QUEEN
HC
115
.A2522
no.2

DISCUSSION PAPER

CANADIAN MANUFACTURING PROSPECTS FROM A REGIONAL PERSPECTIVE

→ Ca. Dept. of Regional Ec. Exp.

DISCUSSION PAPER

CANADIAN MANUFACTURING PROSPECTS FROM A REGIONAL PERSPECTIVE

CONTENTS

I OVERVIEW

Purpose and Organization

1. The objectives of this paper are:

(1) to review the current role of the manufacturing industry in each of the regional economies;

(2) to describe the broad opportunities (comparative advantages) and constraints in each region respecting further manufacturing growth;

(3) to assess the problems and prospects for each region's key manufacturing sectors, focusing principally on the period through 1985.

The paper is not intended to be an exhaustive treatment of the manufacturing industry in Canada. Rather, it is an attempt to provide a regional perspective that is complementary to the sector-by-sector analyses provided by the Department of Industry, Trade and Commerce.

2. The organization of the paper reflects these objectives. There are four regional reviews (Parts II-V) within which the subsections are organized in order of points (1) to (3) above. The remainder of Part I serves as an executive summary which compares the prospects among regions under the topic headings noted above. An Appendix presents changes in manufacturing employment by region and by subsector between 1976 and 1977. Although the paper is organized in terms of four principal regions — Atlantic, Quebec, Ontario and West — these are not treated as homogeneous areas. Consideration is given to the manufacturing prospects within each province, and in some cases, within sub-provincial areas.

The Manufacturing Industry in the Regional Economies

3. In 1976, manufacturing accounted for 20 per cent of Canadian employment, a share which has slipped steadily in recent years. At the same time, productivity has improved so that the share of real domestic product associated with manufacturing has remained roughly constant at about 22 per cent for more than a decade. In 1976 the shares of employment in manufacturing in the regional economies were as follows: Atlantic 14 per cent, Quebec 24 per cent, Ontario 25 per cent, and the West 12 per cent. The shares of manufacturing in total regional output were: Atlantic 14 per cent, Quebec 25 per cent, Ontario 29 per cent, and the West 13 per cent. At the national level, Ontario is dominant, accounting for over half of Canada's manufacturing output. Quebec contributes just over a quarter, a share which has been slowly declining for many years. The West now accounts for 17 per cent of total national manufacturing output and its share has been steadily growing. The Atlantic manufacturing sector contributes only 4 per cent to the Canadian total although in certain sectors — e.g., fish products, pulp and paper — it is an important producer at the national scale. There are important intra-regional variations in these aggregate statistics. For example, in 1974, manufacturing accounted for over 20 per cent of provincial real domestic product in New Brunswick but for only 8.2 per cent in Newfoundland. Similar differences are observed in the West where manufacturing is relatively much more important in the economy of British Columbia than of Saskatchewan.

4. The mix of manufacturing activity is rather sharply differentiated among regions with the West and Atlantic specializing in resource-related processing, Ontario in durable goods and Quebec in non-durables, particularly textiles and related products. The food and beverage and pulp and paper sectors are important in all regions. In the Atlantic, almost 30 per cent of manufacturing value added and 14 per cent of manufacturing employment is contributed by the pulp and paper industry. Fish processing is an even more important employer with 16 per cent of the manufacturing labour force. In Quebec, the secteurs mous (textiles, leather products, knitting mills, and clothing) accounted for 25 per cent of manufacturing employment in 1974 but this had dropped sharply to about 20 per cent by mid-1977. Quebec manufacturing is quite well diversified in other sectors including food and beverages, pulp and paper, metal processing, chemical and pharmaceutical products, and transportation equipment. Ontario's manufacturing industry is the most diversified in Canada with strength in virtually all sectors. The leaders are transportation equipment (principally automobiles and parts), food and beverages, metal processing, electrical products, chemicals, and machinery. The West is dominated by three sectors — food and beverages, wood products, and paper and allied products — which together account for about half of total manufacturing employment and output.

5. The recent performance of Canada's manufacturing industry has not been encouraging. Real output did not increase between 1974 and 1976 and employment declined by about 80,000. The impact of the downturn was felt disproportionately in Quebec where over 30,000 manufacturing jobs were lost between 1974 and 1976. Preliminary figures for 1977 (see Table 9 in the Appendix) indicate a worsening trend. Between the first ten months of 1976 and the corresponding period in 1977, average national employment in manufacturing declined by 34,000 with 85 per cent of the losses in Quebec. Over 65 per cent of the Quebec decline — 20,000 jobs — occurred in the secteurs mous. The impact has been particularly severe in the Montreal region which is the location of about 70 per cent of Quebec's manufacturing employment.

Comparative Regional Advantages and Constraints

6. Opportunities exist in all regions and each region has specific problems which, if not dealt with, will likely impede further growth and in many cases lead to declines in regional employment. However, a comparison among regions suggests that future manufacturing opportunities and constraints are not equally distributed. Sectoral comparisons indicate that the prospects for the Atlantic and Quebec are generally worse than those for Ontario and the West.

7. An important advantage possessed by the Atlantic Region is its strategic location from which to trade with Europe and the eastern seaboard of the United States. The region's comparative advantage lies in its resource base — primarily forests, fish, and certain minerals. However, for the present, diminished primary fish and forest resources are limiting growth. Transportation costs, despite subsidies, reduce the ability of Atlantic region manufacturers to compete in Canadian markets outside the region. As well, the export orientation of many Atlantic manufacturers makes them relatively more vulnerable to external policies and economic factors than their counterparts, particularly in Ontario.

8. The Western provinces — especially British Columbia and Alberta — also possess a locational advantage; one from which trade with Pacific Rim countries can potentially be greatly expanded. The western resource base is considerably larger than that of the Atlantic provinces and the existence of several dynamic metropolitan centres gives this region a further advantage over its eastern counterpart. However, western manufacturing is expected to remain relatively narrowly based in the medium term and thus vulnerable to unstable world markets in the resource sector. Transportation costs and policies are still thought to work against a substantial growth in secondary manufacturing although these same policies have favoured primary producers. In many areas of the Prairies, a scarcity of fresh water is an important constraint to the establishment of further manufacturing. The future exploitation of certain resources, particularly energy, may also be limited by shortages of appropriately skilled labour.

9. Southern Ontario has a locational advantage with respect to the U.S. and domestic markets. Other structural factors which currently tend to favour this area of the province include its mix of industrial sectors (both in its diversification and its dominant sectors), its well-balanced urban structure, and its highly developed industrial and social infrastructure. Northern Ontario, and to a lesser extent the eastern part of the province, do not share these advantages. The north depends on manufacturing that is closely related to the resource sector and because of its relative isolation has had difficulty attracting a more diversified manufacturing base. Manufacturing in eastern Ontario tends to be concentrated in sectors (e.g. textiles) which face increasingly strong foreign competition.

10. Quebec and Ontario have traditionally shared the position of Canada's manufacturing heartland. Quebec has been better endowed with certain natural resources, notably iron ore, asbestos and hydroelectricity. However, the overriding problem in the province has been the heavy concentration of manufacturing in relatively low-productivity, labour-intensive industries that are less and less able to compete against foreign suppliers, even with tariff protection. There are important intra-regional variations in manufacturing activity within the province. Over 70 per cent of manufacturing employment in Quebec is concentrated in the Montreal region. In other regions, manufacturing activity is less diversified and is often closely related to the exploitation of natural resources. These regions are highly sensitive to world market fluctuations and include many communities which depend on a single industry. Other regions face important adjustment problems because a high proportion of their industries are concentrated in traditional sectors. On the other hand, Quebec has a number of comparative advantages which could lead to the development of new industries: the attraction of the Montreal urban area, a well-qualified labour force, the abundance of natural resources including hydroelectricity, and a strong industrial base and technological competence in some sectors. However, the perception of greater opportunities in other Canadian regions may be making it more difficult to attract to Quebec private investment in modern and high-technology manufacturing which could replace the declining sectors.

11. There are of course, other factors which will tend to influence the location of future manufacturing. For example, one of the traditional advantages of Eastern Canada from the entrepreneur's point of view has been its lower cost of labour. However, regional wage differentials have all but disappeared in many sectors. Other less easily quantified factors which differ among regions include access to venture capital, managerial skills, work force skills, and labour-management relations.

Summary of Regional Prospects in Key Manufacturing Sectors

12. *Atlantic*: The outlook to 1985 is less bright in the Atlantic Region than in the Ontario or Western Region. Barring a bonanza such as the discovery of substantial offshore oil or gas, the region may be pressed to hold its national share of manufacturing output. The principal problem is with the fish and forest resource bases from which the Atlantic Region derives over 30 per cent of its manufacturing employment and value added. New fisheries management policies will enable the strong recovery of many stocks over the next 10 years and it is expected that employment in fish processing will increase in step, but this will take time. To take advantage of the opportunities in the Atlantic fishery, the resource will have to be harvested and processed at a competitive cost and new foreign markets will have to be penetrated. Good forest management policies will be needed to bring wood resources back to their former quantity and quality. This too will take time. Meanwhile, the pulp and paper industry appears able to hold its own in terms of output. Growth potential exists in shipbuilding and especially in ship repair. This could result from the eventual renewal and expansion of the

fishing fleet and, in the longer term, from the construction of Arctic vessels such as icebreakers and, possibly LNG tankers. However, to capture a significant share of this demand, the industry would probably need some form of continuing government support.

13. *Quebec*: The sectoral outlook in Quebec is the least favourable among the regions in the short and medium term. The Quebec manufacturing industry is facing a serious adjustment problem. Between the first 10 months of 1976 and the corresponding period in 1977, there was a decline in overall manufacturing employment of almost 5 per cent which represented a net loss of about 30,000 jobs in one year (Table 9). The textile, footwear, clothing, and knitting industries and pulp and paper and allied products have been the hardest hit with total losses of over 30,000 jobs. The furniture industry, which employed about 20,000 workers in 1976, also faces particularly difficult adjustment problems. The Quebec pulp and paper industry which is the second largest employer among the Quebec industries (40,000 in 1976) has experienced a deterioration in its competitive position and is in need of a cost structure more in line with its major competitors. International competition, aging equipment, industrial fragmentation and labour costs are some of the key factors affecting these industries. The outlook is more promising in the resource-based industries — e.g. asbestos, where new mines and secondary processing are expected to increase employment in the medium term. There is potential to strengthen the province's established position in the transportation equipment industry, particularly in public transportation equipment, the aerospace, and the shipbuilding subsectors. Abundant and competitively priced electric energy is counted on to strengthen the electro-metallurgical and electro-chemical industries, including aluminum processing. Growth is also anticipated in the petrochemical and electronics industries and in some groups of the food products industry.

14. *Ontario*: Average monthly employment in Ontario manufacturing was unchanged at 924,000 between the first 10 months of 1976 and the corresponding period in 1977 (Table 9). On a sectoral basis, however, there were some significant declines — for example, 5,000 jobs in textiles, 5,000 in non-metallic mineral products, and 14,000 in electrical products. These losses were offset by increases in most manufacturing sectors, led by a rise of about 13,000 in transportation equipment. If cost-competitiveness can be re-established and investment stimulated, the overall outlook for Ontario manufacturing is encouraging. However, there will probably be a continuing decline in certain weak sectors (e.g., textiles) and considerable adjustment at the firm or subsector level in industries which as a whole appear strong (e.g., machinery). Despite soft world markets, the position of Ontario's steel industry is relatively good. The production of automobiles and urban transportation equipment is stable and steps are being taken to correct a serious trade deficit in auto parts. The aerospace industry is sound, but will depend heavily on military work. Ontario should continue to benefit from the rapid growth that is forecast for petrochemicals. The forest products industry in the province faces problems similar to those of its Quebec counterpart but with investments in mill modernization, forest management, and supporting infrastructure, employment and output should remain relatively steady. Telecommunications offer good ouptut growth potential but automation will reduce the impact on jobs. The machinery sector is well established in Ontario and is expected to provide a good focus for high-technology growth. The processing of metallic ores offers good prospects over the long term, but fluctuations in international demand create depressed conditions from time to time, the effects of which are strongly felt in Northern Ontario.

15. *West*: The outlook for growth in manufacturing is most favourable in the western provinces, particularly in Alberta and British Columbia, although to some extent this is due to the west's relatively small manufacturing base at present. In Manitoba, where there are a number of troubled secondary industries, some weakness is foreseen. Manufacturing in Saskatchewan contributes only 5 per cent of total provincial product and difficulty may be experienced in parts of the food and beverages and farm implements subsectors. In Alberta, Saskatchewan and British Columbia, manufacturing related to energy production is expected to provide major momentum. The exploitation of tar sands and heavy oil deposits, the construction of the Alaska pipeline, and the expansion of the petrochemical industry in Alberta all offer significant manufacturing opportunities. A limiting factor could be a shortage of skilled labour. The resource industries will need increasing numbers of off-highway carriers and these are already being produced in the region. Good opportunities are foreseen for expanded processing of many agricultural products. Increased salmon harvesting is anticipated over the longer term as a result of salmonid enhancement program in British Columbia. The forest products industry is expected to remain strong with pulp and paper stable.

II MANUFACTURING PROSPECTS IN THE ATLANTIC REGION

The Role of Manufacturing in the Atlantic Region

16. Between 1961 and 1976, manufacturing employment in the Atlantic provinces increased by about 35,000 (54 per cent) to 100,000. This level is slightly more than 5 per cent of total manufacturing employment in Canada, an increase from 4.4 per cent in 1961. Manufacturing accounts for between 14 per cent and 15 per cent of the employed labour force in the Atlantic region compared with about 20 per cent in Canada as a whole. The Atlantic Region's share of Canada's total value added in manufacturing is currently about 4.0 per cent, an increase from 3.3 per cent in 1971. While not large in the overall Canadian context, the manufacturing sector's contribution to the Atlantic economy has increased in importance over the past 15 years.

17. The slight downturn in both value added and employment in 1976 (see Table 1) follows a national pattern which reveals a slight absolute drop in both manufacturing employment and value added between 1974 and 1976. The effect of the economic downturn was relatively more severe in the Atlantic than in other regions. For example, Atlantic manufacturing employment declined by over 7 per cent between 1974 and 1976 compared with a drop of less than 3 per cent on Ontario. And while Ontario was able to maintain the level of its manufacturing value added between 1974 and 1976, the Atlantic lost 4.6 per cent (in constant 1971 dollars). These data do not imply a permanent erosion of the gains registered by the Atlantic manufacturing industry since the early 1960's but rather indicate the greater relative sensitivity of the Atlantic Region to sluggish economic conditions in Canada and its principal trading partners.

TABLE 1

MANUFACTURING INDUSTRIES — ATLANTIC REGION
(a) OUTPUT (millions 1971 Dollars)[1]

Year	Regional Real Domestic Product	RDP in Manufacturing	RDP in Manufacturing as a per cent of RDP	RDP in Manufacturing as a per cent of Canada Total
1961	3 150	383	12.2	3.7
1971	5 070	626	12.3	3.3
1974	5 892	947	16.1	4.2
1976	6 324	903	14.3	4.0

(b) EMPLOYMENT (thousands)[2]

Year	Total Employment	Employment in Manufacturing	Manufacturing Employment as a per cent of Total	Manufacturing Employment as a per cent of Canda Total
1971	628	96 .	15.3	5.3
1974	710	108	15.2	5.3
1976	729	100	13.7	5.1

Sources: [1]Estimates by Conference Board in Canada
[2]Labour Force Survey Division of Statistics Canada.

18. The distribution of value added and employment by manufacturing subgroup in the Atlantic is shown in Table 2 (based on 1974 data). Gaps in the table are the result of confidentiality requirements imposed when only a small number of reporting establishments exist. The gaps do not necessarily indicate that the omitted data are insignificant. For example: in 1974 the SYSCO steel plant (which would fall under primary metals) employed almost 4,000; the Michelin tire plants in Nova Scotia (under rubber and plastic products) employed about 2,200; and the Bathurst lead smelter 550. In the transportation equipment category — including for example, various shipyards, the Volvo assembly plant in Halifax, the Trenton car works — there were about 7,300 employed in Nova Scotia and New Brunswick alone. The corresponding value added was over $100 million making the transportation equipment sector the third most important in the regional manufacturing economy after food and beverages and paper and allied products.

Comparative Advantages and Constraints

19. The location of the Atlantic Region, traditionally a disadvantage in terms of North American markets, has become increasingly strategic as the industrialized areas of North America and Europe grow more economically interdependent. Halifax and Saint John have already achieved rapid rates of growth in traffic as a result of the shift to containerized cargo, and there may be additional opportunities to move towards an integrated transportation and distribution system to service international traffic. In addition, the existence at Canso, Lorneville, and Come-by-Chance of three of the best deep-water ports on the Atlantic seaboard provides a capability for servicing giant bulk cargo vessels and for establishing related onshore industries.

20. Relative to its population and area the Atlantic Region is well endowed with many of the natural resources required for self-sustained growth. There are some excellent agricultural lands, extensive forests, a number of important minerals, some of the world's richest fishing waters, and good potential supplies of energy, including coal (Nova Scotia), hydro (Newfoundland and New Brunswick), and tidal (Nova Scotia and New Brunswick). Many of these resources exist in exportable surplus and in addition may be adequate to support a growing number of manufacturers intent on supplying the regional market.

TABLE 2

MANUFACTURING EMPLOYMENT AND VALUE ADDED BY INDUSTRY GROUP IN ATLANTIC REGION — 1974

Industry group	Manufacturing Employment		Value Added	
	Number	Per cent of total	$ million	Per cent of total
1. Food and beverages	26 862	32.2	328	21.8
2. Tobacco products	—	—	—	—
3. Rubber and plastic products	—	—	—	—
4. Leather	—	—	—	—
5. Textiles	1 553	1.9	15	1.0
6. Knitting mills	—	—	—	—
7. Clothing	—	—	—	—
8. Wood	6 962	8.3	83	5.5
9. Furniture and fixtures	—	—	—	—
10. Paper and allied	11 795	14.1	457	30.4
11. Printing and publishing	3 135	3.8	49	3.3
12. Primary metals	—	—	—	—
13. Metal fabricating	3 744	4.5	62	4.1
14. Machinery	762	0.9	9	0.6
15. Transportation equipment	—	—	—	—
16. Electric products	2 415	2.9	33	2.2
17. Nonmetallic mineral products	2 470	3.0	52	3.5
18. Petroleum and coal	—	—	—	—
19. Chemical and chemical products	1 149	1.4	30	2.0
20. Miscellaneous	579	0.7	6	0.4
21. Total	83 489		1 505	

Note: Absence of data for certain sectors reflects insufficient number of reporting establishments, but not necessarily insignificant level of employees or value added. (See para. 18.) Percentages refer to the true totals, i.e., taking into account the entries that are unreported in the table. The total employment figure differs from the Labour Force Survey number in Table 1 because of a different reporting methodology. The value added figures are in 1974 dollars and thus differ from the output figure in Table 1 which is calculated in 1971 dollars.

Source: Statistics Canada Catalogue; #31-203.

21. The Atlantic Region shares with the rest of Canada the major constraints to expanded manufacturing activity — viz., shortage of private investment with which to create more productive plants, and a cost structure that has rendered Canadian manufacturers less competitive at home and abroad. A facet of this problem which is particularly severe in the Atlantic Region is the present cost and availability of energy. In 1974 the cost of fuel and electricity amounted to 11 per cent of value added in Atlantic manufacturing industries compared with about 5 per cent in the rest of the country. This comparative disadvantage may disappear as the cheaper hydro sources in Ontario and Quebec reach capacity, but certainly one cannot foresee any decline in energy costs in the Atlantic Region though with appropriate development of existing potential there should be no long term shortage of energy supply.

22. With the exception of Prince Edward Island, the manufacturing industries in the Atlantic Region produce a significant share of output for foreign markets. Exports, largely to Europe and the United States, account for about 35 per cent of manufacturing shipments in the region. This is in contrast to Canada as a whole where only about 20 per cent of manufacturing shipments are exported. In Newfoundland, more than 60 per cent of manufacturing shipments are destined for foreign markets. Because of this export orientation, the manufacturing sector in the Atlantic Region is more vulnerable to changes in external economic and institutional circumstances than are most other regions — particularly Ontario and Quebec — which are less dependent on foreign markets.

23. Transportation costs constrain the ability of many Atlantic Region manufacturers to compete effectively in other Canadian markets. Despite subsidies for land transport out of the region, the effect of distance from central Canada cannot be eliminated. Moreover, transportation costs could become relatively more important as petroleum prices rise. Although distance may prevent substantial increases in sales of Atlantic manufactured goods in the rest of Canada, the same factor may encourage greater import substitution within the Atlantic Region.

Outlook for Key Manufacturing Sectors

24. The following industries are of key importance because of their present and potential significance within the regional economy: fish processing, pulp and paper, shipbuilding and steel.

25. In 1974, fish processing employed about 13,000 (16 per cent of the Atlantic Region's manufacturing labour force) and contributed $130 million of value added (8 per cent of the manufacturing total). In recent years the industry has been plagued by declining landings as northwest Atlantic stocks were depleted by heavy foreign and domestic harvesting. With the declaration of the 200-mile limit and the adoption of a resource management strategy for the fishery, most stocks can be expected to recover their former (1950) levels within less than a decade. The Gulf of St. Lawrence stocks will probably be slower to recover, those off the coast of Labrador quicker.

26. The 200-mile limit could bring major economic benefits to the Atlantic Region but much will depend on Canada's ability to exploit the resources at a competitive cost and to market much larger processed harvests. This will probably require the significant penetration of markets other than the U.S., which now has the opportunity to more fully exploit major stocks of its own. Canada's ability to capture its potential share of the world fish processing industry will depend on its ability to harvest the resource at competitive cost. In this regard, many European nations are more advanced and the acquisition by Canadian fishermen of improved technology will be necessary to exploit fully the new opportunities.

27. The fishing industry has strong links with the rest of the Atlantic Region's economy. It has been estimated[1], for example, that every job lost or gained in fish processing in Nova Scotia leads to 2.3 jobs lost or created elsewhere in the province. The boatbuilding industry in particular could potentially reap large benefits from the renewal and expansion of the offshore fleet. However, the future competitiveness of the Canadian fishing industry will depend on keeping capital costs at a minimum and this will tend to work against Canadian shipbuilders whose costs, even with substantial subsidies, may prevent them from meeting the prices of foreign-built vessels. Nevertheless, the potential for new construction and repair is significant and with appropriate government policy and entrepreneurial initiative a healthy future for the Atlantic boatbuilding industry is possible.

28. In summary, the Atlantic fishery can expect a good recovery of stocks in most areas with a resulting increase in primary productivity but relatively little, if any, growth in primary employment. There will eventually be expanded opportunities for fish processing and other manufacturing related to the industry. But each opportunity is a challenge since international markets for fish products are expected to become more competitive than ever.

29. The paper and allied industry group — primarily pulp and paper manufacturers — dominates Atlantic region manufacturing, contributing about 30 per cent of value added and 14 per cent of manufacturing employment. As with the fishing sector, the pulp and paper industry faces serious problems of structure and resource availability. In many areas the mills have already reached the level of allowable cut for softwoods. Combined with extensive budworm infestation this implies that they will have to shift to a greater use of hardwoods. This will entail costly technical changes in the affected plants at a time when profitability is already weak. Also the demand for hardwood pulp is weaker than that for softwood pulp.

---

[1]Policy for Canada's Commercial Fisheries; Environment Canada, May 1976, p. 12.

30. In spite of problems, the pulp and paper industry has been quite successful in maintaining its share of markets. The three mills in Nova Scotia are in a reasonably strong position. Of the eleven in New Brunswick a small number are threatened by one or more of the following problems: old age, environmental regulations, poor markets for the output (e.g., sulphite), or wood shortage. One of the two mills still in operation in Newfoundland requires modernization. There is a possibility that the closed Labrador Linerboard Mill may reopen sometime within the next 5 years. Depending on its product at the time, an extensive mill conversion could be required. Overall, a relatively stable future is seen for the industry in the Atlantic Region with a reduction of perhaps 10 per cent in employment when and as market-led modernization takes place.

31. The sawmilling industry has also been affected by the availability and quality of the timber resource, problems which are expected to continue into the mid-1980s. There are a large number of mills, many of which are small, family operations. For example, in 1974 there were 95 mills in New Brunswick, employing 2,900. It is expected that there will be continuing rationalization into larger units but this is not expected to cause serious adjustment problems since the small mills are widely dispersed and would in most cases wind down through natural attrition.

32. The boat and shipbuilding industry in the Atlantic Region employs approximately 4,000, or 4 per cent of the manufacturing labour force. The outlook for the industry depends on opportunities to be created by the renewal and eventual expansion and maintenance of the fishing fleet and on a possible demand for liquid natural gas (LNG) tankers. If the fishing fleet becomes more concentrated in large, long range vessels[1] some smaller boatbuilders could face increasing difficulties. Moreover, it is not clear that even the large Atlantic Region's shipyards could win contracts to build the new oceangoing trawlers. A similar caveat applies to the potential market for LNG tankers. With some rationalization, the shipbuilding industry in the Atlantic Region should at least be able to hold its own, particularly if it can capture a fair share of the repair market, At present, because of insufficient capacity a great deal of potential repair work is lost to European and U.S. yards.

33. The steel industry in the Atlantic Region is dominated by a single producer, SYSCO, which currently employs about 2,200 and which in 1976 had a total income of $100 million. The plant has been capable of producing a million tons per year in the form of rails and semi-finished steel, though in the last three years it has operated at less than half capacity. Although the plant accounts for less than 6 per cent of total Canadian steel capacity, it forms, together with the coal industry, the foundation of the economy in industrial Cape Breton. The Nova Scotia government, owners of SYSCO, covers losses which in 1976 totaled $30 million. In view of the present surplus of world steelmaking capacity there is little prospect of a replacement of the SYSCO mill before 1985. At the same time, some renovation of SYSCO may be appropriate in the hope of stemming continued operating losses.

III MANUFACTURING PROSPECTS IN QUEBEC

The Role of Manufacturing in Quebec

34. Quebec shares with Ontario the role of industrial heartland of Canada, although the mix of manufacturing activity is quite different. In 1976, the manufacturing industry was responsible for one-quarter of the gross domestic product of Quebec, a share only slightly less than the comparable figure in Ontario. In the same year, the manufacturing sector employed almost 600,000 workers in Quebec, or 24 per cent of the provincial work force.

35. The period 1961-1976, saw the industry's share in the Quebec economy decline appreciably. The contribution of manufacturing to the gross provincial product decreased from 26.3 per cent in 1961 to 24.6 per cent in 1976. The share of manufacturing in Quebec employment decreased over the period from almost 30 per cent to 24 per cent. At the same time, Quebec's share of Canada's manufacturing employment has decreased steadily from almost 34 per cent in 1961 to just over 30 per cent in 1976 and output has declined as a percentage of the Canadian total from 30 per cent in 1961 to 26 per cent in 1976.

36. Table 4 presents the shares of output and employment in the 20 major subgroups of the Quebec manufacturing industry. The industrial structure of the province is reasonably well diversified but there is an overall emphasis on industries related to forest resources (wood, furniture, pulp and paper) and to nondurable consumer goods whose production is labour-intensive (leather, textiles, knitting mills, and clothing). Modem high-productivity industries are less well developed. For example, the machinery producing industries represented in 1974 only 3.2 per cent of manufacturing employment in Quebec as against 6.4 per cent in Ontario. The Economic Council of Canada has estimated[1] that labour productivity (output per worker) in Quebec manufacturing as a whole was only 87 per cent of the national average over the period 1970-1973. By comparison Ontario's productivity was 109 per cent of the Canada average. About half of the Quebec deficit with respect to the national average was ascribed by the province's mix of manufacturing industries.

---

[1]At present there are 10,000 to 15,000 small craft, about 140 licensed trawlers of more than 100 feet, and about 500 vessels of intermediate size such as small draggers and longliners.

[1]Living Together; Economic Council of Canada, 1977, Table 5-3, p. 66.

TABLE 3

MANUFACTURING INDUSTRIES — QUEBEC
(a) OUTPUT (millions of 1971 dollars)[1]

Year	Provincial Real Domestic Product	RDP in Manufacturing	RDP in Manufacturing as a per cent of RDP	RDP in Manufacturing as a per cent of Canada Total
1961	11 911	3 130	26.3	30.3
1971	20 006	5 231	26.1	27.6
1974	23 536	6 067	25.8	26.7
1976	23 969	5 900	24.6	25.9

(b) EMPLOYMENT (thousands)[2]

Year	Total Employment	Employment in Manufacturing	Manufacturing Employment as a per cent of Total	Manufacturing Employment as a per cent of Canada Total
1971	2 197	578	26.3	32.2
1974	2 427	627	25.8	31.0
1976	2 479	595	24.0	30.6

Sources: [1]Estimates by the Conference Board in Canada.
[2]Labour Force Survey Division of Statistics Canada.

37. Quebec is heavily dependent on its manufacturing shipments to other regions of Canada. In 1974, 31 per cent of Quebec manufacturing shipments were destined elsewhere in Canada. The comparable fraction for Ontario was 24 per cent. Another important characteristic of the manufacturing industry in Quebec is the prominent role played by small and medium-sized businesses. These account for more than 48 per cent of manufacturing employment compared with 40 per cent in Ontario. The predominance of small and medium-sized enterprises is particularly strong in the traditional industries and is a factor contributing to the problems of these industries.

38. Over 70 per cent of manufacturing employment in Quebec is concentrated in the Montreal Region making the problems of the industrial structure of Montreal generally the same as those of Quebec as a whole. Manufacturing activity in other regions of the province is on the whole closely related to the exploitation of natural resources. Consequently there is relatively little industrial diversification and thus many communities depend on only one or two industries.

Comparative Advantages and Constraints

39. Quebec enjoys a number of comparative advantages on which to base the medium-term development of new industries having strong growth potential and higher levels of productivity. Among these advantages are: an important consumer market; the Montreal urban area which is well equipped with services; a generally well-qualified labour force; an abundance of natural resources including substantial hydroelectric sources; and an industrial base and a technological competence which are relatively strong in such sectors as transportation equipment and communications. These advantages should permit growth in electro-chemical and electro-metallurgical industries, and in the manufacture of urban transportation equipment, aircraft, electronics, and, possibly petrochemicals. Among resource-based industries those related to asbestos, aluminum and agricultural food products show promise.

40. Nevertheless, there are a number of important problems which in the near to medium term, will continue to challenge Quebec's manufacturing industry. The most serious of these are rooted in the structure of the industry itself. Manufacturing in Quebec has recently been handicapped by its concentration in traditional slow-growth activities which have been principally oriented toward domestic markets. The province has remained specialized in activities where historically it held a comparative advantage — in industries related to primary resources (e.g., forests) or to the availability of cheap and abundant labour (e.g., the secteurs mous — textiles, leather goods, knitting mills, and clothing). For years

these comparative advantages have been steadily eroding as labour costs have increased and as new sources of certain raw materials have been developed in other countries.

The Outlook for Key Manufacturing Sectors

41. Employment in the Quebec primary textile industry declined by 25 per cent between 1973 and 1977, falling from 40,000 to about 30,000 workers. A generally declining trend has also been experienced in the clothing, knitting mills, and footwear sectors. The majority of these losses are the result of greatly intensified competition from both developing and industrialized countries. Between 1975 and 1976, for example, foreign suppliers increased their share of the Canadian market for clothing from 22 per cent to 26 per cent, and for the products of knitting mills from 49 per cent to 54 per cent.

TABLE 4

MANUFACTURING EMPLOYMENT AND VALUE ADDED BY INDUSTRY GROUP IN QUEBEC REGION — 1974

Industry group	Manufacturing Employment		Value Added[1]	
	Number	Per cent of total	$ million	Per cent of total
1. Food and beverages	56 840	10.1	1 201	12.0
2. Tobacco products	5 818	1.1	701	1.7
3. Rubber and plastic products	13 822	2.6	219	2.2
4. Leather	12 564	2.3	133	1.3
5. Textiles	39 044	7.2	578	5.8
6. Knitting mills	16 026	3.0	178	1.8
7. Clothing	67 139	12.4	661	6.6
8. Wood	24 771	4.6	371	3.7
9. Furniture and fixtures	20 051	3.7	256	2.5
10. Paper and allied	45 367	8.4	1 195	11.9
11. Printing, publishing	25 289	4.7	489	4.9
12. Primary metals	30 267	5.6	691	6.9
13. Metal fabricating	39 161	7.2	748	7.4
14. Machinery	17 487	3.2	320	3.2
15. Transportation equipment	30 006	5.5	500	5.0
16. Electric products	33 692	6.2	635	6.3
17. Nonmetallic mineral products	15 545	2.9	346	3.4
18. Petroleum and coal	3 254	0.6	349	3.5
19. Chemical and chemical products	26 779	4.9	742	7.4
20. Miscellaneous	18 578	3.4	264	2.6
21. Total	541 500		10 045	

[1]Current (1974) Dollars. See also note to Table 2.
Source: Statistics Canada Catalogue 31-203.

Between 1962 and 1976 imported footwear increased in market share from 32 per cent to 54 per cent. Part of the failure of the secteurs mous in Quebec to remain competitive is due to labour costs which are far higher (per unit of production) than those in competitor countries. There are also problems related to production scale in some subsectors. The relatively small size of the domestic market and the wide variety of product lines have often dictated production runs too short to maximize output per worker.

42. The Quebec furniture industry employed approximately 18,000 in 1976. The difficulties faced by this sector are of particular importance since in a number of cases the firms are located in communities with few other employment opportunities. Several of the most serious problems — e.g., the difficulty of selling abroad, low productivity, and weakness in product design — would probably be reduced by the regrouping or amalgamation of several production units. At present the industry is fragmented with only 10 per cent of factories employing more than 200 workers.

43. The Quebec pulp and paper industry comprises 56 mills and employs approximately 32,000 workers or about 40 per cent of total Canadian employment in this sector. The industry has seen its position weaken, particularly with respect to its American counterpart. Among causes of this relative decline are increasing costs of production, particularly for labour, and costs of transportation, of primary resources, and of equipment required by new government regulations for pollution control. To halt the decline, the Quebec pulp and paper industry will have to stabilize its unit costs of production at or below the levels of its competitors. Mill modernization and expansion should take place in response to market opportunities as demand grows to absorb current capacity. It is expected that modernization and expansion in Quebec and elsewhere can be financed from the earnings of individual firms.

44. The exploitation of new asbestos mines could give rise to important developments in the medium term. There appear to be several opportunities for the processing of asbestos despite past difficulties experienced by Quebec firms trying to enter this activity. New manufactured products might include asbestos textiles and papers, pipes of asbestos cement, as well as watertight joints and fittings of asbestos. The possibilities of extensive asbestos processing in Quebec are somewhat limited, however, by the high costs of transportation for the finished products in which the asbestos component typically constitutes only a small percentage by weight.

45. The transportation equipment industry presents several development possibilities in aeronautical and marine construction particularly as a result of military procurement requirements and of future requirements for Arctic vessels, e.g., icebreakers and, possibly, LNG tankers. Other possibilities which could build on Quebec's existing manufacturing base, include the construction of public transportation equipment such as the LRC train, buses, and other railway equipment.

46. The electro-metallurgical industry might also have an opportunity to expand, particularly in the Montreal Region which can offer electric energy at a competitive cost and in which are located many firms already specialized in this activity where sub-contracting is important.

47. There is a possibility of increasing the production capacity of the Montreal petrochemical complex, currently one of three major petrochemical centres in Canada. Most units in the complex are now producing at a competitive cost, in part because the capital costs of the plants have been substantially amortized. In the short to medium-term, most new capacity in the Canadian petrochemical industry is expected to be located in Ontario and Alberta, while in the medium to longer-term significant renewal and expansion can be anticipated in Montreal.

IV MANUFACTURING PROSPECTS IN ONTARIO

The Role of Manufacturing in Ontario

48. Ontario dominates the Canadian manufacturing industry, accounting for over half the output and just under half of total employment (Table 5). Quebec, by contrast, produces just over one-quarter of the nation's manufacturing output with a little less than one-third of the manufacturing labour force. Ontario manufacturing is productive, contributing 29 per cent of Provincial Domestic Product with only 25 per cent of the employed labour force. In each of the other three regions — Atlantic, Quebec, and the West — the share of employment in manufacturing very nearly matches the share of output.

49. Between 1971 and 1976, the value of output (i.e., value added in constant dollars) in Ontario manufacturing increased by 17 per cent while employment went up 10 per cent. In the economic downturn between 1974 and 1976, when national employment in manufacturing dropped by about 4 per cent, the decline in Ontario was only 2.8 per cent, the smallest relative loss among the four regions. However, over this same two-year period, while national manufacturing output was unchanged, output in Ontario declined marginally by 0.3 per cent.

TABLE 5

MANUFACTURING INDUSTRIES — ONTARIO
(a) OUTPUT (millions 1971 dollars)[1]

Year	Provincial Real Domestic Product	RDP in Manufacturing	RDP in Manufacturing as a per cent of RDP	RDP in Manufacturing as a per cent of Canada Total
1961	19 105	5 245	27.5	50.8
1971	34 538	10 238	29.6	54.1
1974	40 264	12 032	29.9	47.5

(b) EMPLOYMENT (thousands)[2]

Year	Total Employment	Employment in Manufacturing	Manufacturing Employment as a per cent of Total	Manufacturing Employment as a per cent of Canada Total
1971	3 114	840	27.0	46.8
1974	3 550	950	26.8	46.9
1976	3 689	923	25.0	47.5

Sources: [1]Estimates by Conference Board in Canada.
[2]Labour Force Survey Division of Statistics Canada.

50. Provincial government sources[1] have forecast a continuing decline in the share of employment derived from manufacturing with a peaking of the manufacturing share of output by 1980 and a marginal decline by 1985. The output growth in the manufacturing sector in Ontario is thus expected to slow as the growth in aggregate demand decelerates and residential activity increases at slower rates. The auto industry will probably decline as the saturation levels of car ownership are reached and population growth declines. This forecast also recognizes the likelihood of a bigger share of manufacturing industry developing in the West. The postwar population bulge moving into the high consumption age range, 25-34, should help to maintain demand for the Ontario manufacturing industry into the early 1980s. Thereafter an expected decline in the size of that age bracket would reduce demand for manufactured consumer products provided that buying habits follow their historical pattern.

51. Table 6 shows that the Ontario manufacturing industry is well diversified. For example, of a total value added by manufacturing industries of $20 billion in 1974, eight sectors each had a value added of more than one billion dollars. The leading group, transportation equipment, accounted for only 17 per cent of the total. This is in contrast with the Atlantic region, where, for example, the pulp and paper sector contributes about 30 per cent of manufacturing value added. This diversity gives the Ontario manufacturing industry a degree of stability that is lacking in the other regions, particularly in the West and the Atlantic.

52. Ontario has maintained a trade surplus with all other regions and its surplus of manufactured goods with the rest of Canada improved significantly between 1967 and 1974. Despite the increased cost of oil, natural gas and agricultural products over the period, Ontario was able to nearly offset the cost of its purchases with sales of goods and services to other regions and exports of manufactured products and raw materials to foreign markets. The proportion of Ontario's total shipment of goods of own manufacture destined within Canada declined from 86 per cent to 79 per cent between 1967 and 1974, representing an increase in the export proportions. In 1974, Ontario's total manufacturing shipments of $41.4 billion were allocated as follows: $22.6 billion (55 per cent) were destined within Ontario, $8.8 billion (21 per cent) were exported, $4.9 billion (12 per cent) went to Quebec, $3.9 billion (9 per cent) to the West and the remainder , $1.3 billion (3 per cent), to the Atlantic provinces. Total manufacturing shipments for Canada were $82.5 billion and thus Ontario accounted for one-half.

[1]Ontario Ministry of Treasury, Economics, and Intergovernmental Affairs (TEIGA); "A Long Term Projection of Ontario's Industrial Development Pattern" — June 1976.

TABLE 6

MANUFACTURING EMPLOYMENT AND VALUE ADDED BY INDUSTRY GROUP IN ONTARIO REGION — 1974

Industry group	Manufacturing Employment		Value Added[1]	
	Number	Per cent of total	$ million	Per cent of total
1. Food and beverages	87 099	9.9	2 117	10.6
2. Tobacco products	3 551	0.4	136	0.7
3. Rubber and plastic products	34 718	3.9	730	3.7
4. Leather	13 332	1.4	139	0.7
5. Textiles	31 991	3.6	533	2.7
6. Knitting mills	7 341	0.8	78	0.4
7. Clothing	22 209	2.5	242	1.2
8. Wood	20 507	2.3	333	1.7
9. Furniture and fixtures	24 693	2.8	352	1.8
10. Paper and allied	47 404	5.4	1 222	6.3
11. Printing, publishing	47 434	5.4	869	4.4
12. Primary metals	71 487	8.1	1 748	8.8
13. Metal fabricating	89 235	10.1	1 877	9.4
14. Machinery	56 776	6.4	1 192	6.0
15. Transportation equipment	114 121	12.9	3 348	16.8
16. Electric products	90 410	10.2	1 746	8.8
17. Nonmetallic mineral products	28 734	3.3	675	3.4
18. Petroleum and coal	9 439	1.1	304	1.5
19. Chemical and chemical products	44 340	5.0	1 509	7.7
20. Miscellaneous	39 909	4.5	751	3.8
21. Total	883 730		19 921	

[1]In current (1974) dollars. See also note to Table 2.
Source: Statistics Canada Catalogue #31-203.

Comparative Advantages and Constraints

53. Ontario still possesses most of the factors which have allowed it to dominate Canadian manufacturing. The size of the Ontario market and its closeness to the mid-western and northeastern United States markets are important advantages for consumer-oriented manufacturing and for exploiting economies of scale. The relative compactness of these markets and their proximity could be increasingly important as increasing energy prices contribute to higher transportation costs. The Ontario manufacturing industry is also well placed to serve the Quebec market, particularly the Montreal area. The size and diversity of Ontario's manufacturing industry continues to be attractive in itself because it

has given rise to a full range of financial and management services and provides ready access to the suppliers of most types of equipment.

54. The availability of a highly skilled and educated work force is another key asset. The good supply of educational facilities provides a basis for future job training and for the necessary development of skills associated with the kind of high quality and high-technology manufacturing industries which Ontario will probably need to develop. Southern Ontario also provides a full range of housing, cultural and social facilities, factors which have become increasingly important in attracting and retaining a sophisticated labour force.

55. The growth of the manufacturing sector in Ontario has slowed and two of the most serious problems are, as in the rest of Canada, low levels of investment and higher costs for products that face increasingly stiff foreign competition. The two problems are related in that the lack of investment has prevented labour productivity increases commensurate with wage gains. In recent years, wage rates have grown faster overall in Canada than in the U.S. In some sectors, for example, pulp and paper, Ontario wages are now higher than their U.S. counterparts. The result is a loss of traditional export markets and a consequent inability of the sector to attract new capital, a fact which could lead to further decline. Competiton from low-cost foreign producers has also reduced the share of several domestic markets which Ontario manufacturers have traditionally served. Hardest hit have been producers of footwear, clothing, textiles, electronics and toys.

56. A medium to long-term factor which could reduce the growth in demand for products on the Ontario manufacturing industry is the changing population structure. As birthrates decline, there is a trend to an older population and an associated decline in household formation. This will have an immediate effect on the size of the consumer market to be served by the manufacturing sector. Durable goods manufacturers (e.g., cars, furniture, appliances, household and electric) could therefore experience a contraction in their local markets over the next 20 years. On the other hand, entirely new products catering to a relatively older population may offset some of the decline.

57. The ability of industry to develop new products for changing and more competitive markets requires an intense and continuous effort in research and development. Ontario manufacturers as a whole lag well behind the R & D investments being made in the U.S. and in most other developed countries. Partly, this failure to invest adequately is a consequence of the "branch plant" nature of many Ontario manufacturers.

58. The growth of the manufacturing industry in Ontario has been accompanied by a heavy concentration of activity in the urban centres in the south. As a result, land costs have risen sharply and urban congestion has had for some a perceived negative impact on the quality of life. Northern Ontario, by contrast, has sought more secondary manufacturing activity. Unfortunately, this area is likely to remain less attractive because of its isolation from major consumer markets and from centres of finance, business services, and supply. A severe climate and a relative lack of cultural attractions further reduce the region's potential.

Outlook for Key Manufacturing Sectors

59. Strategic industries in Ontario include transportation equipment, iron and steel, aerospace, forest products, petrochemicals, telecommunications, machinery, and nonferrous metals. These are strategic for a variety of reasons including export potential, degree of concentration in Ontario, and growth and size of employment and output. The bulk of Ontario's manufacturing industry is located in the southern part of the province, particularly in the area extending from Niagara, through Hamilton and Toronto, to Oshawa. In addition, the area bounded by the Windsor-Montreal corridor contains an important distribution of manufacturing industry. In 1971, only 6 per cent of total manufacturing employment was located in Northern Ontario.

60. The transportation equipment industry accounts for about 12 per cent of Ontario manufacturing industry employment and about 17 per cent of output. Ontario has 96 per cent of all Canadian auto parts employees and 86 per cent of all assembly workers. The prosperity of this industry is therefore of key importance to the Ontario economy. The auto assembly industry currently enjoys a trading surplus but the growing auto parts deficit with the U.S. has caused concern and is now the subject of negotiations. The urban transportation equipment industry is healthy and enjoys good market prospects though the Ontario sector will face strong foreign and domestic competition.

61. Ontario dominates the production of iron and steel in Canada. In 1974 it had one-third of all iron and steel mill establishments, 75 per cent of all employees and 80 per cent of value added. Whereas the industry had been expanding rapidly over the past 20 years, the recent world surplus of iron and steel capacity, together with increased competition from offshore producers, has sharply reduced the scope for continued expansion. Given the current world steel making surplus, the outlook for the Ontario industry is not bright in the near future though there is optimism that demand will recover strongly in step with any general recovery of the world economy. In the short term, it is possible that the decline of the Canadian dollar will increase steel export opportunities although price competition from other major producers (e.g., Japan and Britain) may limit this potential.

62. The Canadian aerospace industry is mainly concentrated in Toronto and Montreal and is important because of its high technology characteristics. Companies range from fully-integrated operations with a wide selection of products,

to smaller enterprises specializing in only a few product lines. Supporting the major companies is a variety of aerospace jobbing shops with specialized skills in the advanced technology field. In 1975, 40 per cent of Canadian employment in this sector was in Ontario. This is the type of high-technology industry which Ontario should be able to support but a constraint has been the shortage of highly skilled tradesmen. Good prospects for the industry lie in developing and producing new technology aircraft such as the deHavilland STOL airliner; in producing components for the U.S. aerospace industry; and in obtaining defence contracts. In respect of the latter, the Canadian aerospace industry is highly dependent on "offset" agreements whereby Canadian manufacturers are guaranteed a share of the construction of military aircraft purchased abroad.

63. The Ontario forest products industry is primarily located in the northern and eastern parts of the province and is an important contributor to export earnings. In 1974, Ontario had 25 per cent of Canada's employees in pulp and paper and contributed a similar percentage of total industry value added. High labour costs, rising production costs, and the need, in some instances, for further capital investment are important difficulties currently faced by this industry which, as a consequence, has lost some markets to U.S. producers. The stability of the industry could be enhanced by investments in supporting infrastructure, and in better management of the forest resource. If these investments are made and if international demand for the product is strong and stable there should be little need for significant employment adjustment. Pulp and paper mills are of great economic importance to several remote northern and eastern communities. There are about a dozen communities in Ontario which are heavily dependent on a local mill.

64. The petrochemical industry in Ontario is predominantly located in Sarnia. In 1974, Ontario had about 40 per cent of Canada's employees in plastics and synthetic resins and accounted for a similar percentage of the industry's value added. The markets for these products are expected to remain strong. The products of the industry are oriented not only to the southern Ontario consumer market, and to the agricultural sector, but also provide important materials for other manufacturing industries in the province. The emergence of a petrochemical industry in the West may reduce somewhat the scope for future expansion in Ontario though the long-term growth trend of the industry leaves ample room for appropriately timed expansion in both Eastern and Western Canada.

65. The telecommunications industry has important high technology characteristics. In 1974, Ontario had 65 per cent of all Canadian production workers in this sector and accounted for a similar share of the total value added. Northern Telecommunications is a good example of Canadian multinational company in this field. But this does not imply that future expansion will be in Canada and indeed Northern Telecom is moving some production to the U.S. and has established a research facility in California. Nevertheless, the Ontario telecommunications industry is strong and exports have been growing.

66. The miscellaneous machinery and equipment manufacturing industry is well established in Ontario and given the size of the domestic market and the potential for export to the U.S., is expected to remain an important component of Ontario's manufacturing industry. In 1974 Ontario had 60 per cent of Canada's employees in this group and contributed 65 per cent of value added. Both employment and the value of shipments have been increasing steadily. The vitality of the industry depends to a large extent on a concentration of relatively small but high-technology enterprises which can rub shoulders and exchange new product ideas. Ontario offers an excellent environment for this activity, giving the industry a promising future. Nevertheless, there are a few instances where plants are becoming obsolescent and some adjustment at the firm level will be required.

67. The processing of nonferrous metals is a fundamentally strong industry in Ontario, but one subject to sharp swings in demand for the primary minerals. When demand is weak for a particular mineral — as is now the case for nickel — all the associated primary processing activities are adversely affected. Unfortunately, these effects are felt most strongly in Northern Ontario, where alternative economic opportunities tend to be limited. In the case of secondary processing of nonferrous minerals the principal uncertainties are posed by potential tariff cuts and by continent-wide rationalization of some segments of the industry.

V MANUFACTURING PROSPECTS IN WESTERN CANADA

The Role of Manufacturing in Western Canada

68. An accumulation of geographic, historical and demographic factors has resulted in the economy of the Western Region being highly dependent on its natural resource base. The importance of primary resource industries to Western Canada is apparent in their contribution to the region's 1974 total value added in the goods-producing industries, half of which accrued directly from the primary sectors, compared with only one-quarter nationally. If other manufacturing activities directly related to the primary resource base are included, the resource-related value added in Western Canada rises to 68 per cent of that for goods-producing industry in contrast to 47 per cent in Canada. This heavy dependence on primary resource production and processing, with its sensitivity to fluctuations in international demand, creates instability of employment and incomes. As a result, the diversification of the western economy toward non resource-based activities has been a persistent regional objective.

69. While the west has been attracting an increasing share of total capital investment in Canada (estimated at 36 per cent in 1977), the manufacturing sector in the region remains small in relation to that of Ontario and Quebec. In 1976, for example, the four western provinces contained 27 per cent of Canada's population, but accounted for only 17 per cent of both total employment and real domestic product in manufacturing in Canada (Table 7).

TABLE 7

MANUFACTURING INDUSTRIES — WESTERN REGION
(a) OUTPUT (millions 1971 dollars)[1]

Year	Regional Real Domestic Product	RDP in Manufacturing	RDP in Manufacturing as a per cent of RDP	RDP in Manufacturing as a per cent of Canada Total
1961	13 078	1 567	12.0	15.2
1971	23 191	2 840	12.2	15.0
1974	27 760	3 697	13.3	16.3
1976	30 717	3 939	12.8	17.3

(b) EMPLOYMENT (thousands)[2]

Year	Total Employment	Employment in Manufacturing	Manufacturing Employment as a per cent of Total	Manufacturing Employment as a per cent of Canada Total
1971	2 191	281	12.8	15.7
1974	2 512	339	13.5	16.7
1976	2 675	327	12.2	16.8

Sources: [1]Estimates by Conference Board in Canada.
[2]Labour Force Survey Division, Statistics Canada.

70. Almost 70 per cent of the Western Region's manufacturing activity is related directly to resource processing, with the food and beverage, wood products, and paper and allied sectors representing the predominant sources of employment and output (Table 8). As exemplified by the forest products sector, a large proportion of these activities consist of initial processing (e.g., pulp, newsprint, dimension lumber) as opposed to higher value added processing stages (e.g., fine paper, plywood, particle board).

71. Manufacturing industries in Western Canada produce a substantial share of their output for foreign markets. In 1974, for example, exports accounted for 25 per cent of manufacturing shipments in the region. (Comparable figures for Ontario and Quebec were 21 per cent and 14 per cent, respectively.) These exports consist largely of processed primary products such as pulp and paper, lumber, and processed agricultural products. A relatively large proportion of the shipments of regional manufacturers, 65 per cent in 1974, were directed to the local regional market. Thus only about 10 per cent of shipments were destined for other parts of Canada. The western market is sensitive to foreign demand for the region's primary commodities because of: (i) the strong impact which commodity exports have on the level of consumer purchasing power in the region; and (ii) the fact that a large portion of these manufactured products are used in primary resource production.

72. Western Canada's manufacturing industry is spatially concentrated. While a number of smaller communities have specific manufacturing operations on which they are heavily dependent (e.g., forestry-related single industry communities in British Columbia), manufacturing activity as a whole is concentrated in the region's seven major urban areas, which together account for over 70 per cent of manufacturing employment. From a regional perspective, the manufacturing sector is more predominant in British Columbia and Alberta than in Saskatchewan and Manitoba. In 1974, British Columbia accounted for 52 per cent and Alberta for 22 per cent of total manufacturing employment in the region.

TABLE 8

MANUFACTURING EMPLOYMENT AND VALUE ADDED BY INDUSTRY GROUP IN WESTERN REGION — 1974

Industry group	Manufacturing Employment		Value Added[1]	
	Number	Per cent of total	$ million	Per cent of total
1. Food and beverages	50 077	18.1	1,039	17.0
2. Tobacco products	—	—	—	—
3. Rubber and plastics products	2 543	0.9	52	0.9
4. Leather	967	0.3	14	0.2
5. Textiles	3 059	1.1	47	0.8
6. Knitting mills	372	0.1	5	0.1
7. Clothing	9 785	3.5	94	1.5
8. Wood	54 319	19.6	957	15.6
9. Furniture fixtures	5 860	2.1	84	1.4
10. Paper and allied	25 143	8.4	938	15.3
11. Printing, publishing	16 513	6.0	292	4.8
12. Primary metals[2]	13 893	5.0	376	6.1
13. Metal fabricating	20 905	7.5	496	8.1
14. Machinery	14 130	5.1	264	4.3
15. Transportation equipment	19 746	7.1	314	5.1
16. Electric products	6 687	2.4	107	1.7
17. Nonmetallic minetral products	10 817	3.4	272	4.4
18. Petroleum and coal	2 919	1.1	174	2.8
19. Chemical and chemical products	6 904	2.5	247	4.2
20. Miscellaneous	5 329	1.9	74	1.2
21. Total	277 017		6 117	

[1]In current (1974) dollars. See also note to Table 2.
[2]Does not include figures for IPSCO, which has employment of *1,300*.
Source: Statistics Canada Catalogue 31-203.

73. Within the provincial economies, the manufacturing sector is most important in relative terms in British Columbia, which is the only province in the region with more employment in manufacturing than in primary industries. Manufacturing in British Columbia accounts for about 17 per cent of gross provincial product. Activity is concentrated, however, in forest products which contribute almost 50 per cent of value added and 40 per cent of manufacturing employment in the province. The manufacturing sector of the Manitoba economy is also relatively important, and generates about 14 per cent of gross provincial product. The comparable statistics for Alberta and Saskatchewan in 1976 were 8 per cent and 5 per cent respectively. The fastest growing manufacturing sector in the region is in Alberta,

although it remains a relatively small component of total provincial output. Food and beverages and petroleum are the most important sectors in Alberta, although mineral and wood-based activities are growing in importance. Manitoba has the most diversified (and least resource-dependent) manufacturing sector which, in addition to food, forest, and mineral processing, has significant proportions of national manufacturing employment and output in the clothing, transportation equipment, metal fabrication, and machinery sectors. These sectors, however, have not performed well in recent years; in fact, manufacturing employment in the province has declined in absolute terms. Indications are that the Manitoba situation could worsen in the near term. The smallest and most narrowly based manufacturing sector in the region is found in Saskatchewan, where it accounts for only about 5 per cent of provincial output and is highly concentrated in food and beverages.

Comparative Advantages and Constraints

74. The pattern of capital investment in Canada gives some indication that the centre of economic gravity in the country is shifting westward. This is suggested by the fact that total capital investment in all sectors in Western Canada, as a percentage of capital investment for Canada, has been increasing steadily since 1972 from 32 per cent to almost 36 per cent in 1976. Looking to the mid-1980s, on the strength of its resource endowment (particularly energy resources) and access to Pacific Rim countries, the west promises to become a more dominant force in the Canadian economy.

75. The major opportunity and thrust in the manufacturing sector will continue to be the development and upgrading of the region's natural resources. Opportunities exist for the further development of the established processing industries, as well as of emerging energy-related industries. The past experience of companies such as ATCO and Foremost suggests that there is also potential to develop specialized production skills and technologies and to expand western manufacturing to supply products such as pipe, valves, and heavy construction and off-highway transportation equipment. These products would be associated with major resource developments in pipeline construction, tar sands, coal, oil and natural gas, and uranium. In an increasing number of sectors, western-based facilities can take advantage of market opportunities provided by the combination of increasing population and consumption in the regional economy and demand elsewhere in the country. Specific opportunities include such activities as meat packing, selected cereal and high protein food products, and consumer paper products.

76. There remain constraints to the growth of the region's manufacturing sector. The western economy as a whole is based firmly on the exploitation of natural resources and the export of grains, fuels, wood, metals, etc. The economy is therefore highly vulnerable to fluctuations in demand for these products which in turn influence such dependent industries as wood processing, agricultural machinery, beef processing, and oilseed crushing.

77. Western Canada's manufacturing sector is, on the whole, more capital-intensive than that in other regions, resulting in higher productivity levels. Nevertheless, the sector remains small in the Canadian context. Generally, the industry is composed of small-scale production units and is subject to high transportation costs. This reflects, inter alia, the prior development of similar manufacturing industries in Ontario and Quebec, and the dispersed population and absence of a large regional market for western-based manufacturing output. It is argued in some circles that developments in important areas, such as trade and industrial policy, have until recently tended to focus on the requirements of the existing manufacturing base in Ontario and Quebec. Transportation policy appears to have benefited primary producers in the west but, on the other hand, has tended to favour the location of processing facilities in the east. These factors have had important side effects, such as shortages of skilled labour and management, relatively few facilities for research and development, and a lack of the financial and technical support facilities that are available in areas with a greater concentration in manufacturing. The development of the region's manufacturing sector also faces physical constraints in certain areas. For example, outside metropolitan areas the industrial infrastructure and transportation facilities tend to be underdeveloped. A further restraint to diversification and expansion of the manufacturing sector in certain areas is the availability and adequacy of water supplies. Management of this scarce resource, particularly on the Prairies, will require careful planning and investment in the years ahead.

78. The policy environment established by governments will have an important influence on the extent to which the region's manufacturing growth potential is realized. Given the manufacturing sector's strong relationship to the region's primary resource base, its development will be influenced by decisions affecting the extent and timing of resource development (e.g., taxes, royalties, depletion allowances, environmental regulation, public ownership), as well as by policy decisions directly affecting western manufacturers' access to, and competitive position in, domestic and foreign markets. For example, freight rate anomalies are said to have constrained the development of certain activities such as rapeseed processing. And customs tariff protection, although applied uniformly to all parts of Canada, has not appeared to contribute significantly to the development of western manufacturing.

Outlook for Key Manufacturing Sectors

79. Exploration and development in the oil and gas industries are expected to provide a stable share of processing activity to the mid-1980s rather than the growing share experienced during the last decade. Nevertheless, energy-related activities in general are expected to provide the principal momentum for the region's economy for the

foreseeable future. Development of tar sands extraction technology is expected to continue at its current pace, with commercial production growing during the period and perhaps with the addition of a further tar sands venture. Major development of the Lloydminster heavy oil deposits in Saskatchewan and Alberta may occur before the mid-1980s. Expansion of the petrochemical industry in Alberta into primary chemicals and major intermediates is expected with some integration to plastic and consumer goods. The latter could be especially well suited to smaller communities since operations of economic size tend to be small; low technology is required; and lower wage rates are essential for viability.

80. Plans in Alberta and British Columbia to develop both metallurgical coal for export and thermal coal for power generation could double Western Canada's coal production by 1985. In addition, it is likely that uranium production in northern Saskatchewan will grow significantly, and a uranium enrichment plant is a possibility.

81. These energy-related industries will create a growing regional market for materials and equipment of an increasingly specialized and complex nature. The demand for pipe for the Alaska Highway Pipeline may lead to expansion of the IPSCO steel plant in Regina, and there is a possibility of building pipeline valves in Alberta. There are growing industries, particularly in Alberta and British Columbia, supplying equipment for the resource-harvesting industries, and the experience of such firms as ATCO and Foremost suggests that these products can be exported as well. The construction and eventual operation of the Alaska Highway Pipeline will require many reliable off-highway carriers which should create opportunities for local manufacturers. The somewhat unique logging conditions of the entire region will require improved log skidders and trailer units to efficiently move the logs to the various pulp mills and sawmills. Additional resource developments at Fort McMurray, Cluff Lake and the Arctic Islands also continually demand improvements in off-highway transportation equipment. Farm machinery is largely imported at present, but in view of its standard technology and high freight costs, opportunities exist for import substitution.

82. The food and beverage sector is expected to offer significant manufacturing and processing growth opportunities. Factors which favour the industry include the large arable land base, limited urbanization pressure on land use and costs, untapped potential for specialty irrigation crops, and excess feedlot and slaughter facilities. A major development which could aid this sector is the South Saskatchewan River project involving a potential irrigated area in excess of 200,000 acres, of which only 55,000 acres are being utilized. This project, along with the St. Mary's, has the potential to provide, at least on a seasonal basis, much of the produce currently imported to the region e.g., carrots, cabbages, and onions. Abundant feedstuffs and adequate rangeland should ensure the growth of pork and cattle production, and may lead to expanded meat processing if the U.S. trend towards shifting this processing back to the source of production is adopted in Canada. The current production levels of rapeseed and sunflowers in the region suggest that more vertically integrated oil crushing plants may be imminent as well.

83. Primarily as a result of the federal government's salmonid enhancement program, employment in British Columbia's fish processing sector is expected to increase over the longer term. The program is designed to double the salmon catch over a 30-year period and while the impact on employment in harvesting will be slight, employment in processing is expected to increase over the period as current plant capacity in the sector becomes more fully utilized.

84. Forestry-related industries, which play a leading role in current manufacturing in the West, are expected to maintain a stable share of western manufacturing activity to the mid-1980s. Wood products will continue to be a source of economic strength in British Columbia, although expansion opportunities within the period are seen to be limited. International competition, particularly in the pulp and paper industry, will have a dampening effect on this sector as in other parts of Canada. The western industry, however, has many strengths, including large forest reserves, efficient large-scale plants, and close proximity to the Western U.S. market. While there is sufficient resource for a number of new pulp mills in British Columbia and Alberta, it is doubtful that any major expansion can be justified on economic grounds within the next five years. The demand for plywood is expected to grow at a rate of approximately 3 per cent annually, with an average of one new mill coming on stream in Canada every year. Most of this new capacity would occur in British Columbia. There will, however, be some rationalization of British Columbia mills as outmoded mills in the lower mainland (Vancouver) area are closed and new modern facilities are built closer to their resource base.

85. Looking ahead to further conversion of forest resources, there will probably be a concerted effort by the Prairie provinces to find commercial uses for the little used poplar species. For example, the conversion of poplar to cattle feed, or to alcohol for fuel, and possibly to fermentation products is a potential opportunity.

APPENDIX

Changes in Average Monthly Manufacturing Employment by Region and by Sector: 1976-1977

The following table sets out the regional dimension of the employment adjustments with which Canada's manufacturing industry is already faced. The table presents, by region and by major manufacturing group, estimated average monthly employment calculated with respect to the period January through October, 1977. In parentheses are the changes in these monthly averages from the corresponding ten-month period in 1976. The averaging procedure tends to smooth out the monthly variation in the estimates and the comparison of corresponding periods in 1976 and 1977 largely eliminates the effect of seasonal variation. The data are derived from the unpublished monthly Labour Force Surveys of Statistics Canada and thus are subject to some statistical sampling error and have been rounded to the nearest thousand. More accurate data on manufacturing employment are published in the annual census of manufacturing, but the latest figures available from this source refer only to 1975. The Labour Force Survey data are subject to greater error but are much more timely. The major trends which they indicate are thought to be significant but the particular numbers quoted should be treated only as estimates subject to statistical sampling error.

The Labour Force Survey data indicate that average monthly employment in Canadian manufacturing declined by about 34,000 or 1.7 per cent between 1976 and 1977. This decline took place almost entirely in Quebec where average employment in manufacturing dropped by 4.3 per cent or almost 30,000 jobs. The Atlantic Provinces experienced a loss of about 4,000 jobs or 4.2 per cent of the region's manufacturing employment. The overall changes in Ontario and the West were not statistically significant.

Quebec suffered major losses in the secteurs mous, down by 15 per cent or almost 20,000 jobs. The other substantial loss was in the paper and allied products sector where employment dropped by 23 per cent or 12,000 jobs. As a group, primary metals, metal fabricating, machinery, and chemical products lost 14,000 jobs or about 12 per cent of their average employment in 1976. The only significant gain in Quebec was in printing and publishing, where employment was up by 6,000 or 20 per cent over 1976. No sector in the Atlantic region lost heavily in absolute terms but there were some significant relative declines, for example, in primary metals. It is perhaps significant that the Atlantic was the only region failing to register a gain in any sector. In Ontario there was a sharp drop in electrical products of about 14,000 jobs or 16 per cent of 1976 employment. This was offset by a gain of 13,000 (10 per cent) in transportation equipment. Textiles were down by 16 per cent or 5,000 jobs. A similar loss was suffered in nonmetallic mineral products but there were significant compensating gains in machinery and wood products. The most important decline in the West was in wood products where average employment dropped by 7 per cent or 5,000 jobs. This was offset by gains in several sectors, the largest of which occurred in metal fabricating where employment went up by 18 per cent or about 4,000. Overall, the West appears to have actually increased its manufacturing employment slightly, the only region to register any net gain in the face of the national decline.

TABLE 9

AVERAGE MONTHLY EMPLOYMENT IN MANUFACTURING JAN-OCT. 1977 COMPARED WITH JAN-OCT. 1976 (THOUSANDS)

	Atlantic	Quebec	Ontario	West	Canada
Food and beverages	37 (0)	68 (+4)	97 (+2)	55 (0)	257 (+6)
Tobacco products	*	5 (−1)	4 (0)	*	9 (−1)
Rubber and plastic products	4 (0)	16 (+2)	37 (+2)	4 (+1)	61 (+5)
Leather	*	13 (−2)	17 (0)	*	30 (−2)
Textiles	2 (0)	28 (−9)	26 (−5)	2 (+1)	58 (−14)
Knitting mills	*	8 (−4)	6 (+1)	*	14 (−3)
Clothing	*	74 (−4)	23 (+1)	10 (−2)	106 (−6)
Wood	7 (−1)	30 (+3)	21 (+4)	63 (−5)	121 (+2)
Furniture and fixtures	*	25 (+3)	27 (−1)	9 (+1)	62 (+2)
Paper and allied	13 (−1)	40 (−12)	48 (+1)	29 (−3)	130 (−15)
Printing and publishing	3 (0)	35 (+6)	59 (+3)	24 (0)	121 (+9)
Primary metals	3 (−1)	37 (−3)	70 (0)	14 (0)	127 (−3)
Metal fabricating	4 (0)	35 (−4)	86 (+1)	26 (+4)	151 (+1)
Machinery	*	16 (−3)	70 (+4)	16 (+1)	102 (+1)
Transportation equipment	8 (0)	38 (−1)	133 (+13)	25 (+1)	203 (+13)
Electric products	3 (0)	33 (+1)	75 (−14)	10 (+2)	120 (−12)
Nonmetallic mineral products	2 (−1)	17 (0)	29 (−5)	13 (0)	61 (−5)
Petroleum and coal	2 (0)	6 (−1)	9 (0)	6 (0)	24 (−1)
Chemical and chemical products	2 (0)	27 (−4)	49 (−3)	9 (0)	87 (−7)
Miscellaneous	*	19 (0)	38 (−5)	7 (+1)	65 (−4)
Total	90 (−4)	570 (−29)	924 (−1)	324 (+2)	1909 (−34)

Source: Unpublished monthly estimates by the Labour Force Survey Branch of Statistics Canada.

Notes: (1) The main table entries are average monthly employment estimates computed with respect to the ten months, January to October, 1977. The numbers in parentheses are the changes in these averages from the same period in 1976. Thus there were an average 106 000 employed in the Canadian clothing industry between January and October 1977. This was a decline of about 6 000 over the same period in 1976.

(2) An * entry indicates that there were fewer than 2 000 employees in the regional sector. The number is not reported.

(3) The regional data do not necessarily sum to the national data because of rounding error and the effect of unreported data (i.e. *) in certain cells.

Government of Canada | Gouvernement du Canada

Regional Economic Expansion | Expansion Économique Régionale