

## **FIRM SIZE AND THE DISPERSAL OF MANUFACTURING IN CANADA**

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### **Introduction**

Recent studies of multinational corporations reveal clearly, if there was ever any doubt, the advantages conferred by sheer size. They also reflect the increasing concern over the impact of these corporations on national and regional economies. While there are obvious reasons for concern over the power of foreign corporations, for many purposes (such as regional development) the important characteristic may be the size, not the nationality, of the corporation.

A number of writers (for example, Firm [8], Dicken and Lloyd [5], Townroe [14], Yannopoulos and Dunning [16], and Blair [1]) have in one way or another considered the role of firm size in the context of regional development issues. Others (for example, Walker [15], Townroe [13], Gilmour [9], and North [11]) have taken note of the effect of firm size while studying locational decisions or sourcing strategies of individual firms. The consensus would seem to be that firm size makes a difference—that large firms do not make the same kinds of locational decisions that small ones do, and this difference has important repercussions on regional development efforts.

In this paper, results from the studies just cited, and others, are generalized to produce a model of the firm in the form of two paradigms, one of the small company and one of the large corporation. These two paradigms are then examined for their locational implications. The major implication is that in general the plants owned by large firms should be more widely dispersed, especially into non-metropolitan and peripheral regions, than those belonging to small companies. This hypothesis is tested using Canadian data.

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## Two Paradigms: The Small Firm and The Large Firm

### The Small Firm

*Management capabilities are limited.* A small firm necessarily has a small management group, and the efforts of this group must largely be taken up by the routines necessary to keep the company operating. Only a minimum effort can be spared for an exceptional problem like relocating the plant or locating a branch plant. Furthermore, even if the management resources could be spared, it is unlikely that anyone would have the knowledge or skills necessary to conduct a thorough, rational locational analysis. Consequently, the search tends to be hasty, unsystematic, and limited to nearby sites. The phenomenon has been observed by Townroe [13], Walker [15], and others. Notice, however, that this kind of locational decision making is not irrational, as has sometimes been claimed; the company is simply economizing on the use of its very limited management resources.

Another consequence of smallness is that management has little chance to gain experience in creating or operating within a more complex management structure, one with a greater degree of specialization and delegation of authority, and less face to face contact. Yet these are precisely the circumstances that will confront the management of a company establishing a branch plant at a distant location. The extra time and stress involved in dealing with them may simply overwhelm the managerial capacity for handling normal operations, to the detriment of the company's performance. This problem has been documented by Townroe [13] in his case studies of British industrial location decisions.

*Services are not internalized.* Small companies are also rarely in a position to internalize the services they require. If there are problems with the process or product, outside technical expertise will usually be necessary. If there are managerial or financial difficulties, again, outside consultants may be required. Such services are, of course, more readily available in large or specialized centres, so a small company located at a distance from one of these centres will generally find it more difficult, time consuming, and expensive to acquire them. The small company with a problem is in a poor position to absorb these extra expenses.

Financial services deserve special mention. Small companies, especially rapidly growing ones, usually must depend on external financing. Whether this comes from investors, banks, or other sources, it is likely to be local since as a rule it is local lenders who will have the most information about the company and be in the best position to judge its prospects. Indeed, in an area where there is a concentration of firms in a particular industry, even a traditionally high risk sector like apparel or electronics, local lenders may make

special efforts to make money available. For example, the Manufacturers Bank in Los Angeles was established primarily to serve the textile and apparel industry, while Wells Fargo Bank and Bank of America have both set up special divisions which work cooperatively with specialized venture capital firms to serve the electronics industry in the San Francisco Bay area [10].

Conversely, in an area where a firm or an industry is unknown, the small firm is likely to experience greater difficulty in acquiring financing. Banks are wary of industries they have no experience with, and more wary of firms with no local reputation. Thus the small firm's dependence on external sources of finance tends to immobilize it.

*Communications are relatively difficult.* A small company operating several branch plants may find the cost of leased lines, telex services, or a corporate plane and pilot simply too expensive; yet the postal service and long distance telephone may be a poor substitute. Under these circumstances a dispersed operation may be an inefficient one.

*Locational implications.* The basic implication of these characteristics of the small firm is obvious: small firms lack locational flexibility. In other words, a firm, including its branches, will tend to remain in the area in which it originated. The actual distribution of plants belonging to small companies will thus tend to reflect the distribution of successful births of independent firms. These will tend to occur where conditions are most favourable, in particular where the markets, supplies, labour, services, and financing are all available, and where the entrepreneurs are familiar with their sources. These conditions are most frequently met in large urban areas or, on a larger scale, in core regions. In short, then, small firms will tend both to originate in central locations and to remain there.

### The Large Firm

*Management capabilities are extensive.* The large firm, by contrast, has a sizeable, well organized management group. Because of its depth and diversity, it is well able to handle exceptional problems like the location of a branch plant. Indeed, in the largest firms this decision becomes a routine one as the firm develops and implements a locational strategy, and the decision is typically well researched and rational [15]. Furthermore, since there is necessarily much delegation of authority in a large, specialized management group, it is a routine matter for a new, relatively autonomous group to be created to manage a branch operation; and delegation of authority to the new group minimizes any problems of communication with the distant establishment [3]. In short, distance as such presents no problem to management.

*Services are internalized.* The larger the firm, the more it tends to internalize the services it requires. Problems with labour relations, environmental regulations, quality control, and product development may all be handled in-house by permanent, specialized groups whose services can be made available on short notice to any branch requiring them. Thus branch establishments are not constrained to locations where necessary services are already available. The branch in effect takes its services with it. In addition, if the firm is vertically integrated it may avoid problems of unreliability of supply which might plague a small new independent company in a peripheral or pioneer location [16]. Financing may be from retained earnings or from external sources, but in either case it can be made available anywhere.

*Communications are easy.* The large company typically acquires a level of service at which communication is no longer a noticeable problem. This may involve on-line terminals in all branch locations connected to a central computer, large travel budgets, or company planes.

*Locational implications.* Location imposes few constraints on the availability of necessary services, supplies, or capital for the large company. Nor do dispersed operations pose any significant problems of management organization or communication. But if the large firm is liberated from these constraints which are so binding on the small company, what determines the location of its branches? The most likely answer would seem to be that it is the traditional factors such as transportation costs, access to markets, or availability of cheap labour. These factors may or may not dictate a non-metropolitan or peripheral location, but when they do the large company is in a better position than the small one to respond. On balance, then, we would expect a greater proportion of the plants belonging to large firms to be located in non-metropolitan or peripheral areas than would be the case for plants belonging to small firms.

So far it has been implicitly assumed that firms grow only by establishing new branch plants. In fact, of course, many branches are acquired by takeover. Thus the actual locational pattern of plants belonging to large companies is a composite, in that it includes a fossil small-firm pattern within itself. This effect will tend to obscure the differences between the large- and small-firm patterns and make them more difficult to detect.

With this reservation in mind, we proceed to a test of the hypothesis that, in the aggregate, the location of plants belonging to large companies will be more dispersed than the location of plants belonging to small firms.

### The Location of Large-Firm and Small-Firm Manufacturing Plants in Canada

A sample of 433 companies operating 2102 domestic manufacturing establishments was examined. The primary sources of the data were the *Financial Post Survey of Industrials* [7] and the *Financial Post Corporation Service* [6]. These were supplemented where necessary by other standard directories and *Inter-Corporate Ownership* [2]. For most, though not all, of the manufacturing firms listed in the *Survey* it was possible to obtain complete data. The *Survey* itself, however, undoubtedly seriously under-represents small firms, but unless there is a geographical bias in the coverage of such firms this does not present a serious problem for the analysis in this paper.

For each firm, data were recorded for gross revenue, nationality, and the location and three digit SIC number of all manufacturing plants operated by the firm in Canada. In the case of subsidiary companies, revenue and nationality of the ultimate parent rather than the company itself were recorded. This decision was based on the assumption that more often than not the parent provides certain basic support (for example, help in obtaining financing or overcoming managerial problems), so that even the small subsidiary may have the locational flexibility of a large company. Clearly, this is not always the case. Some holding companies treat their subsidiaries as little more than portfolio investments and provide few, if any, services to them. An extreme instance of this phenomenon is a large Ontario-based real estate firm that incidentally owns a small manufacturing operation that was acquired for the land it sits on. In some cases a figure for revenue was not available and one was estimated from other data. This procedure was not very reliable, but since in the analysis revenue was treated as a dichotomous variable (small and large), the lack of accuracy was not a serious problem.

Because there is no obvious dividing point between large and small firms, three values were tried: \$50, \$100, and \$200 million gross revenue. Values much higher or lower than these would not have been appropriate, since they would have left too few firms in one or the other category. All three values gave similar results, so with one exception only results corresponding to the \$100 million figure will be reported.

Since the basic hypothesis is that large firms have more locational flexibility than small ones and their plants should therefore be more widely dispersed, locations were coded so that it was possible to examine a variety of core-periphery situations. In particular the following regionalizations were used:

- I. National
  1. Core: Toronto & Montreal CMAs  
Periphery: Rest of Canada

2. *Core:* 9 CMAs over 0.5 million population (Toronto, Montreal, Vancouver, Ottawa, Winnipeg, Hamilton, Edmonton, Quebec City, Calgary)  
*Periphery:* Rest of Canada
  3. *Core:* Toronto CMA and Southwestern Ontario (all counties west of Durham and Simcoe, inclusive)  
*Periphery:* Rest of Canada
  4. *Core:* Central Canada (Quebec and Ontario)  
*Periphery:* Rest of Canada
- II. Intra-Metropolitan
5. *Core:* Metro Toronto and Island of Montreal  
*Periphery:* Rest of Toronto and Montreal CMAs

Since plants were identified by 3-digit SIC codes, it was possible to disaggregate by industry. The following groupings were examined:

1. All SIC manufacturing categories (SIC groups 1-20)
2. Furniture, paper products, and "equipment" (SIC groups 9, 10 [except 271], 13-16, 20)
3. "Equipment" only (SIC groups 13-16, 20)
4. Resource based industries (SIC groups 1, 2, 8, 12, 17-19)

Location (core, periphery) was cross tabulated with size (small, large) and also with nationality (Canadian, foreign) for each of the industry aggregates, locational types, and nationality types. The results are shown in Tables 1-7 in percentage form, with the second row of each table suppressed since column totals must equal 100 per cent.

Looking first at the results for all SIC categories (Tables 1-3) it can be seen that in every case the plants of large firms are more dispersed than those of small firms. For both foreign and domestic firms, regardless of the regionalization scheme, the percentage of all large-firm plants located in the core region is less than the percentage of all small-firm plants there. For example, 44.4 per cent of all plants belonging to small companies (< \$100 million revenue) are located in the Toronto-Southwestern Ontario core region (the other 65.6 per cent are located elsewhere in Canada), while only 32.6 per cent of all plants belonging to large companies are located in that core area. In the case of Canadian firms (and all firms combined) these differences between large and small firms are highly significant (Chi-square test). In the case of foreign firms, where the dif-

**Table 1**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS, BY  
FIRM SIZE AND NATIONALITY, ALL SIC CATEGORIES**

**Size Division at \$100 Million**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	30.3	22.3	.0001	30.1	20.3	.0001	31.3	25.4	--	24.2	26.5	--
9 CMAs	49.3	40.0	.0001	49.2	38.7	.0001	49.6	42.1	--	42.9	43.6	--
Toronto CMA & SW Ontario	44.4	32.6	.0001	43.5	29.8	.0001	48.1	36.9	.05	35.2	39.1	--
Central Canada	65.5	57.0	.001	65.5	53.0	.0001	65.6	63.2	--	58.0	63.7	--
N	696	1406		565	862		131	544		696	1406	
	2101			1427			675			2102		

**Table 2**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS, BY  
FIRM SIZE AND NATIONALITY, ALL SIC CATEGORIES**

**Size Division at \$50 Million**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAS	32.3	22.8	.0001	32.1	21.0	.0001	33.3	25.8	--	24.2	26.5	--
9 CMAS	51.4	40.7	.0001	50.5	39.8	.001	57.1	42.2	.05	42.9	43.6	--
Toronto CMA & SW Ontario	43.7	34.4	.001	42.9	32.2	.0001	49.2	38.1	--	35.2	39.1	--
Central Canada	64.3	58.5	.01	64.0	55.5	.01	66.7	63.4	--	58.0	63.7	.05
N	471	1631		408	1019		21	158		471	1631	
	2102			1427			675			2101		

Table 3

PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS, BY  
FIRM SIZE AND NATIONALITY, ALL SIC CATEGORIES

Size Division at \$200 Million

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	28.7	21.5	.0001	28.4	19.1	.0001	29.8	24.8	--	24.2	26.5	--
9 CMAs	48.5	38.2	.0001	48.8	35.8	.0001	47.4	41.6	--	42.9	43.6	--
Toronto CMA & SW Ontario	40.7	32.6	.0001	40.1	29.6	.0001	43.0	37.1		35.2	39.1	--
Central Canada	61.7	58.1	--	60.3	55.1	.05	66.2	62.4	--	58.0	63.7	.05
N	1002	1100		774	653		228	447		1002	1100	
	2102			1427			675			2102		

ference between large and small is less pronounced, it is in most instances not statistically significant. However, this is exactly what we would expect. Since foreign owned plants are branch plants, the foreign small firms must on average be larger than Canadian small firms, many of which are one plant operations.<sup>1</sup> Consequently, the locational pattern of small-firm plants should be more nearly similar to that of large-firm plants for foreign companies than is the case for domestic ones.

Additional support for the hypothesis comes from a comparison of Tables 2 and 3. If it is true that there is a positive relationship between firm size and the dispersal of manufacturing facilities, then as the dividing line between small and large firms is moved from \$50 million to \$200 million, so that the average size of both small and large firms is made greater, the percentages of *both* small- and large-firm plants located in core regions would be expected to drop. This is in fact what happens in every case, for both foreign and domestic firms.

The results for the disaggregated sectors (Tables 4-7) are surprising in that they are so similar to each other and to those for the aggregated data. While some expected differences in the absolute values of the percentages show up (e.g., the Resource Based sectors are more dispersed than others; the Textile and Apparel industry is concentrated in Quebec), there is very little variation from one sector to another in terms of the *difference* in the percentage of large-firm and small-firm plants located in the core regions. For example, 46.2 per cent of small-firm Textile and Apparel plants are located in Toronto-Southwestern Ontario, compared to 36.6 per cent of large-firm plants, a difference of 9.6 percentage points; the difference for Resource Based plants is 8.3; for Equipment plants, 8.7; and for All plants, 11.8. This particular example is given only to facilitate an examination of the tables.

Two of the differences are not statistically significant at the .05 level, and in fact most of the results for the disaggregated sectors are not significant. Nevertheless, while the individual cases may not be statistically significant, the overall pattern must be considered meaningful, since with one exception<sup>2</sup> the results are entirely consistent. In the presence of so robust a pattern, the Chi-square tests of the individual elements must be interpreted as overly-conservative.

Finally, turning to the intra-metropolitan scale, the results are reversed. For both domestic and foreign firms, in all sectors, a larger

<sup>1</sup>The model gives us another reason for expecting foreign small companies to be larger: only larger companies could operate at a distance across an international boundary.

<sup>2</sup>For foreign Textile and Apparel firms, a greater percentage of large-firm plants than small-firm plants are located in Central Canada, Table 6.

**Table 4**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS,  
BY FIRM SIZE AND NATIONALITY, SIC GROUPS 9, 10  
(EXCEPT 271), 13-16, 20 (FURNITURE,  
PAPER PRODUCTS AND EQUIPMENT)**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	34.8	28.4	--	32.9	23.9	.05	43.8	36.8	--	28.2	38.6	.01
9 CMAs	57.6	50.9	--	56.1	47.8	--	64.6	56.6	--	51.8	58.7	--
Toronto CMA & SW Ontario	51.4	41.4	.05	50.9	36.5	.01	54.2	50.7	--	43.3	51.6	--
Central Canada	68.8	64.7	--	67.1	60.8	--	77.1	72.1	--	63.8	73.4	.05
N	276	391		228	255		48	136		276	391	
	667			483			184			667		

**Table 5**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS,  
BY FIRM SIZE AND NATIONALITY,  
SIC GROUPS 13-16, 20 ('EQUIPMENT')**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	35.6	27.7	*	33.2	24.9	--	47.4	33.0	--	28.9	36.8	--
9 CMAs	57.8	49.5	*	56.1	47.8	--	65.8	52.8	--	51.8	56.3	--
Toronto CMA & SW Ontario	52.0	43.3	.05	51.3	39.8	.05	55.3	50.0	--	45.4	51.4	--
Central Canada	68.9	64.8	--	66.3	61.2	--	81.6	71.7	--	63.7	74.3	.05
N	225	307		187	201		38	106		225	307	
	532			388			144			532		

\*Not quite significant at .05.

**Table 6**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS,  
BY FIRM SIZE AND NATIONALITY,  
SIC GROUPS 3-7 (TEXTILES AND APPAREL)**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	28.8	23.9	--	29.5	31.6	--	22.2	15.2	--	30.1	16.7	--
9 CMAs	41.3	31.0	--	41.1	34.2	--	44.4	27.3	--	39.1	31.0	--
Toronto CMA & SW Ontario	46.2	36.6	--	46.3	39.5	--	44.4	33.3	--	44.4	35.7	--
Central Canada	79.8	80.3	--	81.1	76.3	--	66.7	84.8	--	79.7	81.0	--
N	104	71		95	38		9	33		104	71	
	175			133			42			175		

**Table 7**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL REGIONS, BY  
FIRM SIZE AND NATIONALITY, SIC GROUPS 1, 2, 8, 12, 17-19  
(RESOURCE BASED INDUSTRIES)**

CENTRAL REGION	ALL FIRMS			CANADIAN FIRMS			FOREIGN FIRMS			ALL FIRMS		
	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
Toronto & Montreal CMAs	24.9	20.1	--	25.3	18.2	.05	23.8	22.5	--	20.3	22.7	--
9 CMAs	41.8	37.2	--	41.4	36.8	--	42.9	37.6	--	38.2	38.4	--
Toronto CMA & SW Ontario	37.2	28.9	.05	34.3	25.8	.05	46.0	32.9	.05	28.4	34.8	.05
Central Canada	57.9	50.4	.05	57.6	44.2	.01	58.7	58.1	--	48.3	58.2	.01
N	261	802		198	446		63	356		261	802	
	1063			644			419			1063		

**Table 8**

**PERCENTAGE OF FIRMS LOCATED IN CENTRAL AREAS  
OF TORONTO AND MONTREAL**

	ALL FIRMS				CANADIAN FIRMS				FOREIGN FIRMS				ALL FIRMS			
	INDUSTRY	N	SMALL	LARGE	SIGN.	N	SMALL	LARGE	SIGN.	N	SMALL	LARGE	SIGN.	CAN.	FOR.	SIGN.
ALL SIC GROUPS	Size Division at \$100 million	524	77.7	82.1	--	345	79.4	88.0	.05	179	70.7	74.6	--	83.8	73.7	.01
	Size Division at \$50 million	524	78.9	80.9	--	345	77.9	87.4	.05	179	85.7	72.7	--	83.8	73.7	.01
	Size Division at \$200 million	524	77.8	83.5	--	345	80.5	89.6	.05	179	69.1	76.6	--	83.8	73.7	.01
	SIC Groups 9, 10 (exc. 27), 13-16, 20	207	77.1	80.2	--	136	80.0	86.9	--	71	66.7	72.0	--	83.1	70.4	.05
	SIC Groups 13-16, 20	165	76.3	80.0	--	112	79.0	90.0	--	53	66.7	65.7	--	83.9	66.0	.01
	SIC Groups 3-7	47	76.7	94.1	--	40	75.0	100.0	--	--	--	--	--	82.5	85.7	--
SIC Groups 1, 2, 8, 12, 17-19	226	72.3	82.0	--	131	74.0	88.9	.05	95	66.7	75.0	--	83.2	73.7	--	

percentage of large-firm plants are located in the central areas of the Toronto and Montreal CMAs than in the fringe areas. This result is somewhat surprising, contradicting expectations based on a number of studies of intra-metropolitan location of manufacturing, such as Collins [4], Gilmour [9], and Steed [12]. It may have something to do with the very generous definition of the core that was used.

### Conclusions

If it is true that large firms have more potential for flexibility in locating their branches, the implications for regional development are obvious. First, the traditional argument that regions with low levels of urbanization and industrial development must look to resource based industries for development seems somewhat spurious. Even though these regions may lack many of the services and facilities available in more developed areas, large firms are able to make these available to their own branches in any case, and so are not necessarily deterred by their absence. Indeed, a region may offer a real cost advantage, but if this advantage has not been demonstrated by the presence of a significant number of successful operations, the region will continue to stagnate. In these circumstances the successful establishment of a critical number of "pioneer" operations in non-traditional sectors may lead to a rapid influx of other firms. Puerto Rico, the rural U.S. Southeast, and the Georgian Bay region of Ontario all exemplify this pattern of development.

On the other hand, once the process is under way the region is well on its way to a branch plant economy, with all the problems attendant on that status—a preponderance of low wage, low skill jobs, few upper level managerial positions, and little opportunity for the development of local entrepreneurial activity. Yet to avoid this fate would seem to be difficult, since it would require either developing indigenous firms or relocating small firms into the region, and the initial lack of necessary services and facilities would make it difficult for many of these businesses to survive.

One answer might be to establish an umbrella corporation to provide a variety of services sufficient to create a fertile environment for small firms. In fact, this has already been done on a piecemeal basis. Loan and grant programmes for small businesses, advisory services for small companies encountering managerial, marketing, or sourcing problems, and groups providing technical and process assistance are all examples of attempts to provide necessary services to small businesses in regions which lack them in order to encourage local development. In most cases, however, these programmes have not been remarkably successful. Perhaps the primary reason is that, in attempting to serve all types of companies, the programmes necessarily lack the facilities or expertise to deal adequately with the

whole range of problems encountered. The few relatively successful programmes are those, like the DREE sponsored Marine Service Centres for the Newfoundland fishing industry, that are established to provide specific services to a particular industry. The alternative, if there is one, to branch plant development would seem to be development based on local firms specializing in a limited number of sectors and relying on an extensive array of government provided or assisted facilities and services.

### References

1. Blair, John. "Industrial Decline, Vertical Integration, and Geographical Concentration", *Growth and Change* (July 1975), 34-37.
2. Canada. Statistics Canada. *Inter-Corporate Ownership, 1975*. Ottawa: March 1978.
3. Chandler, A.D., Jr. *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. Cambridge: MIT Press, 1962.
4. Collins, L. *Industrial Migration in Ontario*. Ottawa: Statistics Canada, 1972.
5. Dicken, P. and P. Lloyd. "Geographical Perspectives on U.S. Investment in the United Kingdom", *Environment and Planning, A*, 8 (1976), 685-705.
6. *Financial Post Corporation Service*. Toronto: Maclean-Hunter.
7. *Financial Post Survey of Industrials, 1978*. Toronto: Maclean-Hunter, 1978.
8. Firn, J.R. "External Control and Regional Development", *Environment and Planning, A*, 7 (1975), 393-414.
9. Gilmour, J. "External Economies of Scale, Inter-Industrial Linkages and Decision Making in Manufacturing", in F.E. Ian Hamilton (ed.), *Spatial Perspectives on Industrial Organization and Decision-Making*. London: John Wiley, 1975.
10. Lamb, R.J., Jr. "Industry in the San Francisco Bay Area", *Science*, 183 (1974), 222-23.
11. North, D. "The Process of Locational Change in Different Manufacturing Organizations", in F.E. Ian Hamilton (ed.), *Spatial Perspectives on Industrial Organization and Decision-Making*. London: John Wiley, 1975.
12. Steed, Guy. "Standardization, Scale, Incubation, and Inertia: Montreal and Toronto Clothing Industries", *Canadian Geographer*, XX (Fall 1976), 298-309.
13. Townroe, P.M. *Industrial Location Decisions*. Occasional Paper 15. Centre for Urban and Regional Studies, University of Birmingham, 1971.

14. Townroe, P.M. "Post Move Stability and the Location Decision", in F.E. Ian Hamilton (ed.), *Spatial Perspectives on Industrial Organization and Decision-Making*. London: John Wiley, 1975.
15. Walker, D. "A Behavioural Approach to Industrial Location", in L. Collins and D. Walker (eds.). *Locational Dynamics of Manufacturing Activity*. London: John Wiley, 1975.
16. Yannopoulos, G.N., and J.H. Dunning. "Multinational Enterprises and Regional Development: an Exploratory Paper", *Regional Studies*, 10 (1976), 389-99.