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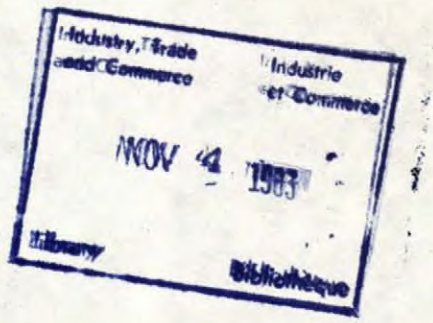
ANALYSIS AND LIAISON

The Automotive Industry in Canada and its Regional Aspects

Government of Canada
Gouvernement du Canada

Regional Economic Expansion
Expansion Économique Régionale



The Automotive Industry in Canada and its Regional Aspects

EXECUTIVE SUMMARY

Since its establishment in Canada in the first part of the twentieth century, much attention on the part of policy makers has been focused on the automotive industry - its growth, its employment, and its international competitiveness. Sections one and two review the history and performance of the automotive industry and the major factors which shaped the policy decisions that were taken.

In recent times, much concern has surfaced regarding the regional distribution of the Canadian automotive industry. Section three outlines this distribution. The motor vehicle manufacturing industry and the automotive parts and accessories industry are treated separately. It is observed that Ontario accounts for approximately 89 per cent of motor vehicle manufacturing shipments and employment. The parts and accessories industry is even more concentrated in Ontario. This province accounts for over 98 per cent of parts and accessories shipments and about 97 per cent of its employment.

Section four examines industrial linkages and regional employment impacts emanating from automotive industry expansion. It is shown that the principal input industries are largely concentrated in Ontario. In view of this, and the concentration of the automotive industry itself in Ontario, the regional employment impacts resulting from automotive expansion are biased strongly in favour of Ontario. This is especially true for increases in manufacturing employment following from parts and accessories expansion. Indeed, Ontario accounts for 89 per cent of such manufacturing employment increases.

The scope for changes in the regional distribution of the automotive industry to effect changes in the pattern of regional economic performance is discussed in section five. The discussion focuses on Quebec and especially the effects on manufacturing employment in that province. The ramifications of a more balanced distribution of automotive production on regional employment impacts are found to be considerable. For example, if 25 per cent of motor vehicle manufacturing expansion occurred in Quebec, Quebec's share of the employment increases associated with automotive industry growth would rise to 24.7 per cent and to 23 per cent of the employment increase in manufacturing industries.

For expansion in automotive parts and accessories under these alternatives, Quebec would capture even greater shares of the manufacturing and overall employment increases.

Section six deals with transportation costs and the question of whether or not Ontario is advantaged vis à vis other regions due to its proximity to the major American market of the U.S. Great Lakes Area. Contrary to popular opinion, only a very small proportion of Ontario motor vehicle shipments are destined to the markets of the Great Lakes States. As such, Ontario's locational advantage vis à vis Quebec on these grounds is questionable. What does surface, however, in the analysis of transportation flows, is that the shipping costs of Ontario originating shipments tend to be considerably lower than those from Quebec moving to the same destinations. This is a result of the fact that most automotive shipments move on "agreed charges" which are negotiated between the producer and the transporter. The larger is the volume of shipments, the lower will be the charge which can be negotiated. As such, the delivery-to-market advantage which Ontario now appears to possess would likely diminish significantly in the event of increased production in Quebec.

Conclusions and the Perspective for Regional Policy are presented in the final section. In short, it is indicated that the employment impacts stemming from automotive industry expansion are large. To date, however, due to the concentration of the automotive industry and principal input industries in Ontario, they have been largely confined to Ontario. Nevertheless, it is suggested that the scope for changes in the regional distribution of the automotive industry to bring about more balanced regional growth is great. Given existing disparities, this suggests that policies aimed at a more equitable regional distribution of the automotive industry are highly desirable at this time. In view of the pressure for industrial adjustment confronting it, this is particularly pertinent for Quebec.

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I Introduction

i) History and Evolution of Government Policy

The year 1904 witnessed the birth of the automotive industry in Canada with the establishment of the Ford Motor Company in Windsor. During its first year, 117 vehicles were produced. Three years later, in 1907, the McLaughlin Motor Car Company also began production in Oshawa and by 1914 assembly-line production was underway. In 1915 Chevrolet of Canada joined McLaughlin in Oshawa and with their merger in 1918 General Motors of Canada came into being in 1918. The third of "The Big Four", Chrysler Corporation of Canada, established at Windsor in 1921. The Nash Motor Company, predecessor of American Motors (Canada) Limited was the last of the major manufacturers to commence Canadian production. It established in Toronto in 1946.

In these initial years the 35 per cent tariff which was in force was designed to preserve the small but growing Canadian market for indigenous industry. In addition, the preferential tariff laws with British Commonwealth countries provided a strong incentive for the development of the automotive industry in Canada. Indeed, during this period approximately one third of domestic production was destined for these markets. These considerations gave considerable impetus to early growth and by 1926 production surpassed 200 000 units.

Following the depression a number of revisions in Canadian tariff policy took place. In 1936 the tariff was reduced to 17.5 per cent - a level which remained intact until the early 1960's. As well, the rate of duty was reduced to zero under the Commonwealth Preferential Tariff System and the introduction of duty-free provisions for the entry of automotive parts was implemented provided that certain 'content' requirements were met. These content requirements were 40, 50, or 60 per cent depending on the size of the manufacturer[1]. They were intended to enhance the competitive position of the motor vehicle manufacturing industry in Canada without reducing the amount and range of automotive parts already produced domestically. Hence, it is seen in Table 1 that the 17.5 per cent tariff on parts produced in Canada was maintained.

The addition of these content provisions afforded a degree of protection to motor vehicle manufacturing that was much greater than that provided by the tariff alone. It permitted less efficient and higher cost production in Canada. For example, suppose a U.S. manufacturer sold a vehicle for U.S. $2 000 in the United States. If he were to export the same car to Canada and receive the equivalent dollar amount he would have had to charge U.S. $2 350 as a result of the 17.5 per cent tariff. On the other hand, he could have produced the car in

1 To qualify for duty-free entry of these parts, a vehicle producer producing more than 20 000 cars a year had to show payments for Canadian parts and manufacturing costs amounting to 60%. For firms producing between 10 000 and 20 000 cars the content requirement was 50% and for those producing less than 10 000 it was 40%.

Table 1

Automotive Tariffs, Canada and the United States

PRIOR to the Automotive Agreement

	Canadian Tariff	U.S. Tariff
1 Completed Vehicles	17.5%	
A) Passenger Cars		6.5%
B) Trucks		8.5%
C) Buses		7.5%
2 Parts		8.5% (generally)
A) Specified parts:		
1) when of a class or kind manufactured in Canada	17.5%	
2) when of a class or kind not manufactured in Canada		
a) and manufacturer does not meet content requirements	17.5%	
b) and manufacturer meets content requirements	Free	
B) All other parts	25%	

Source: Carl Beigie, The Canada-U.S. Automotive Agreement: An Evaluation Private Planning Association 1970

Canada and have sold it for the same price of U.S. $2 350. In that case, assuming a 60 per cent content requirement, he could have imported up to U.S. $940 - 40 per cent of $2 350 - in duty free parts towards the production of the car. Thus, for Canadian assembly to have been attractive, it was necessary only that the manufacturer be able to obtain in Canada the remaining parts and services (including assembly costs) required to complete the vehicle at a cost of less than U.S. $1 410 ($2 350-$940). These same parts and services would have cost $1 060 in the United States ($2 000-$940), so the amount by which the Canadian costs could exceed U.S. costs was just over 33 per cent[1].

The post war period, however, saw the emergence of new and adverse trends. Canada began to experience increasingly large deficits in automotive trade. In particular, the deficit became most pronounced for automotive parts. While Canada had for some time experienced a large deficit on parts, this deficit rose sharply from an annual average deficit of $24 501 000 for the years prior to 1950 to one of $206 718 000 between 1951 and 1955.

In addition, this became coupled with an unfavourable balance of trade in automobiles and commercial vehicles. In short, this was a direct reflection of Canada's relative decline in international competitiveness due to the inefficiencies associated with the small scale of Canadian operations. While imports of vehicles steadily increased after the war, exports declined substantially from their early postwar levels.

[1]Beigie 1970 op cit.

Table 2

Canada's Balance on Automotive Trade to 1960

	cars (number)	commercial vehicles (number)	parts ($000 Canadian)
1921-25 annual average	30 949	8 013	-11 020
1926-30 annual average	16 882	18 483	-32 256
1931-35 annual average	19 782	7 304	-14 301
1936-40 annual average	22 499	25 618	-26 524
1941-45 annual average	2 751	143 383	32 641
1946-50 annual average	-10 886	20 698	-95 547
1951	-5 450	15 488	-190 221
1952	7 001	31 092	-185 444
1953	-25 202	10 368	-227 859
1954	-31 188	-2 991	-177 619
1955	-36 613	-4 912	-252 451
1956	-62 078	-10 126	-294 640
1957	-54 552	-6 958	-270 101
1958	-90 786	-8 004	-248 695
1959	-144 171	-12 261	-290 229
1960	-153 469	-8 471	-290 176

Source: Beigie 1970 op cit.

Indeed by 1960 exports of passenger cars and commercial vehicles were but 70 per cent and 17 per cent, respectively, of their annual average levels between 1946 and 1950. Thus, as indicated in Table 2, Canada incurred large deficits in automobile trade in all years after 1945 with the exception of 1952. An increasing trend in this deficit was also apparent. In commercial vehicle trade Canada moved into a deficit position in 1954 and remained in such a position thereafter.

In view of these trends, two things became abundantly clear: 1) the Canadian automotive industry with its focus on the small domestic market was extremely inefficient and could not take advantage of scale economies in the production of parts and motor vehicle assembly; and 2) in the absence of profound changes in the orientation and structure of the automotive industry Canada would continue to experience increasingly large deficits in automotive trade. For example, it is estimated that the optimum scale in motor vehicle assembly is in the range of 180 000 to 220 000 units per annum while in the production of many parts it is even larger. Automobile production runs in Canada during the late forties and fifties fell far short of this. In fact, annual average production of Chrysler and Ford were but 57 400 and 94 600 respectively during these years (Appendix Table I). Even General Motors, the largest manufacturer, averaged but 126 660 vehicles per annum. Furthermore, there was a proliferation of models produced in individual Canadian plants and this lack of specialization further reduced the efficiency

and competitiveness abroad of the Canadian industry.

ii) Policy initiatives 1960-64

Against this background a Royal Commission under V.W. Bladen was established in 1960 to comment upon the performance and competitive position of the Canadian automotive industry and to recommend measures which would enhance the industry's viability. In his report in 1961 Bladen recommended the introduction of an 'extended content' plan whereby not only parts and services incorporated into cars that were assembled in Canada were counted towards the Canadian content but so also were automotive parts sold to buyers elsewhere (including affiliates of Canadian producers). Additionally, he advocated broadening the scope of duty-free provisions. For example, whereas previously duty-free provision was not made for items enumerated under 2A(1) in Table 1, Bladen recommended that these be included.

The 'extended content' plan aimed at a) stimulating Canadian production and export of parts in order that producers could benefit from economies of scale in parts production and that the mounting deficits in auto parts trade could be reduced and b) giving motor vehicle producers in Canada

access to parts, either Canadian- or foreign-produced, at lower costs. In short, Bladen's plan combined a free trade aspect in parts which would greatly reduce the costs of motor vehicle assembly in Canada with an incentive to parts production in Canada which would expand the markets of Canadian parts producers. The former would enhance the competitive capacity of the motor vehicle manufacturing industry and the latter the competitive position of Canadian parts production. Both measures were aimed at reducing the tendencies to low volume production geared exclusively to the Canadian market.

Instead of implementing Bladen's proposals Canada adopted a duty-remission plan. A pilot plan was introduced on October 31, 1962 and a full duty-remission program about a year later. Under the pilot plan a dollar's worth of duties on automatic transmission and engine block imports would be remitted to a manufacturer for every dollar of increased parts exports above the level attained during the base year - November 1, 1961 to October 31, 1962. The full version which was established on October 22, 1965, remitted one dollar's worth of duties on any new vehicle and original parts imports for each dollar of Canadian content in vehicle and parts exports in excess of their level between November 1, 1961 and October 31, 1962.

The duty-remission plan quickly became a controversial issue in Canada-U.S. trade relations as it apparently contravened the United States Tariff Act of 1930. Further, this Act stipulated that a countervailing duty must be imposed whenever a dutiable product reaching the United States was being subsidized in some form -

" Whenever any country ... shall pay or bestow, directly or indirectly, any bounty or grant upon the manufacture or production or export of any article or merchandise manufactured or produced in such country ... and such article or merchandise is dutiable under the provisions of this Act, then upon the importation of any such article or merchandise into the United States, whether the same shall be imported directly or otherwise, and whether such article or merchandise is imported in the same condition as when exported from the country of production or has been changed in condition by remanufacture or otherwise, there shall be levied and paid, in all such cases, in addition to the duties otherwise imposed by this Act, an additional duty equal to the net amount of such bounty or grant... "

On April 15, 1964, the Modine Manufacturing Company of Racine, Wisconsin, a producer of automobile radiators petitioned the U.S. Bureau of Customs indicating that the Canadian duty-remission program was an export incentive and constituted a bounty or grant on the export of parts to the United States and thus necessitated the imposition of a countervailing duty. On July 21, 1964 the Automotive Service Industry Association representing about 5 000 producers, rebuilders and distributors of parts, filed their support of Modine's position with the Bureau of Customs. As a

consequence, an investigation was set in motion by the U.S. authorities to determine whether the Canadian duty-remission plan did constitute an export-incentive in the form of a bounty or a grant. However, before a decision was reached, the Canada-U.S. Automotive Agreement was hurriedly negotiated between April 1964 and January 1965.

iii) Automotive Agreement

The automotive agreement between Canada and the United States was signed on January 16, 1965 by Prime Minister Pearson and President Johnson. Appendix B contains a copy of the agreement. The broad objectives of the agreement were

1) the creation of a broader market for automotive products within which the full benefits of specialization and large-scale production could be achieved;

2) the liberalization of United States and Canadian automotive trade in respect of tariff barriers and other factors tending to impede it, with a view to enabling the industries of both countries to participate on a fair and equitable basis in the expanding total market of the two countries;

3) the development of conditions in which market forces might operate effectively to attain the most economic pattern of investment, production and trade.

Within this framework, however, the Canadian government imposed conditions which were distinctly protective of the Canadian share of the automotive industry. The 'letters of undertaking' which were simultaneously signed with the manufacturers were also in this direction. In particular,

the thrust of the conditions was that only 'bona fide' manufacturers could qualify for duty-free treatment. Bona fide manufacturers had to meet the following two requirements, the second of which was aimed at safeguarding Canadian parts production:

1) The ratio of Canadian vehicle production to sales in Canada for each class of vehicles (cars, trucks, buses) had to be at least 75 per cent or the percentage attained in the 1964 model year (August 1, 1963 to July 31, 1964), whichever was higher.

2) Value-added in vehicles produced in Canada had to be no less than the dollar amount achieved in the 1964 model year.

The latter, however, gave only limited protection to Canadian parts production. In fact it did not by itself assure the growth of Canadian parts production which the Bladen and duty remission plans had endeavoured to stimulate. Towards this end, specific provisions were made in the letters of undertaking signed with the automobile manufacturers. In these letters the producers agreed that they would increase their value added in Canada by 1968, by an amount equal to 60 per cent of the growth in net sales value of cars in Canada and 50 per cent of the growth of net sales value of commercial vehicles in Canada plus a total of $260 million apportioned between General Motors ($121 million), Ford ($74.2 million) Chrysler ($33 million) American Motors ($11.2 million) and others ($20.6 million).

The principal U.S. condition was that its imports from Canada must achieve a minimum North American content of 50 per cent to earn duty-free treatment. This was intended to prevent third-country producers from using Canada as a channel to circumvent the United States tariff.

iv) Other Vehicles

As a consequence of the wording of Annexes A and B of the Agreement relating to Canadian and American obligations, snowmobiles and several other types of motor vehicles did not receive equivalent duty-free treatment in bilateral trade between Canada and the United States. In effect, the U.S. obligations were somewhat broader such that, unlike the Canadian obligations, they provided for duty-free treatment of certain amphibious vehicles, half- and full-tracked vehicles and other non-wheeled vehicles such as snowmobiles. As a result, Canadian snowmobiles (by far the most important of this group) when imported into the United States, effective January 1965, were duty-free while U.S.-made snowmobiles exported to Canada continued to be subject to a 17.5 per cent tariff. Although the value of North American snowmobile production is small compared to the value of output of the North American automotive industry, this quickly became of particular concern to the United States - in 1966 U.S. imports of snowmobiles from Canada were valued at about $20 million while American exports to Canada stood at about $45 000. In view of this, considerable pressure was exerted upon the Canadian

authorities to provide reciprocal treatment to U.S.-made snowmobiles. This was finally granted on January 20, 1967. Reciprocal treatment was not, however, granted to the other vehicles which did not receive equivalent treatment when the Automotive Agreement came into force.

II Canadian Automotive Industry Since 1965: Production and Employment

Within the framework of the Automotive Agreement and the buoyant demand conditions it has faced since 1965, the Canadian Automotive industry has experienced rapid growth. Tables 3 and 4 document the performance of the motor vehicle manufacturing industry and the parts and accessories industry, respectively.

The number of establishments in the motor vehicle manufacturing industry has increased to 22 from 17 in the 15 year period beginning from 1962. During the same period, the number of production employees has grown from 17 997 to 33 984 or by approximately 89 per cent. The total number of employees in the motor vehicle manufacturing industry (including non-production employees such as those involved in construction for the establishments, truck driving, etc.) has increased by 74 per cent from 27 001 to 47 078. Correspondingly, value of shipments has grown by a factor of more than 6 from 1 099 249 000 to 6 950 549 000. Value added in production, though it has not

Table 3

Motor Vehicle Manufacturing Activity - Canada

Year	Manufacturing Activity				Total Activity			
	Number of Establishments	Number of Employees	Value Added $000	Value Added per Employee	Number of Employees	Value Added $000	Value Added per Employee	Value of Shipments
1962	17	17 997	372 793	20 714	27 001	417 609	15 466	1 099 249 000
1963	18	21 543	492 128	22 843	31 727	539 570	17 006	1 387 519 000
1964	18	24 860	491 775	19 781	36 026	548 077	15 213	1 530 116 000
1965	20	30 014	631 390	21 036	42 432	732 775	17 269	1 919 968 000
1966	19	29 746	613 021	20 608	42 507	717 023	16 868	1 945 703 000
1967	20	28 333	760 934	26 856	40 861	943 124	23 081	2 182 289 000
1968	21	26 965	827 182	30 676	39 113	1 053 754	26 941	2 759 572 000
1969	22	29 278	934 068	31 903	41 916	1 159 938	27 672	3 261 831 000
1970	22	25 303	664 423	26 258	38 145	869 195	22 786	2 782 244 000
1971	22	29 480	850 317	28 843	42 334	1 180 571	27 887	3 597 372 000
1972	22	30 580	906 774	29 652	44 042	1 362 071	30 926	3 933 069 000
1973	21	32 770	1 033 835	31 548	46 831	1 551 760	33 135	4 576 728 000
1974	22	35 099	1 338 900	38 146	49 402	1 999 501	40 474	5 283 639 000
1975	24	31 694	1 171 007	36 947	45 256	1 758 047	38 846	5 902 409 000
1976	22	33 984	1 302 657	38 331	47 078	1 826 150	38 789	6 950 549 000

Source: Statistics Canada cat. no. 42-209

Table 4

Motor Vehicle Parts and Accessories Manufacturing Activity - Canada

Year	Manufacturing Activity				Total Activity			
	Number of Establishments	Number of Employees	Value Added $000	Value Added per Employee	Number of Employees	Value Added $000	Value Added per Employee	Value of Shipments
1962	131	17 508	196 668	11 233	22 203	202 246	9 109	436 260 000
1963	136	20 266	249 256	12 299	25 441	253 900	9 980	544 869 000
1964	154	23 845	281 677	11 813	29 442	285 814	9 708	267 966 000
1965	160	25 748	326 641	12 686	31 982	333 367	10 423	755 608 000
1966	174	27 928	377 273	13 509	34 759	384 521	11 062	860 500 000
1967	178	27 993	402 322	14 372	34 858	410 255	11 769	912 422 000
1968	179	31 720	512 418	16 154	39 454	521 489	13 218	1 193 805 000
1969	178	33 815	608 032	17 981	41 541	617 961	14 876	1 340 376 000
1970	182	30 647	541 079	17 655	38 866	549 253	14 132	1 272 154 000
1971	203	35 753	743 802	20 804	43 810	753 828	17 207	1 660 665 000
1972	211	37 921	866 628	22 853	46 189	876 042	18 966	1 903 161 000
1973	229	44 135	1 031 855	23 379	52 831	1 043 613	19 754	2 304 562 000
1974	227	41 249	1 026 729	24 891	49 642	1 042 950	21 009	2 281 103 000
1975	231	34 907	1 008 395	28 888	42 639	1 028 860	24 129	2 325 802 000
1976	238	39 134	1 400 481	35 787	47 331	1 428 498	30 181	3 112 322 000

Source: Statistics Canada cat. no. 42-210

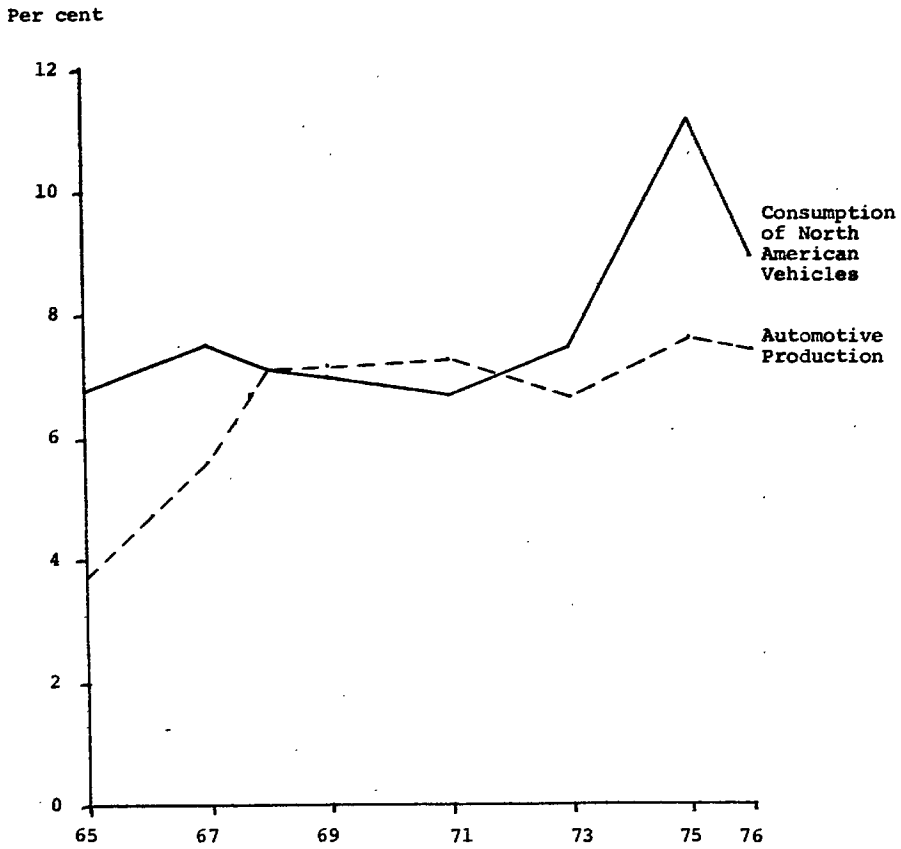
kept pace with the growth in the value of shipments has risen substantially from 372 793 000 to 1 302 657 000 or by a factor of 3.5. Finally, value added per employee increased by approximately 85 per cent during this period.

Even greater expansion has been realized in the parts and accessories industry. Since 1962 the number of establishments has nearly doubled: in 1962 there were 131 while in 1976 there were 238. The number of production employees has increased over the period by 124 per cent from 17 508 to 39 134 - a much larger increase than that observed in the motor vehicle manufacturing industry. The number of non-production employees has grown by 113 per cent. Similarly, the value of shipments has experienced dramatic growth from 436 260 000 to 3 112 322 000 or by a factor of 7.13 and unlike the motor vehicle manufacturing industry value added has kept pace with the growth in shipments increasing from 196 668 000 in 1962 to 1 400 481 000 in 1976 or by a factor of 7.12. As a consequence, a large increase, equalling over 250 per cent, in the value added per worker has taken place.

Nevertheless, despite the growth that has taken place in both the motor vehicle manufacturing and parts industries, the Canadian automotive production share continues to fall short of Canada's share of North American consumption (Chart 1). Canadian consumption has generally remained strong throughout the period. Between 1965 and 1976, vehicle sales in Canada grew at an average rate of 5.4 per cent. In contrast, sales in the United States increased at an average rate of 3.7 per cent. Thus, the Canadian share of North American consumption has increased. Further, it is expected that the growth in Canadian demand will continue to outstrip that in the U.S. Moreover, the chart indicates that the rapid rise in the Canadian production shares which took place in the early auto pact years, has tapered off. Projections for Canadian consumption are for average growth rates of 6 per cent to 1980 and 4 per cent in the period 1980-1985. A growth rate of 2.5 per cent through 1985 is forecast for the United States.

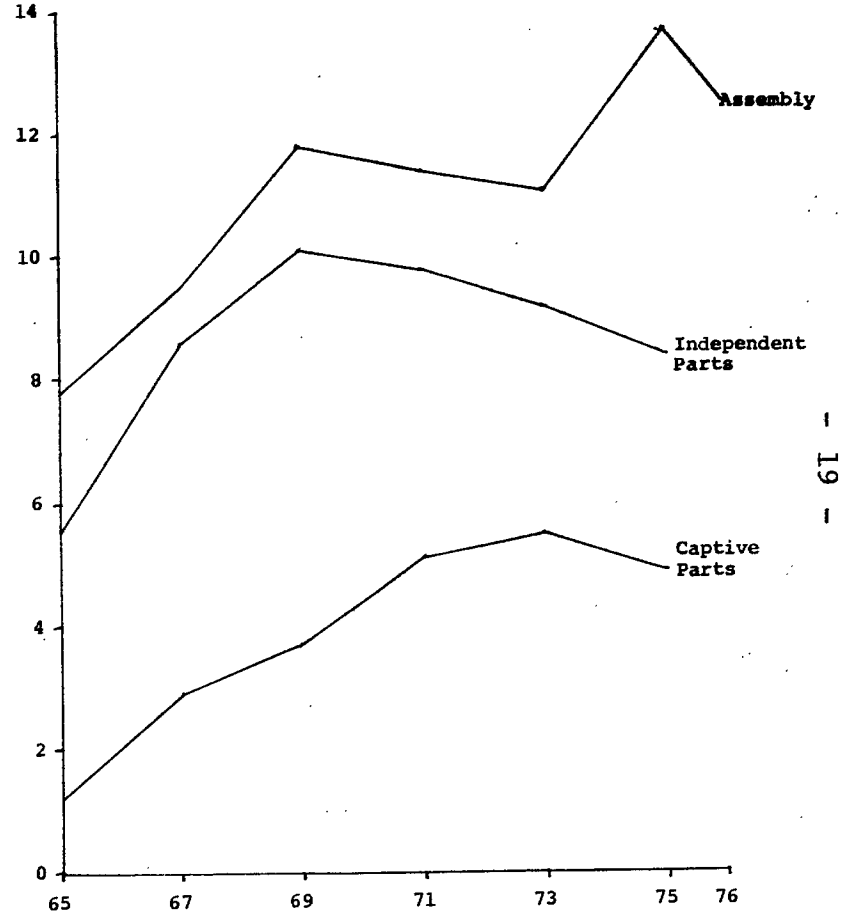
Chart 2 presents the breakdown of Canada's automotive production shares. It is seen that Canada's production shares in all catagories which increased after the automotive agreement, have all more or less stabilized at their current values. The Canadian share is largest in assembly. It is weakest in parts production and notably so in"captive parts" production - the manufacture of parts by the motor vehicle manufacturers themselves. Moreover, in 1975 "captive parts" production accounted for almost 60 per cent of North American

Chart 1: Canadian North American Production and Consumption: Shares of North American Vehicles.



Source: Department of Industry, Trade and Commerce, 1978

Chart 2: Canadian Production Shares by Automotive Production Category.



Source: Department of Industry, Trade and Commerce, 1978

original equipment consumption. In short, as will be outlined below, this has had serious implications for Canada and its automotive trade balance.

i) Trade

Underlying the growth of the automotive industry since 1965 has been a profound shift in its orientation and structure. It is now geared to the much larger North American market which had, prior to the Auto pact, been effectively forclosed to it. Access to the larger North American market has permitted the Canadian industry to reap benefits of economies of scale. Production runs have been increased and in motor vehicle manufacturing this has enabled specialization in certain models in order to supply the whole of the North American market. This orientation towards the broader market is observed in Tables 5 and 6 which trace the growth in exports, the share of exports destined for the U.S. market, and exports as a share of total shipments.

Table 5 indicates that motor vehicle exports have seen dramatic growth since the period prior to the automotive agreement. The second and third columns are, however, of particular interest. They indicate that the proportion of shipments destined for foreign markets has risen from 2.8 per cent to approximately 75 per cent in recent years. Furthermore, the United States now constitutes almost the entire export market. Since the adoption of the automotive agreement the U.S. share has stood at over 90 per cent in all years excepting the first two.

Table 5

Export Trends in Motor Vehicle Manufacturing

Motor Vehicle Assembly

	Exports $000 Value	Exports / Shipments	Share of Exports destined to U.S.
1961	24 140	3.0	
1962	31 306	2.8	15.5
1963	37 994	2.7	12.0
1964	82 141	5.4	32.1
1965	181 241	9.4	48.9
1966	602 881	31.0	81.8
1967	1 206 054	55.3	91.7
1968	1 847 476	66.9	91.3
1969	2 549 336	78.2	95.2
1970	2 387 706	85.8	93.7
1971	2 750 789	76.5	95.3
1972	2 997 529	75.7	95.5
1973	3 307 823	72.3	-
1974	3 741 851	70.8	94.4
1975	4 293 304	72.7	90.1
1976	5 201 931	74.8	91.7

Source: Statistics Canada cat. no. 65-202, 42-209

A similar pattern surfaces insofar as the exports of parts and accessories is concerned (Table 6). Exports have grown dramatically and they have been largely destined for the U.S. market. In 1962 exports were but 5.9 per cent of total parts shipments; in 1976 this fraction was 95.3 per cent. In 1962 the share of exports destined for the United States was about 39 per cent; by 1976 this share had risen to 94.5 per cent.

Above it was noted that the trends in the overall automotive trade balance surfaced as one of the most disconcerting features in the period prior to the Automotive Agreement. Since 1965 marked improvements have occurred in relation to the motor vehicle trade balance. Though imports - notably from the United States - have grown sharply since the inception of the Automotive Agreement, they have not kept pace with exports. Indeed, as indicated in Chart 3, Canada had a surplus of about 1.7 billion in automotive trade with the U.S. In sum, a positive balance has been realized in passenger cars since 1966; in trucks and trailers in all years since 1966 with the exception of 1974. As a result, the overall balance for motor vehicles has remained positive since 1966 (Chart 5).

In light of the production shares documented previously in Chart 2, it is not surprising that little improvement has, however, taken place insofar as Canada's parts and accessories trade balance is concerned. In the sixties and seventies, parts

Table 6

Export Trends in Parts and Accessories

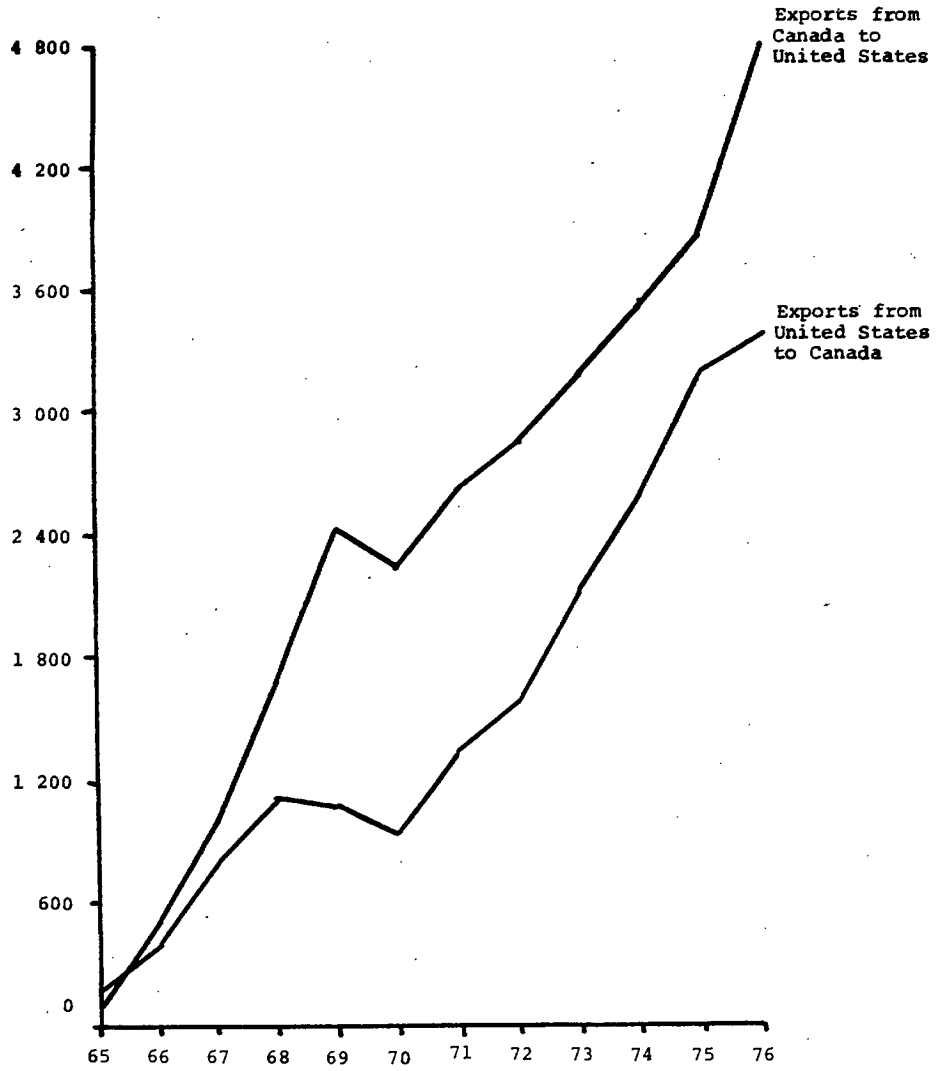
CANADA

	Exports $000 Value	Exports Shipments	Share of exports destined for U.S.
1962	25 771	5.9	39.2
1963	49 651	9.1	64.6
1964	95 245	15.2	74.0
1965	172 802	22.9	81.4
1966	390 715	45.4	89.1
1967	524 011	57.4	89.7
1968	802 265	67.3	92.3
1969	-	-	-
1970	1 111 106	87.3	92.2
1971	1 420 231	85.6	94.5
1972	1 740 852	91.5	95.3
1973	2 106 805	91.4	-
1974	1 974 803	86.6	93.3
1975	2 137 618	91.9	91.9
1976	2 965 802	95.3	94.5

Source: Statistics Canada cat. no. 65-202, 42-210.

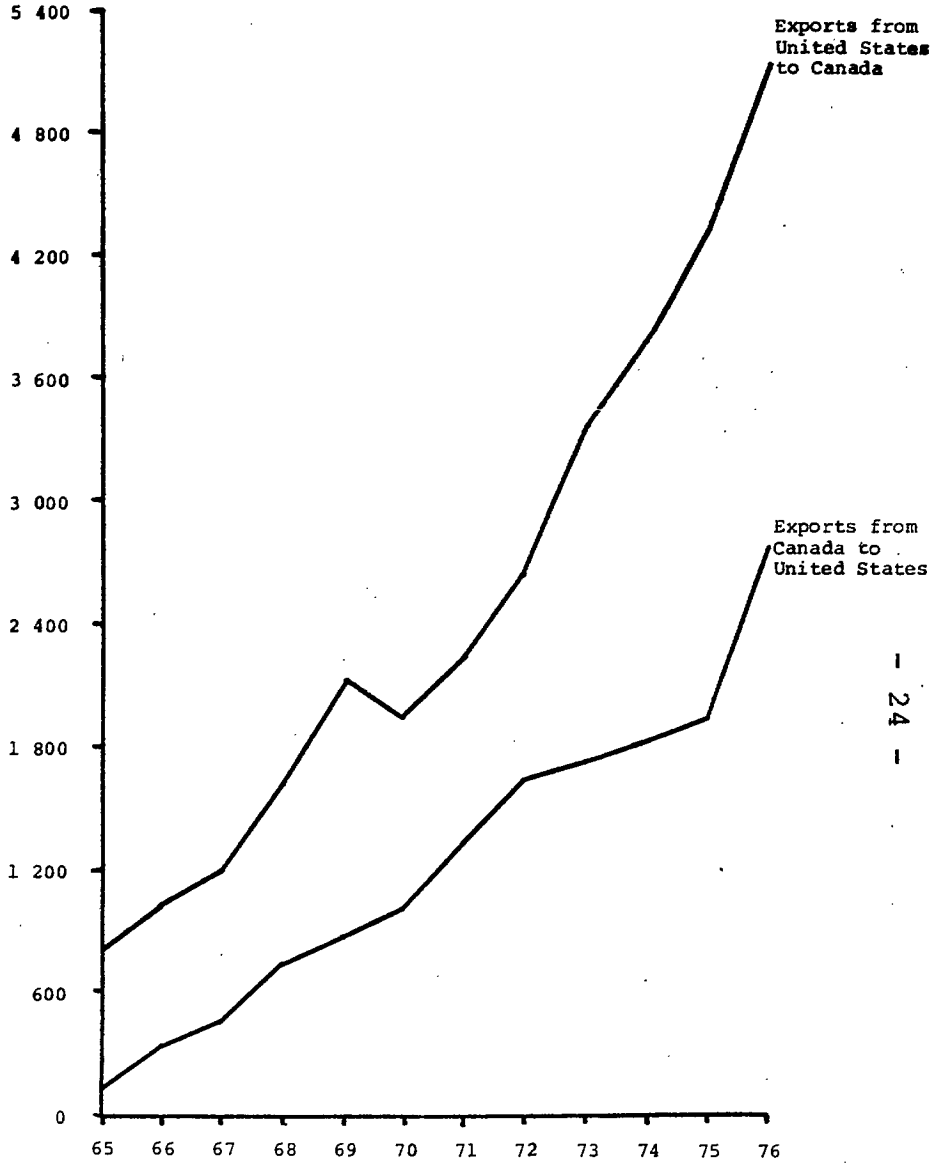
Chart 3

Canada-United States Trade in Motor Vehicles



Source: Statistics Canada no. 65-203

Canada-United States Trade in Parts and Accessories Chart 4

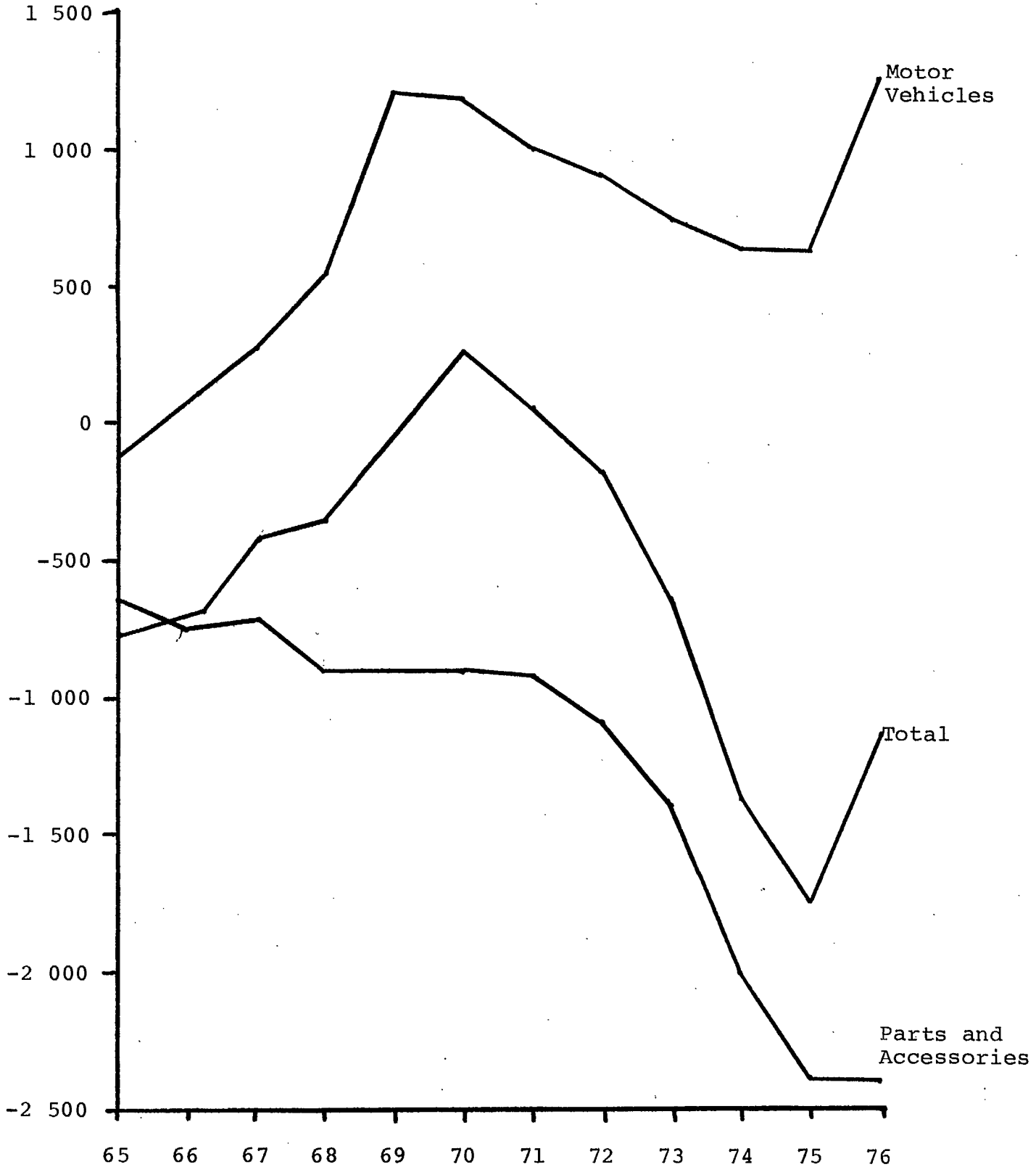


Source: Statistics Canada no. 65-203

Chart 5

Canadian Automotive Trade Balance

($ millions)



imports, particularly from the United States, have risen far more sharply than Canadian exports. In value terms they have increased from slightly under 1 billion dollars in 1965 to about 5.4 billion in 1976. The United States' share of these imports (Chart 4) amounted to over 5.1 billion, or 96 per cent, in 1976.

This dramatic growth of parts imports has led to deficits in parts trade of sufficient magnitude to outweigh any surplus in motor vehicle trade. As a consequence, sizeable overall deficits in automotive trade have been realized in all years with the exception of 1970 and 1971. These deficits, as indicated in Chart 5, were in excess of a billion dollars during each of the last three years of the period.

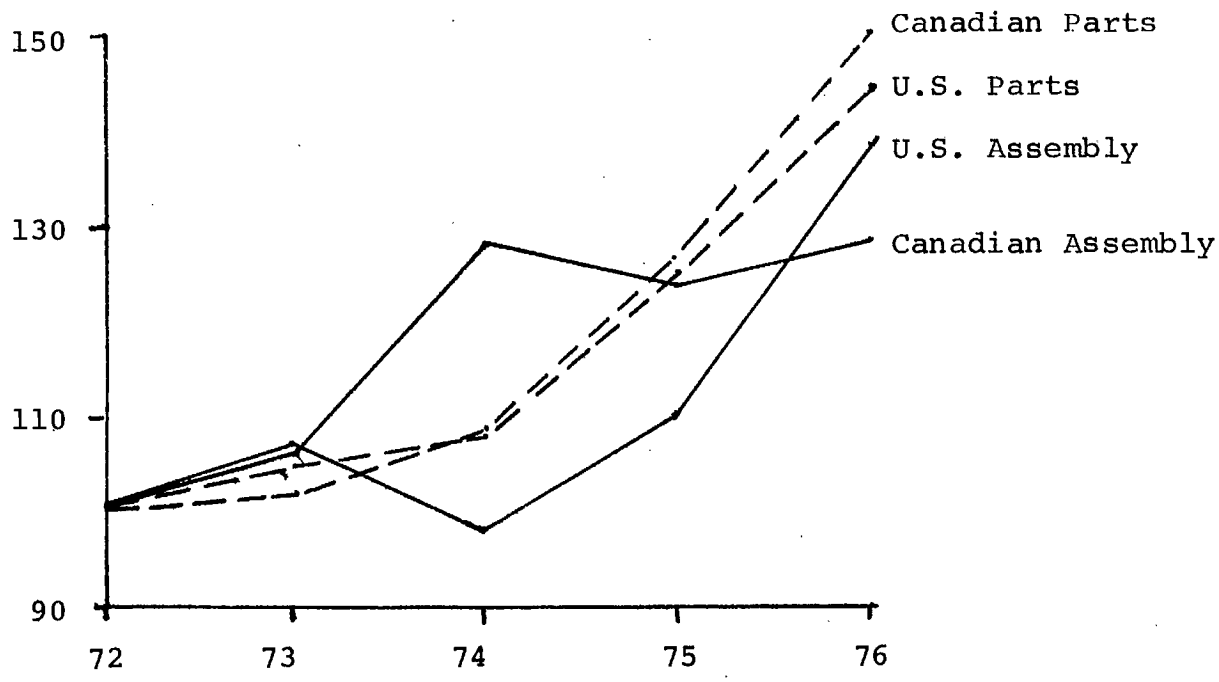
ii) Labour Productivity and Earnings

In recent years Canadian labour productivity in the automotive industry has, on balance, increased at a faster pace than has U.S. labour productivity (Chart 6). In particular, since 1974 Canadian productivity in the parts industry has grown more rapidly than that in the United States; in assembly Canada's index of productivity growth remained well above the American index during the period 1973-75.

Chart 7 documents the trends in wages between Canada and the United States. The solid lines are based on the Canadian and the U.S. dollar being at par. Evidently, a significant gap remains. Further, the devaluation of the

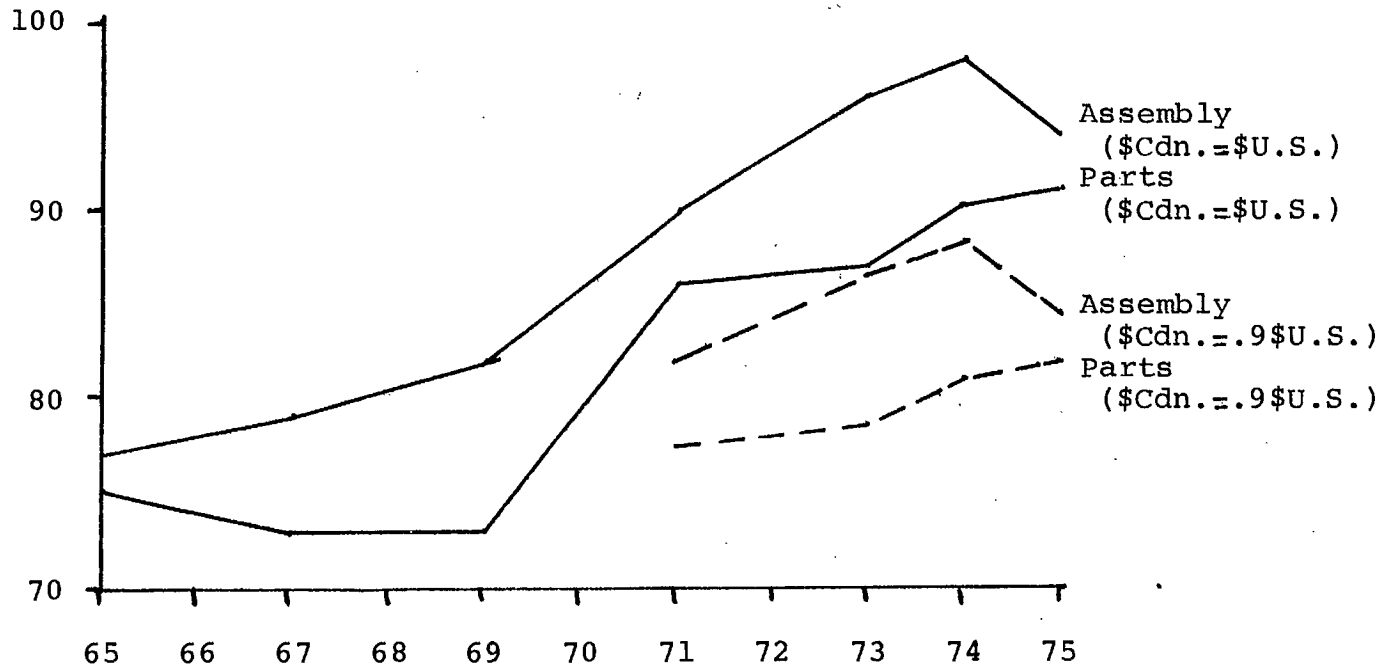
Chart 6

Growth in Productivity
(1972=100)



Source: Ontario Government - Ministry of Treasury, Economics and Intergovernmental Affairs, May 1978

Chart 7 Canadian Labour Earnings as a Percentage of United States



Source: Department of Industry, Trade and Commerce, 1977

Canadian dollar has bestowed an additional advantage on Canada. This is reflected by the dotted line which is based on the Canadian dollar being discounted at 10 per cent. Accordingly, it is seen that in 1975, Canadian earnings in assembly were but 84.6 per cent of those in the United States and in parts Canadian earnings were 81.9 per cent of those in the U.S.

iii) Profitability and Returns to Capital

Finally, within the framework of the automotive agreement, Canadian automotive operations have, in general, been characterized by increased profitability and high returns to capital employed. In light of the increase in production runs during the autopact period associated with the new orientation of the Canadian industry towards the larger North American market, and the benefits of economies of scale which this has entailed, this should not serve as a great surprise.

Nevertheless, the degree to which the profitability and returns to capital of the Canadian operations of the automotive majors have, in general, exceeded those of their respective parent corporations in the United States is noteworthy. Indeed, as indicated in Table 7, in terms of profit over sales the Canadian operations of Ford and Chrysler have maintained a significantly higher profit margin than the parent corporations between 1971-75. While the Canadian operations of General Motors incurred a lower profit margin than did GM's U.S. operations, its level of profitability not only exceeded its

Table 7

Net Profit/Net Sales

(1971-75 Average)

	Parent Corporation	Canadian Operation
General Motors	5.4 %	3.2 %
Ford	2.9 %	3.5 %
Chrysler	0.6 %	2.0 %
A.M.C.	1.5 %	1.1 %

Return on Capital: Net Profit/Total Assets

(1971-75 Average)

	Parent Corporation	Canadian Operation
General Motors	8.9%	11.1%
Ford	5.1%	12.7%
Chrysler	1.0%	6.2%
A.M.C.	4.0%	8.2%

Source: Department of Industry, Trade and Commerce, April 1977

competitors in Canada (excepting Ford) but all of its competitors in the U.S. In short, among the auto majors, GM (U.S.), Ford (Canada) and GM (Canada) ranked first, second, and third respectively in profitability.

In comparison with their respective parent corporations, all the Canadian motor vehicle manufacturers achieved significantly higher returns to capital employed. In fact, Table 7 shows that, on balance, the returns of Ford, Chrysler, and AMC in Canada were double those of their respective parents. GM Canada also ranked considerably higher than its parent corporation.

(iv) Summary of recent performance

In summary, while Canada has continued to experience a mounting deficit in automotive trade (parts), considerable expansion has taken place in the Canadian automotive industry within the framework of the Canada-U.S. Automotive Agreement. Growth in production and employment has been rapid and the profitability and returns to capital employed in the industry have been high - indeed higher for the most part than those realized by the parent corporations. Moreover, the effects of this expansion have had far-reaching effects upon other industries to which the automotive is linked. As a consequence, (and this will be outlined below), the influence of the automotive industry growth has permeated a much broader portion of the Canadian economy than just the automotive industry itself.

Indeed, the Economic Council estimated that real Gross National Expenditure was over 5 per cent higher and employment about 4 per cent higher in the early seventies than they would have been in the absence of the Automotive Agreement. To what extent, however, have the various Canadian regions shared in this growth?

III Regional Distribution of the Canadian Automotive Industry

While the growth of the automotive industry has been matched by only a handful of other industries in Canada, in few other industries has growth been so unevenly dispersed among regions. Given the prominence of the automotive industry in the Canadian economy, and in manufacturing activity, this must be viewed with considerable concern.

Table 8 outlines the regional distribution of motor vehicle manufacturing shipments in 1976. Ontario accounted for over 6.3 billion or 89.1 per cent of total Canadian shipments.

Table 8

Regional Distribution of Motor Vehicle Manufacturers

Shipments by Region 1976

Region	Value of Shipments ($000)	Percentage of Canadian total
Ontario	6 302 208	89.1
Quebec	415 702*	5.9
Prairies	140 781*	2.0
British Columbia	104 724	1.5
Atlantic	107 578*	1.5
Canada	7 070 993	100.0

* Estimates

Source: Statistics Canada cat. no. 42-209.

Table 9

Regional Distribution of Automobile Production[1] by Region (Units)

	1975	1976
Ontario	905 172	993 205
	(87.0)	(88.0)
Quebec	134 804	135 676
	(13.0)	(12.0)
Canada	1 039 976	1 128 881

[1] American Motors, Chrysler, Ford, General Motors

Source: Appendix V.

Table 10

Motor Vehicle Manufactures Employment by Region

	1975	1976
Atlantic	724	753
	(1.6)	(1.6)
Quebec	2 806	2 919
	(6.2)	(6.2)
Ontario	40 323	41 899
	(89.1)	(89.0)
Prairies	950	989
	(2.1)	(2.1)
British Columbia	407	518
	(0.9)	(1.1)
	45 210	
0.1%	45*	
Canada	45 256	47 078

* not allocated by region.

Source: Statistics Canada cat. no. 42-209 weighted by Dun and Bradstreet employment distribution

Those of Quebec amounted to 5.9 per cent while the percentage shares of the Prairies, British Columbia and the Atlantic Provinces were 2.0, 1.5, and 1.5 per cent respectively. Taking the automobile production of the big four manufacturers, alone, the distribution of production becomes confined to just Ontario and Quebec. As indicated in Table 9, 88.0 per cent of the automobile production in terms of units, of the big four took place in Ontario[1] in 1976.

In view of the concentration of motor vehicle production in Ontario, the distribution of employment documented in Table 10 is not unexpected. In 1976 Ontario accounted for about 89 per cent of the employment in Motor Vehicle manufacturing, Quebec 6.2 per cent, the Prairies 2.1 per cent, the Atlantic Provinces 1.6 per cent and British Columbia 1.1 per cent.

In sharp contrast to production and employment the distribution of retail sales of passenger cars and commercial vehicles is more balanced across regions exhibiting a pattern which is not too dissimilar to regional population shares. For example, as seen in Table 11, the Atlantic Provinces, Quebec, Ontario, the Prairies, and British Columbia account for about 8, 30, 37, 17.6 and 7 per cent respectively of Canadian and U.S.-made automobile sales in Canada. Including commercial vehicles the regional shares are approximately 8, 26, 35, 22 and

[1]The Quebec share rises vis à vis Ontario due to the removal of commercial vehicle (truck) production which, for the big four, takes place only in Ontario.

Table 11

Retail Sales of Canada and U.S. Made Motor Vehicles by Region, 1976

PROVINCE	Passenger Cars		Commercial Vehicles		Total	
	($000)	%of Total retail sales	($000)	% of Total retail sales	($000)	% of Total retail sales
Newfoundland	67 206	1.5				
Prince Edward Island	18 684	0.4	177 423	7.2	526 040	7.6
Nova Scotia	142 185	3.1				
New Brunswick	120 542	2.7				
Quebec	1 350 515	29.9	457 794	18.7	1 808 309	25.9
Ontario	1 704 641	37.2	741 699	30.3	2 446 340	35.1
Manitoba	201 626	4.4				
Saskatchewan	182 951	4.0	740 737	30.3	1 542 771	22.1
Alberta	417 457	9.2				
British Columbia (1)	316 916	7.0	329 456	13.5	646 372	9.3
CANADA (total)	4 522 723	100.0	2 447 109	100.0	6 969 832	100.0

(1) includes Yukon and N.W.T

9 per cent respectively[1].

Turning to the motor vehicle parts and accessories industries, the regional distribution of production and employment is even more concentrated. Table 12 documents the value of shipments of parts and accessories by region. The value of Ontario shipments amounts to over three billion dollars - about 98.4 per cent of the Canadian total. The value of shipments of each of the other regions remained less than one per cent. Similarly, Ontario accounts for virtually all the employment in parts and accessories (Table 13). In 1975, the Ontario share was 96 per cent of total employment and in 1976 it rose to 97.0 per cent. In this latter year but 1.2, 1.0, 0.5, and 0.2 per cent of parts and accessories employment was located in Quebec, the Prairies, and British Columbia respectively.

[1]The Ontario government, in examining the U.S.-Canada distribution invokes a "fair share" concept for production employment and value added based upon consumer demand as indicated by retail sales. If adopted at the regional level, this concept would preclude growing regional deficits in automotive trade. Appendix A Table II outlines the deviations from regional "fair shares".

Table 12

Motor Vehicle Parts and Accessories
Regional Distribution of Shipments 1976

Region	Number of establishments	Value of Shipments ($000)	percentage of Canadian total
Ontario	185	3 061 926	98.4
Quebec	23	20 401	0.7
Prairies	8	15 895	0.5
British Columbia	15	8 035	0.3
not allocated by region	7	6 065	0.2
Canada	238	3 112 322	100.0

Source: Statistics Canada cat. no. 42-210

Table 13

Motor Vehicles Parts and Accessories Employment by Region

	1975	1976
Atlantic	-	-
Quebec	837	570
	(2.0)	(1.2)
Ontario	40 921	45 908
	(96.0)	(97.0)
Prairies	518	466
	(1.2)	(1.0)
British Columbia	210	220
	(0.5)	(0.5)
Not allocated by region	153	167
	(0.4)	(0.4)
Canada	42 639	47 331
	(100.0)	(100.0)

Source: Statistics Canada cat. no. 42-210

Table 14

Automotive Exports by Region 1976

	($000)	% of Canadian total
Quebec	514 974	6.3
Ontario	7 512 000	92.0
Other regions	140 759	1.7
Total	8 167 733	100.0

Source: Statistics Canada cat. no. 65-202
Bureau de la Statistique du Québec
Ontario Economic Review

Equally unsurprising is the magnitude of Ontario's portion of Canadian automotive exports. In 1975 this was estimated at 92 per cent: Quebec's share stood at about 6.3 per cent while the remaining provinces accounted for 1.7 per cent (Table 14).

Though little statistical documentation on inter-regional trade in automotive products is available, the Statistics Canada surveys in 1967 and 1974 of manufacturing shipments do provide some data on the interregional shipments of parts and accessories. These are outlined in Tables 15A and 15B. Of particular interest here, is the marked growth in the proportion of shipments destined for export - a reflection of the increasing orientation of the Canadian automotive industry towards the American market under the Canada-U.S. Automotive Agreement. Exports as a proportion of shipments rose, between 1967 and 1974, from 34.6 per cent in the case of Ontario, and from 33.9 for the nation as a whole to 59.4 and 58.3 per cent respectively. In sum, in 1974 the principal destinations of shipments of parts and accessories from the Canadian regions were exports (58.3 per cent), Ontario (33.1 per cent)[1], Quebec (3.4 per cent) and British Columbia (1.2 per cent).

[1]This equalled 755.4 million of which Ontario supplied 746.1 million or 98.8 per cent.

Table 15A

Parts and Accessories

Destination of shipments of products of own manufacture by province of origin, 1967

Province of origin[1]	Destination of Shipments												
	Nfld.	P.E.I.	N.S.	N.B.	Quebec	Ontario	Man.	Sask.	Alta.	B.C.	Yukon & N.W.T.	Other countries	Total
Quebec	x	x	87	51	4 704	4 871	305	52	94	250	-	663	11 167
			(.8)	(.5)	(42.1)	(43.6)	(2.7)	(.5)	(.8)	(2.2)	(0)	(5.9)	(100.0)
Ontario	x	379	x	x	61 064	472 097	4 660	3 647	6 965	29 949	x	307 649	889 831
		(.04)			(6.9)	(53.1)	(.5)	(.4)	(.8)	(3.4)		(34.6)	(100.0)
Manitoba	x	x	x	x	791	1 366	2 716	394	x	314	-	623	6 880
					(11.5)	(19.9)	(39.5)	(5.7)		(4.6)	(0)	(9.0)	(100.0)
Alberta	-	-	-	-	-	-	x	x	1 980	x	-	x	2 186
	(0)	(0)	(0)	(0)	(0)	(0)			(90.6)		(0)		(100.0)
Canada	572	x	1 642	1 461	66 559	478 334	7 718	4 433	9 642	31 856	x	308 980	911 628
	(.06)		(.2)	(.16)	(7.3)	(52.5)	(.85)	(.5)	(1.1)	(3.5)		(33.9)	(100.0)

[1]Data for Saskatchewan and British Columbia are confidential. Production in the other provinces is negligible. In the table, x represents confidential; - represents negligible.

Source: Statistics Canada, catalog no. 31-504.

Table 15B

Parts and Accessories Industry

Destination of shipments of products of own manufacture by province of origin, 1974

Province of origin[1]	Destination of Shipments														
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon & N.W.T.	Other countries	Not specified	Custom work & repair	Total
Quebec	-	-	x	x	x	5 701	32	x	180	735	-	6 533	5 468	x	31 243
	(0)	(0)				(18.2)	(.1)		(.6)	(2.4)	(0)	(20.9)	(17.5)		(100.0)
Ontario	x	x	3 396	4 315	65 099	746 088	11 824	7 528	13 703	21 984	x	1 319 678	x	2 833	2 220 758
			(.15)	(1.9)	(2.9)	(33.6)	(.5)	(.3)	(.6)	(1.0)		(59.4)		(.12)	(100.0)
Manitoba	x	x	x	x	x	3 101	4 015	x	x	x	x	x	621	x	17 941
						(17.3)	(22.4)						(3.5)		(100.0)
Canada	1 144	1 118	4 293	5 154	76 876	755 452	16 251	9 361	18 222	27 373	27	1 329 805	30 305	5 721	2 281 103
	(.05)	(.05)	(.19)	(.23)	(3.4)	(33.1)	(.71)	(.41)	(.8)	(1.2)	(.001)	(58.3)	(1.3)	(.25)	(99.99)

[1]Data for Saskatchewan, Alberta and British Columbia are confidential. Production for other provinces is negligible.

Source: Statistics Canada, catalog nc. 31-522.

IV Industrial Linkages and Regional Employment Impacts

Though automotive industry production may not be or have been located in a given region it does not, however, necessarily follow that the region is not sharing or has not shared in the benefits related to the expansion of the Canadian automotive industries. In effect, the economic activity of a region, regardless of whether or not automotive production is located within its bounds, may markedly increase if a number of its industries furnish major inputs to the automotive industry. If a sufficient number of its industries are closely linked to the auto industry the expansion of the latter may lead to considerable growth in regional output and employment.

The Statistics Canada national input-output model (1971) permits the identification of those industries which are most closely linked in this manner to the Motor Vehicle Manufacturing Industry and to the Motor Vehicle parts and accessories industries. These industries are listed in the first column of Table 16.

In many instances within these industry groups, however, it has been necessary to omit a number of three digit industries which incorporate activities that do not serve as inputs for the automotive industry. Thus, for example,

in wholesale trade three digit industries such as Wholesalers of Tobacco products, Wholesalers of Food, and Wholesalers of Drugs and Toilet Preparations have been excluded. Further, at times it has been necessary to omit certain activities within those three digit industries which have been included. For example, while the group, Wholesalers of Machinery and Equipment, is included activities such as opthalmic goods wholesale or veterinarians' equipment and supplies wholesale which fall within it were excluded.

In order to determine how much employment in various regions is closely linked to the automotive industry, it is necessary to regionalize the employment in the industries which are strongly tied to either the motor vehicle manufacturing industry or the parts and accessories industry. This is undertaken in Table 16. This table was developed from a more comprehensive listing by three digit industries.

Inspection of Table 16 indicates that in terms of employment, the principal input industries in Canada are concentrated predominantly in Ontario (this is also true in terms of establishments). To a much lesser extent they are located in Quebec and the Western Provinces. For example, over 84 per cent of employment in the Transportation equipment industry,

Table 16

Regional Distribution of Employment in Input Industries

	#3 digit inclusive	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Rubber & Plastics	2			1 003	50	11 362	38 142	515		1 269	916	53 257
				1.9	-	21.3	71.6	1.0		2.4	1.7	
Textile Industries	1					480	1 409	20				1 909
						25.1	73.8	1.0				
Primary Metal Industry	6	70	40	2 986	65	31 660	66 506	862	1 290	2 974	6 514	112 967
		0.1	-	2.6	0.1	28.0	58.9	0.8	1.1	2.6	5.8	100.0
Metal Fabricating	4			202	158	16 444	42 615	1 436	128	2 648	3 153	66 784
				0.3	0.2	24.6	63.8	2.2	0.2	4.0	4.7	100.0
Machinery Industries	2	28	25	240	358	17 396	63 139	1 275	300	2 534	5 824	91 119
				0.3	0.4	19.1	69.3	1.4	0.3	2.8	6.4	100.0
Transport Equipment	5	135		855	169	16 093	127 686	1 337	330	2 435	2 253	151 293
		0.1		0.6	0.1	10.6	84.4	0.9	0.2	1.6	1.5	100.0
Electrical Products	4	88		319	323	18 430	60 624	1 620	665	1 248	3 619	86 936
		0.1		0.4	0.4	21.2	69.7	1.9	0.8	1.4	4.2	100.0
Non Metallic Mineral Products	3	100		410	321	5 104	15 358	412	75	1 306	990	24 076
		0.4		1.7	1.3	21.2	63.8	1.7	0.3	5.4	4.1	100.0
Transportation & Storage	7	1 489	361	1 930	9 745	37 610	45 864	5 316	4 603	14 285	13 801	135 004
		1.1	0.3	1.4	7.2	27.9	34	3.9	3.4	10.6	10.2	100.0
Communications	3	752	402	4 703	2 159	14 832	26 429	1 416	1 431	9 181	7 351	68 656
		1.1	0.6	6.9	3.1	21.6	38.5	2.1	2.1	13.4	10.7	100.0
Wholesale trade	9	1 362	561	4 383	2 501	44 677	65 918	9 439	2 576	14 181	16 754	162 352
		0.8	0.3	2.7	1.5	27.5	40.6	5.8	1.6	8.7	10.3	100.0
Retail trade	4	216	422	2 948	2 026	24 615	38 647	3 939	889	9 437	9 663	92 802
		0.2	0.5	3.2	2.2	26.5	41.6	4.2	1.0	10.2	10.4	100.0
Finance Industries	6	1 187	43	3 843	3 613	77 423	145 483	16 268	3 287	13 272	54 646	319 065
		0.4		1.2	1.1	24.3	46.0	5.1	1.0	4.2	17.1	100.0
Services to Business Management	9	383	25	791	1 111	25 742	44 009	2 419	829	9 105	6 644	91 058
		0.4		0.9	1.2	28.3	48.3	2.7	0.9	10.0	7.3	100.0

Source: Dun and Bradstreet CONFIDENTIAL

73.8 per cent of employment in the textile industry (auto fabrics), 71.6 per cent of employment in rubber and plastics, and more than 69 per cent of employment in the machinery and in the electrical products industries are located in Ontario. The respective figures for Quebec are 10.6, 25.1, 21.3, 19.1 and 21.2 per cent. For the Western provinces combined they are 4.2, 1.0, 5.1, 10.9, and 8.3 per cent respectively. The representation of the Atlantic Provinces in these industries is, for the most part, extremely small. Such a distribution bears heavily upon the extent to which growth in the automotive industry will benefit the regional economies in the form of increased employment.

Using the Statistics Canada national input-output model and the regionalizing of employment in the major input industries above, it is possible to develop estimates of the employment impact on the regional economies resulting from an increase in demand in the motor vehicle manufacturing industry and the motor vehicle parts and accessories industry. Technically, such estimates incorporate the effects of the regional concentrations of the input industries.

Table 17 presents the regional employment impacts of an increase in demand facing the motor vehicle manufacturing industry of one billion dollars.[1] It is seen that the total

[1]This would represent an increase in shipments of about 14 per cent.

Table 17

Regional Employment Impacts of One Billion Dollar Demand Increase in Motor Vehicle Manufacturing

	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Rubber & Plastics Products			19		213	717	10		24	17	1 000
Textile Industries					251	738	11				1 000
Primary Metal Industries	1		26	1	280	589	8	11	26	58	1 000
Metal Fabricating Industries			3	2	246	638	22	2	40	47	1 000
Transportation Equipment (including direct employment increasing in motor vehicle manufacturing industry)			30	15	1 005	13 530	225	15	15	165	15 000
Electrical Products Industries	1		4	4	212	697	18	8	14	42	1 000
Non metallic Mineral Products	4		17	13	212	638	17	3	55	41	1 000
Transportation & Storage	22	6	28	144	558	680	78	68	212	204	2 000
Communications	11	6	68	31	216	385	21	21	134	107	1 000
Wholesale Trade	24	12	81	48	825	1 218	174	48	261	309	3 000
Retail Trade	4	10	64	44	530	832	84	20	204	208	2 000
Finance Industries	4		12	11	243	456	51	10	42	171	1 000
Services to Business Management	32		72	96	2 264	3 864	216	72	800	584	8 000
Total Additional Employment	103	34	424	409	7 055	24 982	935	278	1 827	1 953	38 000
% of total	0.3	0.1	1.1	1.1	18.6	65.7	2.5	0.7	4.8	5.1	100.0

additional employment in the major input industries and the motor vehicle manufacturing industry is 38 000. This follows from a direct employment increase of 12 000 in the motor vehicle manufacturing industry coupled with a rise in employment of 26 000 in the input industries.

It is readily apparent that the employment effects are largely concentrated in Ontario. In particular, almost 25 000 of the 38 000 or about 65.7 per cent of the increase in employment is concentrated in Ontario. The Ontario concentration of the employment increase is especially marked for the manufacturing industries as opposed to services. Moreover, the former also account for a larger amount (21 000) of the total increase. In fact, of this employment increase in the manufacturing industries, approximately 84 per cent (or 17 547) is in Ontario.

The employment effect in the Atlantic provinces is very minor. The region's share of the additional employment is but 2.6 per cent and is largely accounted for by the provinces of Nova Scotia and New Brunswick.

The province of Quebec experiences the second largest employment increase, amounting to 7 055. Nevertheless, it remains small in comparison to Ontario, reflecting the much

smaller concentration of the major input industries in Quebec. On balance, this is particularly true of the manufacturing industries. The Quebec share of the employment increase of 21 000 in these industries is only 2 419 or about 12 per cent. Hence it is in the service industries, and especially in services to business management[1], that the employment effects are most pronounced for the Quebec economy.

The additional employment in the Western provinces amounts to 935, 278, 1 827, and 1 953 respectively for Manitoba, Saskatchewan, Alberta, and British Columbia. Combined, these equal 4 993 or 13.1 per cent of the total employment increase - an amount significantly less than that for Quebec and less than one fifth that for Ontario. It is also evident that the Western share of the employment increase is weakest in the manufacturing industries. In fact, only 810 (4 per cent) of the 21 000 increase in manufacturing employment can be attributed to the Western Provinces as a whole.

The employment impacts associated with a one billion dollar increase in demand facing the automotive parts and

1 These include employment agencies, computer services, accounting, advertising, engineering and scientific services, lawyers and notaries, Management and Business consulting services and other miscellaneous services.

accessories industry are detailed in Table 18. For the nation as a whole, it may be noted that this leads to a much greater employment rise than was observed in the case of the motor vehicle manufacturing industry. 53 000 new jobs are created - 30 000 of which are directly associated with the expansion of the auto parts and accessories industry itself.

Further, the impact of a demand increase in the auto parts industry is centered more largely on the manufacturing industries. Whereas about 55 per cent of the employment rise associated with the expansion of the motor vehicle manufacturing industry was confined to manufacturing, this figure rises to 79 per cent in the case of the parts and accessories industry. In short, a rise in demand for auto parts and accessories induces a greater rise in employment and one which is felt most strongly in the manufacturing sector.

In view of the above, it is not surprising that Ontario captures an even more sizeable amount of the total employment increase than was observed in the discussion of motor vehicle manufacturing. Indeed, Table 18 indicates that 41 890 or 79 per cent of the rise in employment occurs in Ontario. Ontario's share of the employment increase is even more marked in manufacturing - 37 353 (89 per cent)

Table 18

Regional Employment Impacts of One Billion Dollar Demand Increase in Motor Vehicle Parts and Accessories Industry

	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Primary Metal Industries	6		156	6	1 680	3 534	48	66	156	348	6 000
Metal Fabricating Industries			9	6	738	1 914	66	6	120	141	3 000
Transportation Equipment (including additional direct employment in autoparts industry)	2		42	2	602	31 208	18	64	32	30	32 000
Electrical Products	1		4	4	212	697	18	8	14	42	1 000
Transportation & Storage	22	6	28	144	558	680	78	68	212	204	2 000
Communications	11	6	68	31	216	385	21	21	134	107	1 000
Wholesale Trade	24	12	81	48	825	1 218	174	48	261	309	3 000
Retail Trade	4	10	64	44	530	832	84	20	204	208	2 000
Finance Industries	4		12	11	243	456	51	10	42	171	1 000
Services to Business Management	8		18	24	566	966	54	18	200	146	2 000
Total Additional Employment	82	34	482	320	6 170	41 890	612	329	1 375	1 706	53 000
% of total	.2	.1	.9	.6	11.6	79.0	1.2	.6	2.6	3.2	

of the 42 000 manufacturing employment increase is concentrated in Ontario.

Insofar as the other provinces are concerned, the impact on the Atlantic region is again negligible. Quebec's share of the additional employment diminishes significantly to a figure of 11.6 per cent overall and to but 7.7 per cent of the manufacturing employment increase. Similarly, the employment increase which is felt in the Western Provinces drops to 4 022 out of the 53 000 or 7.6 per cent overall, and to but 3 per cent of the manufacturing increase.

V More Balanced Regional Growth: Alternative Scenarios

The foregoing sections have recognized that

a) the automotive industry has undergone rapid expansion within the framework of the Canada-U.S. Automotive Agreement;

b) this expansion has largely taken place in Ontario;

c) the automotive industry is strongly linked to several major industries and in this sense can be viewed as 'an engine of growth' and

d) the employment impacts in industries linked to the auto industry, however, are strongly biased in favour of Ontario.

The latter three considerations suggest a need for measures aimed at a more equitable distribution of the growth in the automotive industry if the federal objective of balanced regional development is to be achieved. This concern has been more strongly voiced in recent times as a result of the announcement of the decision of Ford to construct a plant to manufacture V-6 engines in Ontario while GM's decision about locating a new plant in Quebec is still pending. Understandably, much of this concern has emanated from the province of Quebec.

It is thus of interest to observe how the employment impacts outlined in the previous section would have varied if a more balanced regional distribution of automotive industry growth had been achieved. Specifically the focus will be on Quebec under the following two scenarios:

1) 25% of automotive industry expansion occurs in Quebec
2) 45% of automotive industry expansion occurs in Quebec.

A summary of the results is documented in Tables 19 and 20.

Clearly under the two 'balanced growth' alternatives Quebec shares in the employment growth arising from demand expansion in motor vehicle manufacturing to a much greater degree. Under the first alternative Quebec employment in Transportation equipment rises by 3 318, total manufacturing

Table 19

SUMMARY RESULTS ADDITIONAL EMPLOYMENT IN QUEBEC
(MOTOR VEHICLE MANUFACTURING)

	Quebec (Table 17)	Quebec (25%)	Quebec (45%)
Transportation Equipment (including direct employment increase in motor vehicle manufacturing	1 005	3 318	5 718
Total manufacturing employment increase	2 419	4 732	7 132
Quebec % of Canadian manufacturing employment increase	12	23	34
Total additional employment increase	7 055	9 368	11 768
Quebec % of Canadian total additional employment	18.6	24.7	31.0

Source: Appendix A, Table IV

Table 20

SUMMARY RESULTS ADDITIONAL EMPLOYMENT IN QUEBEC
(MOTOR VEHICLE PARTS AND ACCESSORIES)

	Quebec (Table 18)	Quebec (25%)	Quebec (45%)
Transportation Equipment (including direct employment increase in parts and accessories)	602	7 712	13 712
Total manufacturing employment increase	3 232	10 342	16 342
Quebec % of Canadian manufacturing employment increase	7.7	24.6	38.9
Total additional employment increase	6 170	13 280	19 280
Quebec % of Canadian total additional employment	11.6	25.1	36.4

Source: Appendix A, Table V

employment increases by 4 732, and the overall employment increase in Quebec amounts to 9 368. Quebec's shares of the Canadian manufacturing employment increase, and the overall employment increase, rise to 23 and 24.7 per cent respectively. Under the second alternative, Quebec employment in the transportation equipment industry, in manufacturing, and in all industries rises even more - by 5 718, 7 132, and 11 768. Quebec captures larger shares of the Canadian growth in manufacturing employment and total employment equal to 34 and 31 per cent respectively.

The impact on Quebec employment growth resulting from demand expansion in the auto parts and accessories industry is even more pronounced. For example, under the first alternative, Quebec's employment in transportation equipment and all manufacturing industries increases by 7 712 and 10 342 - double the increases experienced as a consequence of motor vehicle manufacturing expansion. Quebec's share of the rise in manufacturing employment equals 24.6 per cent while its share of the total employment increase is 25.1 per cent. In the case where Quebec receives 45 per cent of the demand expansion, employment in transportation equipment increases by 13 712, in manufacturing by 16 342 and overall by 19 280. The Quebec shares of the Canadian manufacturing employment and overall employment increases rise to 38.9 and 36.4 per cent respectively.

VI Locational Considerations

It is frequently argued that the location of an industry over geographical space depends upon production plus deliver-to-market costs. Given the small number of automotive producers which tends to reduce differences in management, information, and technology, similarities in capital per worker, and the nature of labour requirements (unskilled workers - especially in assembly),[1] one could expect productivity differences between regions to be much less than in many other industries. This is particularly true for assembly[2]. It might be less likely to hold for parts and accessories - the number of producers being larger, the nature of the products produced and firm size more varied, and the skill requirements of labour employed higher[3]. Delivery to market costs, however, may be substantially different between regions. Indeed, it has often been postulated that Ontario, insofar as automotive production location is concerned, is advantaged vis à vis other regions such as Quebec due to its proximity to the major American market of the U.S. Great Lakes area which includes the principal Great Lakes metropolitan areas of Detroit and Chicago, as well as others such as Cleveland. As such, delivery-to market costs (transportation costs) might be much lower for producers based in Ontario than for those located in Quebec.

[1] In 1973 only 3 per cent of production workers in assembly were classified as skilled; 22 per cent were semi-skilled while 75 per cent were unskilled. The comparable figures for parts and accessories were 9.9, 37.4, and 52.7 per cent respectively.

[2] Value of shipments per employee in assembly would tend to support this notion. Value added per employee is not available on a regional basis

[3] See Appendix C for discussion of existing data problems related to regional productivity assessments.

A corollary to this has been the notion that Ontario is then, on these grounds, "the efficient location" and hence, any federal policy aimed at more balanced growth in the automotive industry would yield a less than optimal distribution of this industry in Canada.

Such arguments have also been frequently supplemented with reference to other considerations - notably the climate of labour relations. For example, it has often been stated that labour relations in Quebec render production location in that province much less favourable than in Ontario. Evidence suggests that this viewpoint requires much qualification.

In particular, while it is true that at the aggregate level Quebec has had a poorer record and a greater number of man-days lost due to strikes, this is not true of the automotive sector. In fact, Table 21 shows that the record of Quebec's automotive sector between 1973-77 has been quite good. On balance, Quebec's share of man-days lost is smaller than its share of Canadian automotive production and employment. This suggests that the poor aggregate labour relations record in Quebec or the one or two sensational strikes (such as the recent one which lasted nine months at Kenworth-Ste. Thérèse) are not accurate indications of the climate of Quebec's labour relations in the automotive sector.

Table 21

AUTOMOTIVE INDUSTRY

MAN-DAYS LOST DUE TO LABOUR CONFLICTS INVOLVING 100 WORKERS OR MORE

Province	1973	1974	1975	1976	1977
Nova Scotia	0	11 120 (3.8)	0	0	0
New Brunswick	0	0	500 (1.7)	0	0
Quebec	1 200 (0.4)	0	0	25 200 (14.0)	7 130 (3.7)
Ontario	243 790 (93.2)	249 710 (85.4)	20 050 (69.0)	155 420 (86.0)	183 280 (96.3)
Manitoba	0	30 500 (10.4)	8 500 (29.3)	0	0
British Columbia	16 680 (6.4)	1 250 (0.4)	0	0	0
Canada	261 670 (100.0)	292 580 (100.0)	29 050 (100.0)	180 620 (100.0)	190 410 (100.0)

i) The Question of Proximity

Tables 22A and B and 23A and B document the rail transportation flows of passenger cars and motor vehicle parts originating in Ontario and Quebec. The first thing which may be gleaned from Tables 22A and 23A is that, contrary to popular opinion, relatively few shipments are destined for the major Great Lakes states of Ohio, Michigan and Illinois. Indeed only 1.4, 1.7, and 4.8 per cent, respectively, of Ontario originating carloads are destined for these states. The smallness of these shipments tends to discredit the above-mentioned argument related to the importance of Ontario's proximity to the markets in these states. In fact, the largest transport flows of automobiles originating in Ontario are destined for states to which, in terms of distance, Ontario has no locational advantage vis-à-vis Quebec.

These states are Massachussets and New Jersey, Pennsylvania, Maryland and North Carolina. In 1976, their respective shares of Ontario originating carload shipments were 28.2 per cent, 21.6 per cent, 9.9 per cent and 9.9 per cent. Quebec originating shipments tend to be more equally dispersed among states with Ohio and North Carolina accounting for the largest number of shipments - 15.4 and 15.3 per cent respectively.

Table 22A

TRANSPORTATION OF PASSENGER CARS BY RAIL ORIGINATING IN ONTARIO 1976

Destination	Carloads	Tons	Shippers Cost	Shippers Cost per Tonmile
X2 Alabama & South Carolina	314 (3.0)	6 562 (3.0)	511 932 (4.3)	78.01
Florida	170 (1.6)	3 746 (1.7)	380 580 (3.2)	101.60
Georgia	286 (2.8)	6 220 (2.8)	430 859 (3.6)	69.27
Illinois	494 (4.8)	10 628 (4.8)	527 185 (4.4)	49.60
Kentucky	52 (0.5)	1 090 (0.5)	66 244 (0.6)	60.77
X5 Mass. & New Jersey	2 920 (28.2)	62 022 (28.0)	3 242 567 (27.1)	52.28
Maryland	1 031 (9.9)	22 071 (10.0)	1 156 941 (9.7)	52.42
Michigan	174 (1.7)	3 658 (1.7)	120 054 (1.0)	32.82
Minnesota	82 (0.8)	1 779 (0.8)	148 437 (1.2)	83.44
North Carolina	1 027 (9.9)	21 568 (9.8)	1 377 776 (11.5)	63.88
New York	815 (7.9)	17 484 (7.9)	718 243 (6.0)	41.08
Ohio	149 (1.4)	3 197 (1.4)	158 667 (1.3)	49.63
Pennsylvania	2 243 (21.6)	47 968 (21.7)	2 152 136 (18.0)	44.87
Tennessee	91 (0.9)	1 905 (0.9)	122 239 (1.0)	64.17
Virginia	154 (1.5)	3 206 (1.4)	216 655 (1.8)	67.58
X4 Washington	66 (0.6)	1 740 (0.8)	197 549 (1.6)	113.53
Wisconsin	162 (1.6)	3 539 (1.6)	202 057 (1.7)	57.09
X3 Mississippi	85 (0.8)	1 751 (0.8)	149 913 (1.3)	85.62
All Other States	47 (0.5)	986 (0.4)	96 302 (0.8)	97.67
TOTAL	10 362	221 120	11 976 336	54.16

Source: Canadian Transport Commission

Table 22B

TRANSPORTATION OF MOTOR VEHICLE PARTS ORIGINATING IN ONTARIO

BY RAIL 1976

Destination	Carloads	Tons	Shippers Cost	Shippers Cost per Ton
Maryland	1 839 (8.2)	66 580 (9.6)	2 374 703 (8.4)	35.67
Michigan	5 610 (24.9)	144 387 (20.7)	4 223 143 (14.9)	29.25
Missouri	1 117 (5.0)	29 943 (4.3)	1 391 236 (4.9)	46.46
New Jersey	352 (1.6)	7 855 (1.1)	372 893 (1.3)	47.47
California	899 (4.0)	29 121 (4.2)	3 304 897 (11.7)	113.49
Delaware	554 (2.5)	7 171 (1.0)	465 517 (1.6)	64.92
Georgia	3 708 (16.5)	122 350 (17.6)	6 499 412 (23.0)	53.12
Illinois	2 296 (10.2)	95 951 (13.8)	2 663 855 (9.4)	27.76
Indiana	100 (0.4)	378 (0.1)	17 075 (0.1)	45.17
Kansas	280 (1.2)	6 266 (0.9)	443 525 (1.6)	70.78
Kentucky	405 (1.8)	17 774 (2.6)	472 346 (1.7)	26.58
Massachusetts	163 (0.8)	4 360 (0.6)	193 018 (0.7)	44.27
Minnesota	353 (0.7)	14 323 (2.1)	511 443 (1.8)	35.71
New York	465 (2.1)	17 037 (2.4)	464 539 (1.6)	27.27
Ohio	2 114 (9.4)	58 104 (8.3)	1 812 755 (6.4)	31.20
Pennsylvania	648 (2.9)	16 127 (2.3)	620 649 (2.2)	38.49
Texas	434 (1.9)	8 780 (1.3)	799 872 (2.8)	91.10
Virginia	65 (0.3)	3 209 (0.5)	132 913 (0.5)	41.42
Wisconsin	1 044 (4.6)	44 856 (6.4)	1 388 751 (4.9)	30.96
Other States	79 (0.4)	1 621 (0.2)	112 025 (0.4)	69.11
TOTALS	22 525	696 193	28 264 567	40.60

Source: Canadian Transport Commission

Table 23A

TRANSPORTATION OF PASSENGER CARS BY RAIL ORIGINATING IN QUEBEC 1976

Destination	Carloads	Tons	Shippers Cost	Shippers Cost per Ton
California	83 (4.3)	2 490 (4.4)	472 834 (10.2)	189.89
Florida	155 (8.0)	4 620 (8.1)	392 945 (8.4)	85.05
Georgia	166 (8.6)	4 980 (8.7)	363 109 (7.8)	72.91
Illinois	80 (4.1)	2 316 (4.1)	160 373 (3.4)	69.25
Minnesota	78 (4.0)	2 340 (4.1)	187 516 (4.0)	80.14
Missouri	54 (2.8)	1 605 (2.8)	135 373 (2.9)	84.34
North Carolina	295 (15.3)	7 967 (14.0)	454 681 (9.8)	57.07
Ohio	297 (15.4)	8 998 (15.8)	499 677 (10.7)	55.53
Tennessee	108 (5.6)	3 233 (5.7)	215 348 (4.6)	66.61
Texas	120 (6.2)	3 588 (6.3)	420 227 (9.0)	117.12
Wisconsin	142 (7.4)	4 253 (7.5)	250 538 (5.4)	58.91
X1 Arizona, Colorado, Utah	68 (3.5)	2 198 (3.9)	303 849 (6.5)	138.24
X2 Alabama & South Carolina	83 (4.3)	2 490 (4.4)	167 254 (3.6)	67.17
X3 Mississippi	60 (3.1)	1 800 (3.2)	170 939 (3.7)	94.97
X4 Washington	58 (3.0)	1 680 (2.9)	277 836 (6.0)	165.38
X5 Mass. & New Jersey	84 (4.4)	2 505 (4.4)	178 962 (3.8)	71.44
TOTAL	1 931	57 063	4 651 461	81.51

Source: Canadian Transport Commission

Table 23B

TRANSPORTATION OF MOTOR VEHICLE PARTS ORIGINATING IN QUEBEC BY RAIL 1976

Destination	Carloads	Tons	Shippers Cost	Shippers Cost per Ton
Maryland	69	828	60 702	73.31
	(15.5)	(10.9)	(11.4)	
Michigan	69	844	58 928	69.82
	(15.5)	(11.1)	(11.0)	
Missouri	121	1 412	189 023	133.87
	(27.1)	(18.6)	(35.4)	
New Jersey	87	1 046	65 433	62.56
	(19.5)	(13.8)	(12.2)	
Other States	100	3 450	160 125	46.41
	(22.4)	(45.5)	(30.0)	
Totals	446	7 580	534 211	70.48

Source: Canadian Transport Commission

With respect to rail transport flows of motor vehicle parts, the most important destinations of Ontario originating carload shipments are Michigan (24.9 per cent), Georgia (16.5 per cent), Illinois (10.2 per cent), and Ohio (9.4 per cent). While the importance of the Michigan, Illinois, and Ohio markets might indicate some locational advantage for Ontario, this should not be stressed as there are considerable economies in the transportation of auto parts and accessories relative to assembled vehicles. In effect, historically it has always been considerably cheaper to transport a "knocked down" vehicle rather than the assembled product. As a consequence, distance is not so influential a factor insofar as parts and accessories are concerned.

Four States - Maryland, Michigan, Missouri, and New Jersey account for large proportions of Quebec originating parts shipments. The other 22.4 per cent is distributed among the remaining states - each receiving small amounts.

Though distance and shipments patterns alone do not, on balance, appear to advantage Ontario vis à vis Quebec in automobile manufacturing, this is not the case for the shipping cost structure. Inspection of the fourth column indicates that producers in Quebec incur higher transport costs. Of the movements to eleven common destinations, the shippers cost per ton on Ontario originating shipments is lower. This remains true in some cases where Quebec is advantaged in terms of proximity. The most notable instance of this is the cost differential of shipping to the states of Massachusetts and New Jersey.

Shippers cost per ton on flows originating in Quebec are 37 per cent or over 20 dollars per ton higher than those from Ontario. Similar anomalies, however, also are found in cases where Quebec originating shipper's costs per ton are lowest. For example, though the distance from Ontario to Minnesota is less than from Quebec to Minnesota, the shipper's cost per ton on Quebec originating shipments is lower.

Turning to the transportation of motor vehicle parts to common destinations it is readily seen that the pattern of shipping costs favours Ontario. Shippers cost per ton on Ontario originating transport flows are considerably lower for movements to the four common destinations. For movements to Maryland, Michigan, Missouri, and New Jersey, Quebec shipping costs per ton are 106 per cent, 139 per cent, 188 per cent, and 32 per cent higher than those from Ontario.

Nevertheless, these actual delivery-to-market cost differences between Quebec and Ontario originating automotive products should not be construed as giving Ontario a once and for all advantage. More specifically, these cost differences result, in large measure, from the fact that most automotive shipments move on agreed charges which are negotiated between the producer and the transporter. The larger is the volume of shipments, the lower will be the negotiated charge. As such, any deliver-to-market cost advantage which Ontario might possess at the present time would diminish significantly in the event of increased production in Quebec.

VII Conclusions and the Perspective for Regional Policy

Within the framework of the Canada-United States Automotive Agreement the Canadian automotive industry has enjoyed a period of rapid expansion. Growth in production and employment has been rapid and the profitability and returns to capital employed in Canadian automotive operations have been high. Even more marked, however, has been the concentration of this expansion in Ontario. It has been noted that in 1976 Ontario accounted for approximately 89 per cent of motor vehicle manufacturing shipments and 98.4 per cent of parts and accessories shipments, while about 89 per cent and 97 per cent of employment in these two industries was located in Ontario. Moreover, an overwhelming amount of employment in the major input industries is also concentrated in Ontario. As a consequence, the employment impacts associated with the expansion of the automotive sector are strongly biased in favour of Ontario. This is particularly true of employment in manufacturing and thus tends to reinforce disparities in the regional distribution of manufacturing employment. Further, it is in manufacturing that employment impacts emanating from automotive expansion are most pronounced. This is especially true for the motor vehicle parts and accessories industry - 79 per cent of the employment increase stemming from expansion of this industry is realized in manufacturing. However, this increase is largely confined to Ontario. In fact, Ontario receives 89 per cent of such

additional manufacturing employment while Quebec and the Western provinces account for but 7.7 and 3 per cent respectively. The increment in manufacturing employment in the Atlantic Provinces is negligible. The implications of such trends for the federal objective of balanced regional economic growth are not favourable. It is expected that the automotive sector will be undergoing a period of significant investment and retooling in the forthcoming decade and will be marked by continued expansion. Within this context, efforts to promote a more equitable regional balance in economic activity and employment associated with this expansion, demand renewed attention. This is particularly pertinent for Quebec which is confronting strong pressures for industrial adjustment.

Because of its sizeable employment and the magnitude of its linkages with principal industries, it has been acknowledged that the scope for changes in the automotive industry to alter the structure of Canadian industry and to shape the pattern of economic growth may be substantial. It has thus been of interest to observe how the employment impacts would vary were a more balanced distribution of automotive industry growth in Canada achieved.

The ramifications of a more balanced distribution of automotive production on regional employment impacts are considerable. For example, if 25 per cent of motor vehicle manufacturing expansion occurred in Quebec, Quebec's share of

the employment increase associated with automotive industry growth would rise to 24.7 per cent and to 23 per cent of the employment increase in manufacturing industries. Were 45 per cent of the expansion directed to Quebec these figures would rise to 34 and 31 per cent respectively. For expansion in auto parts and accessories under these alternatives, Quebec would capture even greater shares of the manufacturing employment increase and the overall employment increase. It thus appears that scope for improving the balance of Canadian regional economic activity through policies aimed at a more equitable distribution of automotive industry expansion is large.

Finally the question of proximity to the metropolitan Great Lakes markets has been explored. Contrary to popular opinion, only a very small proportion of Ontario motor vehicle shipments are destined to these markets. As such, Ontario's locational advantage vis à vis Quebec on these grounds is questionable. What does surface, however, in the analysis of transportation flows, is that the shipping costs of Ontario originating shipments tend to be considerably lower than those from Quebec moving to the same destinations. This would suggest that the transportation rate structure strongly favours Ontario - particularly for parts and accessories. Most shipments of automotive products move on 'agreed charges' which are negotiated between the producer and the transporter. The larger

is the volume of shipments, the lower will be the shipping costs which the producer may negotiate. While this inherently favours Ontario at the present time, it also suggests that any deliver-to-market cost advantage which Ontario now possesses would diminish in the event of increased Quebec production.

Other factors - notably the labour relations climate - also suggest that Quebec does not fare as badly vis-à-vis Ontario as once thought.

APPENDIX A

Table 1

PRODUCTION OF PASSENGER CARS BY MANUFACTURERS

CANADA

	Chrysler	Ford	General Motors
1947	43 500	63 400	58 800
1948	45 000	54 600	65 200
1949	46 600	72 900	62 600
1950	55 100	94 200	117 900
1951	52 900	79 400	133 000
1952	51 800	82 900	136 000
1953	61 800	124 200	162 900
1954	51 100	102 500	122 600
1955	97 400	137 600	128 600
1956	92 100	119 600	148 200
1957	69 400	109 900	153 400
1958	44 100	89 300	158 700
1959	42 600	99 700	150 200
1960	50 400	94 200	175 100
Average	57 400	94 600	126 660

Source: Report of the Royal Commission on the Automotive Industry (Bladen Commission) Ottawa 1961

Table II

Deviations from Fair Shares

Motor Vehicle Manufacturing, 1976

Region	A Total actual employment	B Total calculated employment (fair share)	A-B Deficit or surplus
Maritimes	753	3 577.9	-2 824.9
Quebec	2 919	12 193.2	-9 274.2
Ontario	41 899	16 524.4	+25 374.6
Prairies	989	10 404.2	-9 415.2
British Columbia	518	4 378.3	-3 860.3
Canada	47 078	47 078	0.0

Parts and Accessories, 1976

Province	A Total actual employment	B Total calculated employment	A-B Deficit or Surplus	C Value added (actual)	D Value added (calculated)	C-D Deficit or Surplus
				$000	$000	$000
Quebec	570	12 259	-11 689	6 987	362 725	-355 738
Ontario	45 908	16 613	+29 295	1 376 057	491 569	+884 488
British Columbia	220	4 402	-4 402	4 935	130 245	-125 310
Other provinces	633	14 057	-13 424	12 502	415 942	-403 440
Canada	47 331	47 331	0	1 400 481	1 400 481	0

Table III

Automobile Production in Canada 1975-1976
(in no. of units)

Ontario		1976	%	1975	%
American Motors (Canada) Ltd.					
Brampton:	Hornet	14 712		32 482	
	Gremlin	28 479		15 891	
	Total A.M.	43 191	3.8	48 373	4.6
Chrysler Canada Ltd.					
Windsor:	Valiant	-		14 745	
	Charger SE	44 346		40 729	
	Cordoba	200 986		193 583	
	Dodge Dart	-		12 208	
	Total Chrysler	245 332	21.5	261 265	24.8
Ford Motor Co. of Canada Ltd.					
Oakville:	Ford	167 359		132 833	
	Meteor	4 632		9 978	
	Torino	9 168		8 736	
	Marquis	28 930		2 179	
	Total Oakville:	210 089	18.4	153 726	14.6
St. Thomas:	Maverick	49 300		54 715	
	Pinto	111 916		116 342	
	Total St. Thomas:	161 216	14.2	171 057	16.2
	Total Ford:	371 305	32.6	324 783	30.8
General Motors of Canada Ltd.					
Oshawa:	Chevrolet	157 020		118 170	
	Pontiac	21 800		22 661	
	Chevello	80 006		71 022	
	Le Mans	21 662		20 976	
	Monte Carlo	52 889		30 122	
	Nova	3 432		7 800	
	Total Oshawa	336 809	29.6	270 751	25.7
Total Ontario:		993 205	87.3	905 172	85.9

Table III cont'd.

Quebec		1976	%	1975	%
General Motors of Canada Ltd.					
Ste Thérèse:	Monza	57 215		69 242	
	Starfire	19 269		26 022	
	Skyhawk	23 394		28 947	
	Sunbird	35 798		10 593	
Total Quebec:		135 676	11.9	134 804	12.8
(Total G.M.)		(472 485)	41.5	(405 555)	38.5
Nova Scotia					
Volvo Canada Ltd.					
Halifax:	Volvo	9 487	.8	13 337	1.3
Canadian Motor Industries Ltd.					
Sydney:	Toyota	-		720	.0
Total Nova Scotia		9 487	.8	14 057	1.3
Industry Total		1 138 368	100.0	1 054 033	100.0

* excluding Apollo and Seville models (G.M.)

SOURCE: Ward's Automotive Yearbook

Table IV

ADDITIONAL EMPLOYMENT IN QUEBEC: Three Alternatives
(Motor Vehicle Manufacturing)

	Quebec (Table)	Quebec (25%)	Quebec (45%)
Rubber and Plastics	213	213	213
Textile Industries	251	251	251
Primary Metal Industries	280	280	280
Metal Fabricating Industries	246	246	246
Transportation Equipment (including direct employment increase in motor vehicle manufacturing)	1 005	3 318	5 718
Electrical Products Industries	212	212	212
Non Metallic Mineral Products	212	212	212
Transportation & Storage	558	558	558
Communication	216	216	216
Wholesale Trade	825	825	825
Retail Trade	530	530	530
Finance Industries	243	243	243
Services to Business Management	2 264	2 264	2 264
Total Additional Employment	7 055	9 368	11 768
% of Canadian total additional employment	18.6	24.7	31.0

Table V

ADDITIONAL EMPLOYMENT IN QUEBEC: Three Alternatives
(Motor Vehicle parts and accessories)

	Quebec (Table)	Quebec (25%)	Quebec (45%)
Primary Metal Industries	1 680	1 680	1 680
Metal Fabricating Industries	738	738	738
Transportation Equipment (including additional direct employment in auto parts industry)	602	7 712	13 712
Electrical Products	212	212	212
Transportation & Storage	558	558	558
Communications	216	216	216
Wholesale Trade	825	825	825
Retail Trade	530	530	530
Finance Industries	243	243	243
Services to Business Management	566	566	566
Total Additional Employment	6 170	13 280	19 280
% of Canadian total additional employment	11.6	25.1	36.4

APPENDIX B

AUTOMOTIVE AGREEMENT

AGREEMENT CONCERNING AUTOMOTIVE PRODUCTS
BETWEEN THE GOVERNMENT OF CANADA
AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA

The Government of Canada and the Government of the United States of America,

Determined to strengthen the economic relations between their two countries;

Recognizing that this can best be achieved through the stimulation of economic growth and through the expansion of markets available to producers in both countries within the framework of the established policy of both countries of promoting multilateral trade;

Recognizing that an expansion of trade can best be achieved through the reduction or elimination of tariff and all other barriers to trade operating to impede or distort the full and efficient development of each country's trade and industrial potential;

Recognizing the important place that the automotive industry occupies in the industrial economy of the two countries and the interests of industry, labour and consumers in sustaining high levels of efficient production and continued growth in the automotive industry;

Agree as follows:

Article I

The Governments of Canada and the United States, pursuant to the above principles, shall seek the early

achievement of the following objectives:

(a) The creation of a broader market for automotive products within which the full benefits of specialization and large-scale production can be achieved;

(b) The liberalization of United States and Canadian automotive trade in respect of tariff barriers and other factors tending to impede it, with a view to enabling the industries of both countries to participate on a fair and equitable basis in the expanding total market of the two countries;

(c) The development of conditions in which market forces may operate effectively to attain the most economic pattern of investment, production and trade.

It shall be the policy of each Government to avoid actions which would frustrate the achievement of these objectives.

Article II

(a) The Government of Canada, not later than the entry into force of the legislation contemplated in paragraph (b) of this Article, shall accord duty-free treatment to imports of the products of the United States described in Annex A.

(b) The Government of the United States, during the session of the United States Congress commencing on January 4, 1965, shall seek enactment of legislation authoriz-

ing duty-free treatment of imports of the products of Canada described in Annex B. In seeking such legislation, the Government of the United States shall also seek authority permitting the implementation of such duty-free treatment retroactively to the earliest data administratively possible following the date upon which the Government of Canada has accorded duty-free treatment. Promptly after the entry into force of such legislation, the Government of the United States shall accord duty-free treatment to the products of Canada described in Annex B.

Article III

The commitments made by the two Governments in this Agreement shall not preclude action by either Government consistent with its obligations under Part II of the General Agreement on Tariffs and Trade.

Article IV

(a) At any time, at the request of either Government, the two Governments shall consult with respect to any matter relating to this Agreement.

(b) Without limiting the foregoing, the two Governments shall, at the request of either Government, consult with respect to any problems which may arise concerning automotive producers in the United States which do not at present have facilities in Canada for the manufacture of

motor vehicles, and with respect to the implications for the operation of this Agreement of new automotive producers becoming established in Canada.

(c) No later than January 1, 1968, the two Governments shall jointly undertake a comprehensive review of the progress made towards achieving the objectives set forth in Article I. During this review the Government shall consider such further steps as may be necessary or desirable for the full achievement of these objectives.

Article V

Access to the Canadian and United States markets provided for under this Agreement may by agreement be accorded on similar terms to other countries.

Article VI

This Agreement shall enter into force provisionally on the date of signature and definitively on the date upon which notes are exchanged between the two Governments giving notice that appropriate action in their respective legislatures has been completed.

Article VII

This Agreement shall be of unlimited duration. Each Government shall, however, have the right to terminate this Agreement twelve months from the date on which that Government gives written notice to the other Government of its intention to terminate the Agreement.

DONE in duplicate at Johnson City, Texas, this 16th day of January, 1965, in English and in French, the two texts being equally authentic.

IN WITNESS WHEREOF the representatives of the two Governments have signed this Agreement.

FAIT en double exemplaire à Johnson City, Texas le 16 janvier 1965, en français et en anglais, les deux textes faisant également foi.

EN FOI DE QUOI les représentants des deux gouvernements ont signé le présent Accord.

For the Government of Canada:
Pour le Gouvernement du Canada:

Lester B. Pearson

Paul Martin

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For the Government of the U.S.A.
Pour le Gouvernement des Etats-Unis d'Amérique

Lyndon B. Johnson

Dean Rusk

.....

ANNEX A

1. (1) Automobiles, when imported by a manufacturer of automobiles.

(2) All parts, and accessories and parts thereof, except tires and tubes, when imported for use as original equipment in automobiles to be produced in Canada by a manufacturer of automobiles.

(3) Buses, when imported by a manufacturer of buses.

(4) All parts, and accessories and parts thereof, except tires and tubes, when imported for use as original equipment in buses to be produced in Canada by a manufacturer of buses.

(5) Specified commercial vehicles, when imported by a manufacturer of specified commercial vehicles.

(6) All parts, and accessories and parts thereof, except tires, tubes and any machines or other articles required under Canadian tariff item 438a to be valued separately under the tariff items regularly applicable thereto, when imported for use as original equipment in specified commercial vehicles to be produced in Canada by a manufacturer of specified commercial vehicles.

2. (1) "Automobile" means a four-wheeled passenger automobile having a seating capacity for not more than ten persons;

(2) "Base year" means the period of twelve months commencing on the 1st day of August, 1963 and ending on the 31st day of July, 1964;

(3) "Bus" means a passenger motor vehicle having a seating capacity for more than 10 persons, or a chassis therefor, but does not include any following vehicle or chassis therefor, namely an electric trackless trolley bus, amphibious vehicle, tracked or half-tracked vehicle or motor vehicle designed primarily for off-highway use;

(4) "Canadian value added" has the meaning assigned by regulations made under section 273 of the Canadian Customs Act;

(5) "Manufacturer" of vehicles of any following class, namely automobiles, buses or specified commercial vehicles, means, in relation to any importation of goods in respect of which the description is relevant, a manufacturer that

(i) produced vehicles of that class in Canada in each of the four consecutive three months' periods in the base year, and

(ii) produced vehicles of that class in Canada in the period of twelve months ending on the 31st day of July in which the importation is made,

(A) the ratio of the net sales value of which

to the net sales value of all vehicles of that class sold for consumption in Canada by the manufacturer in that period is equal to or higher than the ratio of the net sales value of all vehicles of that class produced in Canada by the manufacturer in the base year to the net sales value of all vehicles of that class sold for consumption in Canada by the manufacturer in the base year, and is not in any case lower than seventy-five to one hundred; and

(B) the Canadian value added of which is equal to or greater than the Canadian value added of all vehicles of that class produced in Canada by the manufacturer in the base year;

(6) "Net sales value" has the meaning assigned by regulations made under section 273 of the Canadian Customs Act; and

(7) "Specified commercial vehicle" means a motor truck, motor truck chassis, ambulance or chassis therefor, or hearse or chassis therefor, but does not include:

(a) any following vehicle or chassis designed primarily therefor, namely a bus, electric trackless trolley bus, amphibious vehicle, tracked or half-tracked vehicle, golf or invalid cart, straddle carrier, motor vehicle designed primarily for

off-highway use, or motor vehicle specially constructed and equipped to perform special services or functions, such as, but not limited to, fire engine, mobile crane, wrecker, concrete mixer or mobile clinic; or (b) any machine or other article required under Canadian tariff item 438a to be valued separately under the tariff item regularly applicable thereto.

3. The Government of Canada may designate a manufacturer not falling within the categories set out above as being entitled to the benefit of duty-free treatment in respect of the goods described in this Annex.

ANNEX B

(1) Motor vehicles for the transport of persons or articles as provided for in items 692.05 and 692.10 of the Tariff Schedules of the United States and chassis therefor, but not including electric trolley buses, three-wheeled vehicles, or trailers accompanying truck tractors, or chassis therefor.

(2) Fabricated components, not including trailers, tires, or tubes for tires, for use as original equipment in the manufacture of motor vehicles of the kinds described in paragraph (1) above.

(3) Articles of the kinds described in paragraphs (1) and (2) above include such articles whether finished or unfinished but do not include any article produced with the use of materials imported into Canada which are products of any foreign country (except materials produced within the customs territory of the United States), if the aggregate value of

port of entry, exclusive of any landing cost and Canadian duty, was

(a) with regard to articles of the kinds described in paragraph (1), not including chassis, more than 60 per cent until January 1, 1968, and thereafter more than 50 per cent, of the appraised customs value of the article imported into the customs territory

of the United States; and

(b) with regard to chassis of the kinds described in paragraph (1), and articles of the kinds described in paragraph (2), more than 50 per cent of the appraised customs value of the article imported into the customs territory of the United States.

APPENDIX C

A NOTE ON EVALUATING REGIONAL PRODUCTIVITY PERFORMANCE

While very limited data is available for motor vehicle assembly, more statistical documentation relating to production costs and productivity in the parts and accessories industry is available. However it provides an incomplete indication of the structure of production costs and productivity performance at a regional level. Moreover, it is precisely in parts and accessories that one would expect any such regional differences to surface. As such, it is useful to briefly address the existing data and the problems associated with it.

On balance, it is observed in the table below that costs of materials and supplies account for the largest proportion of production costs followed by wages and then costs of fuel and electricity. At the national level, these proportions are 70.1 per cent, 28.3 per cent, and 1.6 per cent respectively. In Ontario they are 70.3, 28.1, and 1.6 per cent, respectively, while in Quebec the respective figures are 68.5, 29.3, and 2.2 per cent. In short, at the industry level, access to materials and supplies and the cost of labour bear much more strongly upon total production costs than fuel and electricity. Differences in these variables could then be expected to lend considerable advantages or disadvantages to regions.

Parts and Accessories Industry - Production Costs and Productivity

Province	Number of establishments	A Value of shipments	B Variation in stocks of own manufacture	C=A+B Value of production	D Cost of fuel & electricity	E Cost of materials & supplies	F=C-(D+E) Value added in manufacturing
		$000	$000	$000	$000	$000	$000
Quebec	23	20 401	+490	20 891	431	13 473	6 987
Ontario	185	3 061 926	+59 196	3 121 122	38 101	1 706 964	1 376 057
Manitoba	8	15 895	+95	15 990	137	7 576	8 277
British Columbia	15	8 035	+40	8 075	75	3 065	4 935
Canada	238	3 112 322	+60 023	3 172 345	38 847	1 733 017	1 400 481

Province	Production employment	Wages	Hourly wage	G Wages & benefits	H=G+D+E Total Production costs	Value added per employee
		$000	$	$000	$000	$
Quebec	437	3 953	4.41	5 772	19 676	15 988
Ontario	38 040	547 168	6.69	683 433	2 428 498	36 173
Manitoba	355	3 462	4.85	5 052	12 765	23 315
British Columbia	165	2 194	6.51	3 087	6 227	29 903
Canada	39 134	558 132	6.64	699 264	2 471 128	35 787

Source: Statistic Canada cat. no. 42-210

The table also gives some indication of regional differences in the costs of labour in the parts and accessories industry. On average, the hourly wage in Ontario exceeds that in British Columbia by 3 per cent, that in Manitoba by 38 per cent, and that in Quebec by 52 per cent. However, at this same level of aggregation the productivity of Ontario is clearly much higher. Indeed, Ontario productivity (measured by value added per production worker) exceeds that for British Columbia, Manitoba, and Quebec, by 17 per cent, 55 per cent and 126 per cent respectively. The magnitude of these differences, especially in the case of Quebec, are clearly surprising and suspicious. First of all, they can not be construed as reflecting marked differences in labour quality since only 9.9 per cent of those employed in the industry are in skilled positions. Such differences, then, are likely attributable to other sources - industry structure in particular. Unlike assembly, the parts and accessories industry does not produce one or two well defined products. Rather, it manufactures a whole range of items: the parts and accessories industry is not, in any sense, homogenous. However, our regional data does not permit us to correct for this factor. To the extent that the manufacture of various products within the range of those produced is unevenly distributed across regions, the scope for industry structure

to bias regional productivity performance is sharply increased. Even were industrial structure not able to account for the entire "apparent" productivity difference, the nature of the parts and accessories industry would suggest that other factors (aside from labour quality) may also be coming into play. Specifically, the number of firms in the parts and accessories industry (and their differences in size) is large and may thus lead to variations in management, information, and technology as well as in capital stock per worker. In short, the existing data cannot be viewed as enabling reliable or meaningful comparisons of regional productivity between regions.