	3,472	8,627	4,159	51,219
	'79	57,733	49,637	50,716	7,546	22,029	7,936	122,216
Sask.	'67	2,647	6,195	x	x	x	x	x
	'74	x	21,496	x	x	x	x	x
	'79	14,844	58,665	26,954	x	4,630	x	16,801
Alta.	'67	x	3,659	18,268	x	178	x	543
	'74	891	x	54,394	4,021	2,666	x	12,828
	'79	3,415	x	233,337	x	2,454	x	22,186
B. C.	'67	757	x	x	28,298	5,119	3,622	x
	'74	1,571	2,380	7,142	86,352	9,319	5,069	49,024
	'79	x	x	x	189,273	x	x	x
Ont.	'67	35,870	x	x	51,114	481,222	x	286,622
	'74	81,575	69,904	105,810	88,100	748,371	227,016	631,116
	'79	99,780	89,730	209,598	208,219	1,266,617	362,942	1,566,051
Que.	'67	x	2,398	4,275	10,528	40,424	87,361	x
	'74	5,578	3,078	14,712	19,392	77,944	188,817	116,884
	'79	x	x	x	44,055	159,762	315,190	324,065
Transportation and Related Equipment								
Man.	'67	23,561	x	1,851	511	6,607	1,745	5,043
	'74	21,891	5,559	8,330	2,361	14,501	4,703	38,816
	'79	56,559	17,270	31,721	37,858	45,224	x	69,315
Sask.	'67	x	1,053	x	x	----	----	----
	'74	1,783	4,853	x	x	x	x	----
	'79	2,271	9,771	11,660	x	x	x	----

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alta.	B.C.	Ontario	Quebec	Out.Canada
Transportation and Related Equipment (cont'd)								
Alta.	'67	883	2,105	24,746	6,292	204	x	x
	'74	6,997	19,110	81,925	32,360	2,206	x	15,195
	'79	4,443	14,501	92,672	x	x	x	3,843
B. C.	'67	1,526	1,045	5,840	60,709	2,971	3,791	7,519
	'74	4,619	5,708	32,760	165,612	20,001	13,884	35,464
	'79	x	x	86,360	431,663	59,906	x	75,782
Ont.	'67	83,396	103,770	131,206	148,907	1,420,205	411,689	1,163,259
	'74	122,589	102,650	194,475	157,764	1,962,853	495,252	4,563,526
	'79	212,588	194,381	520,130	327,791	4,056,467	947,810	8,348,851
Que.	'67	5,669	2,680	3,869	x	x	229,126	288,223
	'74	13,225	9,925	17,821	25,364	154,948	271,191	620,444
	'79	x	17,886	x	x	318,188	640,051	1,597,999
Electrical Products								
Man.	'67	9,059	1,963	4,654	2,317	4,248	x	1,136
	'74	17,380	3,276	8,489	4,500	9,751	2,915	x
	'79	19,679	x	x	x	25,055	x	11,415
Sask.	'67	559	5,257	2,509	x	385	----	x
	'74	x	x	x	x	x	x	x
	'79	x	7,810	x	x	x	x	7,054
Alta.	'67	1,757	1,525	6,990	7,611	x	1,149	753
	'74	2,097	2,708	11,953	10,579	691	880	x
	'79	x	x	26,143	x	10,483	6,722	4,020
B. C.	'67	1,655	3,949	7,002	27,532	3,215	3,319	5,824
	'74	2,381	1,788	11,579	30,838	5,485	2,654	6,686
	'79	6,628	x	x	51,581	14,957	13,855	31,398
Ont.	'67	x	36,673	68,332	x	x	x	185,624
	'74	79,397	53,669	155,591	166,856	1,125,803	499,422	349,207
	'79	137,137	92,813	312,840	274,700	1,523,224	737,398	810,421

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alta.	B.C.	Ontario	Quebec	Out. Canada
Electrical Products								
Que.	'67	16,175	15,971	27,725	29,241	167,736	234,604	70,468
	'74	27,992	13,382	43,812	44,188	311,936	355,112	119,748
	'79	43,125	30,445	102,115	72,658	478,879	580,966	271,267
Petroleum and Coal Products								
Man.	'67	54,163	112	275	x	5,892	x	----
	'74	x	x	x	x	x	x	x
	'79	x	x	x	x	x	x	x
Sask.	'67	3,861	76,913	4,729	424	x	x	x
	'74	x	111,044	x	x	x	x	x
	'79	x	x	x	x	x	x	x
Alta.	'67	3,145	x	110,841	x	5,046	x	x
	'74	9,963	58,731	335,569	46,009	842	x	x
	'79	x	x	x	x	x	x	x
B. C.	'67	----	----	x	x	----	----	x
	'74	x	x	x	x	----	----	x
	'79	x	x	x	1,033,545	----	----	x
Ont.	'67	2,245	x	2,722	x	x	2,067	x
	'74	2,004	x	2,917	2,298	1,385,565	20,516	51,348
	'79	x	x	x	x	3,610,618	x	231,622
Que.	'67	433	22	x	186	65,971	353,795	x
	'74	x	x	x	x	255,404	1,239,724	69,894
	'79	x	x	x	x	232,328	2,950,596	x
Chemicals								
Man.	'67	13,507	6,615	3,107	x	2,234	497	3,539
	'74	30,184	x	6,845	977	2,047	745	12,597
	'79	x	17,509	x	x	x	x	x

TABLE 17: DESTINATION OF MANUFACTURING SHIPMENTS: SELECTED INDUSTRIES - 1967, 1974 AND 1979 ($'000)

Province of Origin		Destination of Shipments						
		Manitoba	Sask.	Alta.	B.C.	Ontario	Quebec	Out.Canada
Sask.	'67	2,782	4,243	479	x	x	83	3,046
	'74	x	9,733	x	x	x	x	x
	'79	x	17,320	x	x	x	x	x
Alta.	'67	6,371	12,320	40,206	5,706	14,280	x	x
	'74	21,323	20,526	97,224	22,221	22,213	x	25,051
	'79	59,321	72,124	267,941	62,802	93,181	x	159,773
B. C.	'67	6,455	7,498	15,427	63,120	455	555	23,159
	'74	3,487	3,826	21,325	111,623	x	x	22,750
	'79	x	x	67,713	217,493	x	x	23,140
Ont.	'67	32,695	27,010	49,988	58,224	758,564	249,958	114,549
	'74	68,276	41,975	102,164	121,753	1,458,882	492,993	246,386
	'79	125,043	91,126	206,050	217,635	2,777,749	977,514	710,167
Que.	'67	14,568	10,534	22,555	27,613	174,543	272,719	58,367
	'74	22,778	18,670	38,473	46,270	351,408	564,007	100,234
	'79	x	x	72,255	87,027	646,712	1,029,832	200,251

TABLE 18: DESTINATION OF TOTAL MANUFACTURING SHIPMENTS - CANADA AND WESTERN PROVINCES - 1967, 1974 AND 1979 ($ Million)

	Total Shipments	Within Province*		Out of Province		Other Western Provinces		Rest of Canada		Other Countries	
		$	% of Total	$	% of Total	$	% of Total	$	% of Total	$	% of Total
CANADA											
1967	38,408.0	---		---		---		---		6,267.5	16.3
1974	82,455.1	---		---		---		---		16,286.6	19.8
1979	152,133.1									34,378.6	22.6
MANITOBA											
1967	1,050.4	594.8	56.6	455.6	43.4	178.3	17.0	219.5	20.9	57.8	5.5
1974	2,279.7	1,296.5	56.9	983.2	43.1	337.2	14.8	436.1	19.1	209.9	9.2
1979	3,914.7	1,807.8	46.2	2,106.9	53.8	823.6	21.0	875.4	22.4	407.9	10.4
SASKATCHEWAN											
1967	470.4	346.7	73.7	123.7	26.3	53.5	11.4	52.6	11.2	17.6	3.7
1974	1,045.2	589.9	56.4	455.3	43.6	201.8	19.3	139.0	13.3	114.5	11.0
1979	1,863.3	1,052.3	56.5	811.0	43.5	382.5	20.5	198.3	10.6	230.2	12.4
ALBERTA											
1967	1,527.0	883.7	57.9	643.3	42.1	301.9	19.8	212.1	13.9	129.3	8.5
1974	3,821.3	2,316.3	60.6	1,505.9	39.4	797.3	20.9	431.5	11.3	277.1	7.3
1979	8,940.0	5,392.5	60.3	3,547.5	39.7	1,247.7	14.0	1,466.4	16.4	833.4	9.3
BRITISH COLUMBIA											
1967	3,130.3	1,512.9	48.3	1,617.4	51.7	266.4	8.5	209.3	6.7	141.7	36.5
1974	7,411.1	3,598.1	48.6	3,813.0	51.4	587.4	7.9	439.1	5.9	2,786.5	37.6
1979	14,627.8	6,609.7	45.2	8,018.1	54.8	1,182.0	8.1	872.4	6.0	5,963.6	40.8
SUB TOTAL: WESTERN PROVINCES											
1967	6,178.1	3,338.1	54.0	2,840.0	46.0	800.1	13.0	693.5	11.2	1,346.4	21.8
1974	14,557.3	7,800.8	53.6	6,757.4	46.4	1,923.7	13.2	1,445.7	9.9	3,388.0	23.3
1979	29,345.8	14,862.3	50.6	14,483.5	49.4	3,635.8	12.4	3,412.5	11.6	7,435.1	25.3

* For 1974, Shipments consumed within the province of origin includes custom and repair work and the "unallocated" category (which is a "small firms" category). These two categories were allocated to destinations in 1967 but not in 1974. The 1967 work plus other surveys indicate that both of these categories are highly local market oriented. Therefore, their inclusion with the "within province" category in this table for 1974 appears defensible.

Source: Statistics Canada #31-504 for 1967, 31-522 for 1974 and 31-530 for 1979.

TABLE 19: MANUFACTURING SHIPMENTS SELECTED INDUSTRY GROUPS* - 1967, 1974 AND 1979 ($'000)

	Man.	Sask.	Alta.	B. C.	Western Canada* $	Western Canada* % of CDA Total
Food and Beverage						
1967	463,063	216,576	635,347	584,427	1,842,413	24.8
1974	813,591	445,667	1,465,845	1,166,293	3,891,396	26.4
1979	1,252,917	711,606	2,824,330	2,064,817	6,853,670	27.0
Textiles						
1967	11,481	x	12,150	12,951	36,582	2.6
1974	21,073	5,909	22,064	47,221	96,267	3.9
1979	33,209	1,801	62,314	41,538	138,862	3.4
Clothing						
1967	76,435	4,638	21,971	23,233	126,277	10.7
1974	137,397	15,151	x	38,668	191,216	9.2
1979	237,078	19,204	78,033	83,215	417,530	11.4
Wood Products						
1967	15,626	19,408	89,960	902,385	1,027,379	61.3
1974	58,978	47,026	230,866	2,070,349	2,407,039	60.3
1979	113,903	119,252	445,731	4,839,934	5,518,820	62.7
Furniture and Fixtures						
1967	28,884	1,267	16,753	37,889	84,793	13.2
1974	53,222	3,056	41,871	59,906	158,055	11.8
1979	80,364	3,273	90,721	82,624	256,982	12.5
Paper and Allied Products						
1967	51,967	x	49,188	553,173	654,328	20.2
1974	x	x	153,784	1,551,372	1,705,156	22.2
1979	x	x	282,753	2,537,412	2,820,165	23.0
Printing and Publishing						
1967	39,088	10,586	25,417	51,551	126,642	13.6
1974	94,527	35,393	113,314	184,746	427,980	16.8
1979	180,753	80,534	298,141	309,512	868,940	18.4
Primary Metals						
1967	55,032	x	106,734	216,490	378,256	12.4
1974	123,428	x	234,446	365,329	723,203	11.1
1979	190,040	x	512,770	702,922	1,405,732	13.5
Metal Fabricating						
1967	85,044	28,150	97,387	171,131	381,712	14.0
1974	160,997	44,193	234,446	412,861	852,497	14.6
1979	298,408	80,068	575,139	687,895	1,641,510	15.8
Machinery						
1967	62,446	9,805	25,222	60,004	157,477	10.5
1974	153,421	46,359	92,122	184,752	476,654	15.2
1979	331,204	130,577	314,886	386,394	1,163,061	17.8
Transportation and Related Equipment						
1967	40,926	1,083	36,118	84,688	162,815	3.5
1974	130,391	16,351	174,633	361,307	682,682	6.7
1979	278,713	32,198	166,935	752,135	1,229,981	6.3

TABLE 19: MANUFACTURING SHIPMENTS SELECTED INDUSTRY GROUPS* - 1967, 1974 AND 1979 ($'000) (Cont'd)

					Western Canada*	
	Man.	Sask.	Alta.	B.C.	$	% of CDA Total
Electrical Products						
1967	26,645	9,249	20,420	53,363	109,677	4.7
1974	64,534	15,660	44,171	108,453	232,818	5.4
1979	143,889	34,643	86,452	1064,263	429,247	6.4
Non-Metallic Mineral Products						
1967	35,518	32,387	91,846	71,021	230,782	21.3
1974	58,926	37,742	184,109	175,038	455,815	20.1
1979	136,118	111,192	549,413	340,189	1,136,912	27.8
Petroleum and Coal Products						
1967	60,655	90,503	146,439	x	297,597	19.1
1974	x	140,818	465,417	406,496	1,012,731	19.5
1979	x	x	1,700,590	1,069,356	2,769,946	22.4
Chemicals						
1967	30,533	11,250	114,907	116,755	273,445	12.0
1974	60,976	17,431	228,342	183,469	490,218	10.6
1979	97,962	27,240	755,085	363,483	1,243,770	13.1
Miscellaneous Manufacturing						
1967	12,025	4,447	x	23,463	39,935	3.7
1974	17,780	6,142	28,215	46,179	98,316	5.4
1979	35,294	10,355	63,613	86,352	195,614	6.0
Total: All Industries						
1967	1,050,352	470,425	1,526,991	3,130,280	6,178,048	16.1
1974	2,279,697	1,045,160	3,821,305	7,411,103	14,557,265	17.6
1979	3,913,199	1,862,682	8,938,067	14,625,549	29,339,497	19.3

* At the two digit level of the Standard Industrial Classification.

* In many cases, Western Canada's share of the national total is significantly understated, as individual province's figures are not published in order to maintain confidentiality.

Source: Statistics Canada Catalogue 31-504 for 1967, 31-522 for 1974 and 31-530 for 1979.