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TRENDS IN CORE-PERIPHERY INDUSTRIALIZATION GAPS IN ISRAEL

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The differences in the nature and characteristics of manufacturing between core and periphery are a major issue in the literature dealing with industrial location and regional planning (Hamilton, 1978, Collins and Walker, 1975). Even in a small country such as Israel they are of major importance, especially when there is a national policy of dispersal of industry as part of a comprehensive population dispersal policy espoused by the Government.

A previous study by Gradus and Krakover (1977) examined the extent to which industrial dispersal policy had succeeded in Israel, on the basis of employment figures for 1965—1971. That study dealt with three subjects: the degree of industrialization, the degree of diversification, and the nature and characteristics of branches in the center and periphery. A trend toward narrowing the inter-regional gap, with a more balanced dispersal of manufacturing employment between center and periphery, was observed, indicating considerable success for government policy. However, the industrialization of the periphery was accompanied by a decrease in the degree of diversification of branches there, as a result of the establishment of large labor-intensive enterprises, particularly in the textile branch, which greatly reduced employment diversification in Galilee and the Negev, and created a dangerous dependence of the population on a limited number of unstable branches (Shachar, 1971). With regards to the nature of the industry, the study revealed a trend toward widening of the gap between core and periphery. The core is characterized by concentration and growth of science-based industries (electronics and machinery branches), which provide high-level and high-wage employment opportunities ("Growth Industries"), while the periphery is characterized by "laggard," labor-intensive industries and limited opportunities. The authors regarded the increasing gap between "growth" and "laggard" industries as a threat to the policy of population dispersal, since it could cause migration of young high-quality populations from development areas to the center of the country.

Recent and newly published data enable examination of whether the trends which characterized the sixties continued during the seventies. The present article deals with the degree of industrialization in the seventies and its

characteristic features in the center and the periphery. We will examine whether the gaps between the degree of industrialization and deversification and branch composition of center and periphery are narrowing. We will also examine the changes in the spatial dispersal of the various branches of industry between 1971—1978 throughout the country, in other words, which branches tended to concentrate and which to disperse, and why.

The geographical investigation unit in the study is the sub-district (SD). As in the previous study, the periphery includes the SDs of Zefat, Akko, Kinneret, Yizreel, Jerusalem, Ashqelon, and Beer-Sheba, and the central area covers the SDs of Haifa, Hadera, Sharon, Petah Tiqva, Tel-Aviv, Ramla, and Rehovot (see Fig. 1). The data are based on three sources: The 1965 Industrial Census of the Central Bureau of Statistics, which first published detailed data of this sphere (C.B.S. 1971), the 1971 Industrial Survey (C.C.S. 1973), and a Survey of Industrial Employed conducted in 1978 by the Ministry of Industry, Commerce and Tourism (as yet unpublished).

CHANGES IN THE LOCATION OF MANUFACTURING 1965, 1971, 1978

In the period covered, the number of persons employed in manufacturing throughout the country increased from 188,880 in 1965 to 229,650 in 1971 and to 308,000 in 1978. Table 1 presents the distribution of employees in industry and their classification by peripheral and central SDs.

Table 1 indicates in general an increase in the number of manufacturing employed in the periphery, in contrast to decline in the central regions. To obtain a better and deeper understanding of this process, the index of the degree of industrialization was used to examine the changes which have occurred in the number of manufacturing employed in the various SDs with reference to the total number of employed on the national and regional level. The value Ti was calculated and obtained from the formula Ti = Ei/Mi:E/M, where Ei/Mi reflects the ratio between the SD rate of employment in manufacturing as part of the total labor force and the ratio E/M reflects the national ratio of the two. The higher Ti is the higher the relative degree of industrialization in the SD (Haggett 1965).

Table 2 presents the values for Ti (degree of industrialization) in the SDs for 1965, 1971 and 1977.

Table 1: Distribution of manufacturing employment in the central vs. peripheral SDs: 1965, 1971, 1978.

	1965	1971	1978
Total in thousands	188.9	229.6	308.0
Central SDs. in %	78.0	73.5	69.0
of which Tel Aviv SD.	42.4	33.3	32.5
Haifa SD.	15.2	13.0	11.4
Periperal SDs. in %	22.0	26.5	31.0
of which Jerusalem SD	5.7	5.2	6.0
Beersheva SD	3.9	4.7	5.6

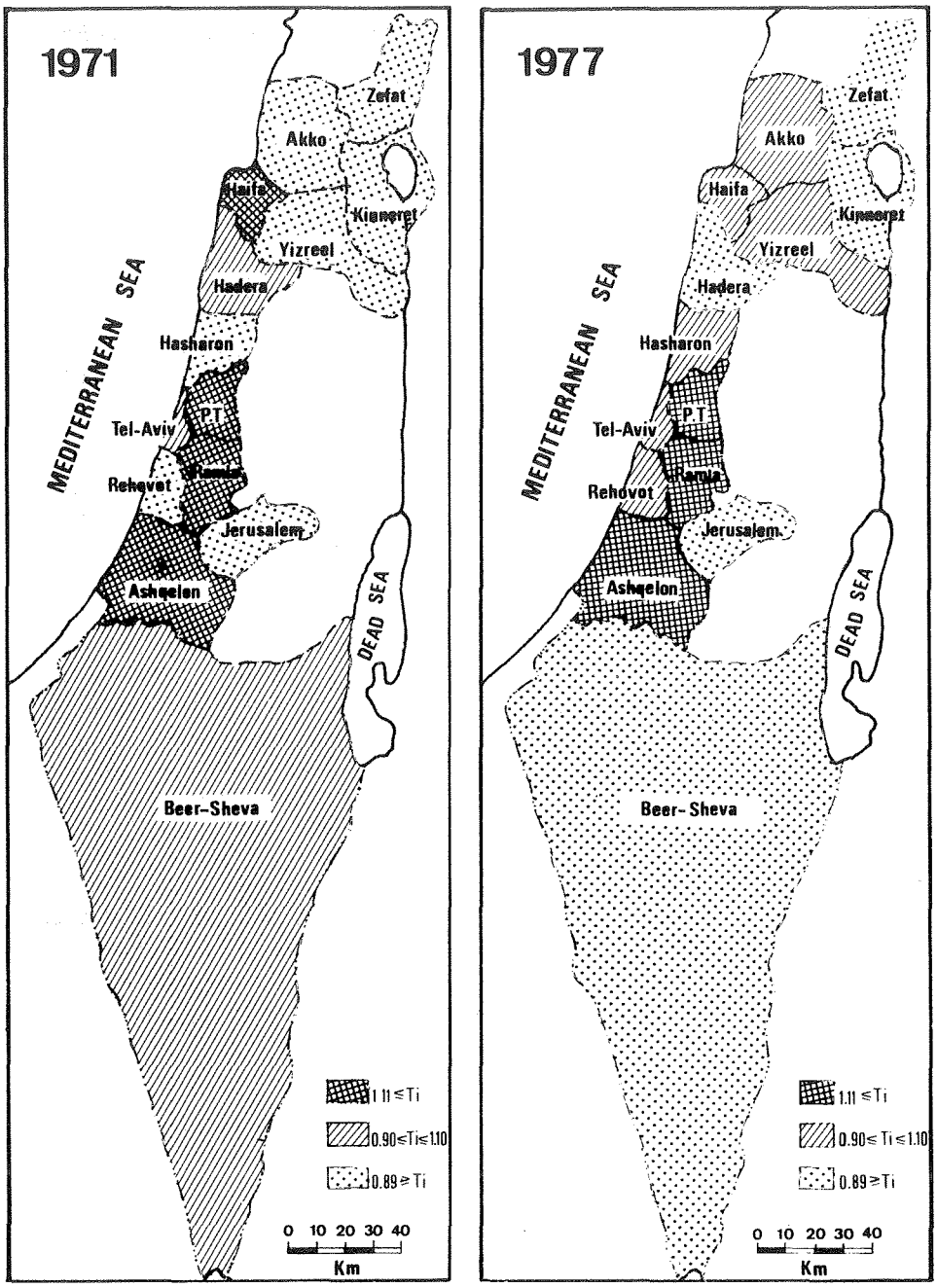

Fig.1: Degree of Industrialization (Ti) in the S.D.'s

If we compare the value of Ti by SD in 1977 with those for 1965 and 1971, several trends which were not anticipated in the 1977 study become apparent. During the seventies there has been an increase in the degree of industrialization in the development SDs in the north of Israel (excluding Zefat), contrasted with a

Table 2: Manufacturing employment and degree of industrialization: 1965, 1971, 1977.

Subdistrict	% of manufacturing employment in total labor force			degree of industrialization (Ti)			change in Ti (in %)
	1965	1971	1977	1965	1971	1977	1971—1977
Country as a whole	21	22	24				
Kinneret	11	12	20	0.53	0.54	0.85	+57.4
Akko	12	17	24	0.58	0.77	1.01	+31.2
Zefat	13	20	16	0.64	0.88	0.64	−27.3
Yizreel	14	20	25	0.65	0.89	1.05	+18.0
Rehovot	14	16	25	0.66	0.74	1.04	+40.5
Hasharon	14	15	24	0.67	0.66	0.98	+48.5
Jerusalem	15	12	13	0.70	0.55	0.54	− 1.8
Hadera	17	22	20	0.82	1.00	0.85	−15.0
Beer-Sheva	18	21	21	0.85	0.96	0.85	−11.5
Ashqelon	23	30	28	1.12	1.37	1.16	−15.3
Haifa	25	25	23	1.21	1.11	0.95	−14.4
Tel Aviv	25	23	26	1.22	1.03	1.10	+ 6.8
Petah Tiqva	26	27	30	1.26	1.23	1.23	0.0
Ramla	29	58	40	1.38	2.63	1.66	−36.9

decline in industrialization in the southern development SDs. That is, the trend to more equal dispersal of opportunities in manufacturing, occurred only in Galilee. The trend towards narrowing the gap between the center and the south was not only checked, but is actually being reversed (see Fig. 1). This trend is mainly a result of accelerated government efforts to develop Galilee, which have begun to show results, particularly in the Akko and Yizreel SDs. Zefat, the most remote of the Galilee SDs, has experienced a decrease in the degree of industrialization during the seventies. This decline can be explained as a result of the crisis in the textile branch in Israel in general, and in remote development areas in particular (Gradus & Stern 1980). These branches have dismissed numerous workers, particularly in Kiryat-Shmonah and Zefat. Although the regional kibbutz industries have expanded, they have been unable to raise the general degree of industrialization in the Zefat SD, since they are small and not labor-intensive. The continued decline in industrialization in the Haifa SD, and the rise in the SDs bordering on it to the north and east (Akko and Yizreel), indicate a 'spillover flow' of industries from the northern metropolitan nucleus to the nearby hinterland, a trend which begun in the sixties and continued in the seventies. This spillover, which has been accompanied by a process of industrialization in the Arab sector, also helps to explain the accelerated industrialization of the Lower and Western Galilee.

The trend toward narrowing the gaps between the center and the south and Negev, which began in the sixties, was checked in the early seventies. The Ashqelon SD, the sole development SD which had already reached a high degree of industrialization in the sixteis, showed a slight decline, thought it was still at a high level. The Beer-Sheva SD, which in the early seventies was very close to a feasible degree of industrialization, retreated in the seventies to a lower level. The decline in the degree of industrialization in the Negev is also explained as resulting from the crisis in the textile industry, which dismissed

hundreds of employees, particularly in Dimona, Yeruham, Beer-Sheva and Ofaqim (some of these workers were not absorbed in other local industries, which are mainly capital-intensive chemical concerns). It is reasonable to assume that because of the new military deployment in the Negev and the transfer of military industries to the region, the degree of industrialization will increase in this part of the country (Gradus & Stern 1980).

The degree of industrialization of the Tel Aviv region, the industrial core of the country, showed relative stability over this period, though there was evident spillover of industries to the two agricultural SDs on the margins of the metropolis, Hasharon in the north and Rehovot in the south. These SDs attained a Ti value higher than one (i.e., higher than the national average), whereas in the sixties the process of industrialization had passed them by, spilling over instead the eastern SDs of Ramla and Petah Tiqva, and southward along the coast to the more distant Ashqelon SD. Ramla SD, the most industrialized subdistrict in the country because of its aeronautical industry, showed a relative decline in the degree of industrialization, while the Petah Tiqva SD maintained relative stability. Somewhat surprising is the relative decline in the Hadera SD. Spillover of industry from the metropolitan areas of Haifa and Tel-Aviv has not yet reached Hadera. It is possible that the absence of relative expansion in the paper and rubber concerns, and the stability in the degree of industrialization of the kibbutz and Arab sectors in the area, have also contributed to this relative decline.

The Jerusalem SD, as the administrative, religious, and spiritual center for the entire country, never distinguished itself by a high degree of industrialization. Its continued decline is in conflict with the policy of the Ministry of Industry, Trade and Tourism, which in the past few years has encouraged science-based and sophisticated industries to relocate in the Jerusalem region.

THE DIVERSIFICATION OF MANUFACTURING BRANCHES IN SUBDISTRICTS, 1965, 1971, 1978

The diversification of branches of employment in various regions of the country is of no less importance than the degree of industrialization. A region, which relies on a large number of branches has employment stability, whereas dependence on individual branches which may undergo crises, can create regional unemployment (Kipnis, 1977).

The sixties were characterized mainly by a link between the increase in the industrialization process and the decline in diversification. The government encouraged the establishment of labor-intensive enterprises mainly in Galilee and the Negev, which raised the level of industrialization. The assumption was that in the wake of large enterprises, additional eterprises and branches would arrive, diversifying regional employment and bolstering employment stability.

In the sixties the industrialized central regions were generally more diversified than the peripheral area, but a trend toward diversification was observed already in the developing S.D. of Ashqelon (see Table 3).

Is this trend continuing in the seventies? In order to answer this question we calculated a Gini coefficient for each SD, which measures the inequality of branch distribution according to the principle of a Lorenz curve. The values of

the Gini coefficient range from 0 to 1, with 0 indicating a perfect diversity of branches; the nearer the coefficent is to 1, the more unequal is the distribution (Duncan and Duncan, 1955; Gratton, 1979). The results and the relative rank for each S.D. are given in Table 3.

Analysis and comparison of the indices of diversification for 1978 and those for 1971 show that in general a process of diversification occurred, expressed in a rise in the degree of diversification of ten S.D.s, as against a decline in only four. There was also a decrease in the interregional gap between various SDs in the degree of diversification. The closing of the gap is the outcome of a striking relative decrease in the degree of diversification of the SDs characterized in 1971 by a high degree of diversification (Jerusalem, Petah Tikva, Tel Aviv), and a rise in the degree of diversification of the SDs characterized by a low degree of diversification (Beer-Sheva, Zefat, Yizreel, Ramla, Hadera, and Kinneret). These changes cancel out the trend (noted in the sixties) to incipient specialization of certain regions in specific industries.

In the present decade almost no labor-intensive industries have been established in development regions. On the contrary: many labor-intensive textile and clothing concerns have been closed down or reduced in size, a development that has led to relative diversification of these SDs. This is especially true of the two peripheral SDs, Zefat and Beer-Sheva, where the decline in the level of industrialization has led to a rise in the degree of diversification. In the sixties, the Haifa and Tel Aviv SDs belonged to the group of industrial areas defined as "aging," and were characterized by a decline in both the degree of industrialization and the degree of diversification. In the seventies the Haifa SD has become the most diversified in the country, a process accompanied by a continued decline in its level of industrialization. In the Tel Aviv SD, the decline in the degree of diversification has continued, possibly as a result of the significant expansion of the clothing branch. On the other hand, there has been relative stability in the industrialization level. Ramla and Kinneret

Table 3: Subdistricts by degree of branch diversity (Gini coefficient).

	1965		1971		1978	
Subdistricts	Gini Coefficient	Relative Rank	Gini Coefficient	Relative Rank	Gini Coefficient	Relative Rank
Jerusalem	0.34	1	0.38	1	0.46	3
Tel Aviv	0.38	2	0.46	3	0.52	8
Petah Tiqva	0.47	3	0.42	2	0.47	4
Haifa	0.47	4	0.51	5	0.44	1
Hasharon	0.50	5	0.54	6	0.53	9
Zefat	0.57	6	0.67	11	0.52	7
Hadera	0.57	7	0.68	12	0.65	13
Akko	0.58	8	0.56	8	0.59	11
Rehovot	0.58	9	0.54	7	0.51	6
Ashqelon	0.59	10	0.50	4	0.48	5
Yizreel	0.62	11	0.62	9	0.44	2
Beer-Sheva	0.64	12	0.73	13	0.54	10
Ramla	0.71	13	0.82	14	0.79	14
Kinneret	0.72	14	0.67	10	0.63	12

remained the SDs with the lowest deversification level in the country, and were joined by Hadera. The aeronautical industry concerns located near Ben Gurion airport are so dominant in the Ramla SD than it appears that it will not diversify significantly in the future. The wood industry of Kibbutz Afikim is responsible for the low degree of diversification in the Kinneret SD, while paper and rubber concerns create the same phenomenon in the Hadera SD.

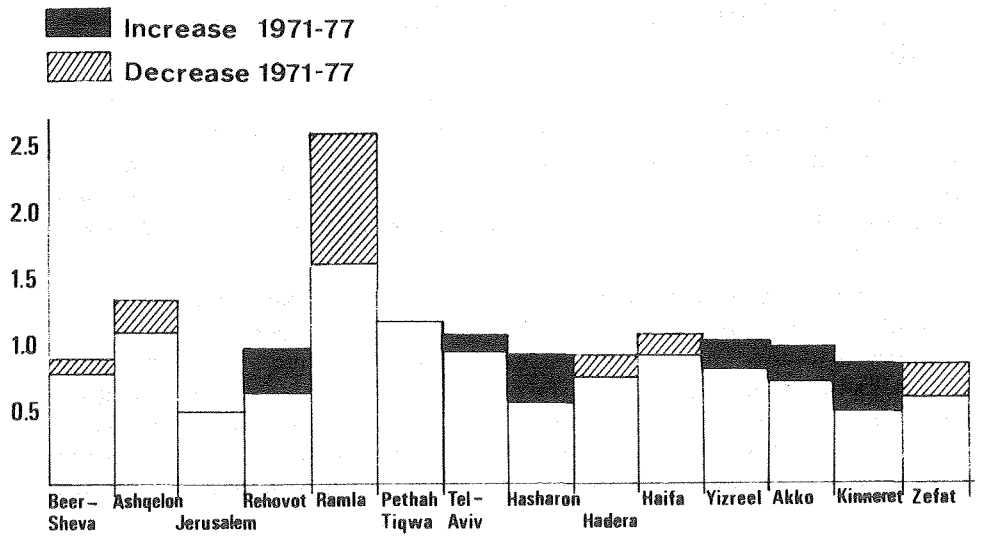

Fig. 2: Degree of Industrialization (Ti) in the S.D.'s

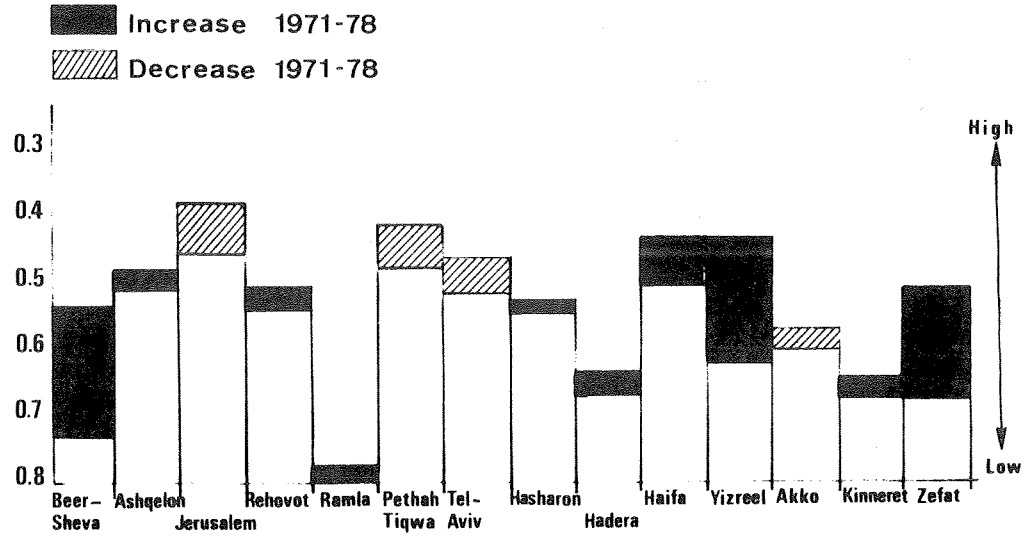

Fig. 3: Degree of Diversification in the S.D.'s

In conclusion it appears that, in general, the gap in the degree of diversification between the center and the peripheral development areas has been reduced. Here too the reduction was greatest ir the north. The rise in the industrialization level, which was accompanied by a rise in the degree of diversification in most northern SDs, is an encouraging sign, reflecting the success of the policy of industrializing the Galilee (See Fig. 2 & Fig. 3).

THE DISPERSAL OF MANUFACTURING BRANCHES IN ISRAEL

To analyze the change in the level of dispersal of the 18 manufacturing branches in the country, we calculated the spatial diversification coefficients for 1965, 1971, and 1978. These values for spatial diversification, according to the Gini coefficient, appear in Table 4 (coefficients close to 1.0 represent concentrated branches while those close to 0 denote branches with high spatial dispersion).

The four most concentrated branches during the 13 years under study are diamonds, printing and publishing, electricity and electronics, and machinery. The most dispersed are foodstuffs, nonmetallic minerals, wood and wood products, and rubber and plastics. The cencentration of the diamond industry is explained by the need for geographical proximity to the diamond exchange in Ramat Gan for marketing purposes; this is also why diamond polishing works have not integrated well into development areas. Printing and publishing are

Table 4: Spatial diversity of manufacturing branches according to the Gini coefficient, 1965, 1971, 1978, (Ranked according to 1978 from high to low dispersal level).

	1965		1971		1978	
Branch	Gini Coefficinet	Relative Rank	Gini Coefficient	Relative Rank	Gini Coefficient	Relative Rank
Rubber and plastics	0.59	5	0.47	3	0.36	1
Foodstuffs	0.49	2	0.47	4	0.40	2
Nonmetallic minerals	0.43	1	0.43	2	0.41	3
Miscellaneous	0.72	12	0.66	9	0.42	4
Wood and wood products	0.52	3	0.38	1	0.46	5
Textiles	0.57	4	0.50	5	0.51	6
Basic metals	0.61	6	0.59	7	0.51	7
Chemicals and petroleum	0.68	9	0.58	8	0.53	8
Metal products	0.69	10	0.67	11	0.57	9
Transport equipment	0.65	8	0.76	15	0.61	10
Paper and paper products	0.72	13	0.72	13	0.62	11
Clothing	0.74	14	0.60	8	0.62	12
Quarrying and mining	0.62	7	0.67	12	0.63	13
Leather and leather products	0.74	15	0.81	16	0.64	14
Machinery	0.70	11	0.67	10	0.64	15
Electricity and electronics	0.75	16	0.74	14	0.65	16
Printing and publishing	0.85	18	0.84	18	0.82	17
Diamonds	0.80	17	0.83	17	0.83	18

mostly concentrated in Jerusalem and Tel Aviv. Most of the newspaper editorial offices and the largest publishing houses are in these cities, as well as the universities and government offices which require these services. Electricity and electronics are linked to research institutes, universities, and skilled manpower, which are mainly concentrated in the center, and this branch is also connected with the aeronautical industry. The industry is also concentrated in the Haifa SD, where it developed because of the presence of the Technion, in whose laboratories these industries were developed. This branch has recently become prominent in the Rehovot SD, most likly under the impact of the Weizmann Institute for Science. There is a striking absence of electronic and machinery industries in peripheral areas. Both branches are highly concentrated in the center of the country.

The majority of the most dispersed branches are consumer goods branches. The food industry needs to be located in proximity both to the consumer center and to its sources of agricultural raw materials. For this reason this branch can be found in both the center and the periphery, and is relatively equally dispersed throughout the country. The wood and wood products branch is also scattered, and is composed mainly of carpentry workshops dispersed throughout the consumer regions. The non-metallic minerals industry is composed mainly of building material industries such as cement, porcelain products, and sand and stone quarries. Its wide dispersal reflects both the high universal rate of consumption and its relative availability throughout the regions. The plastics branch, which has developed the highest degree of diversity of any industry in the past few years, has become a Kibbutz-oriented industry, suited to the economic and social needs of small communal settlements. The crisis now afflicting the textile and clothing branches in development areas has resulted in an increase in its degree of concentration. In conclusion, there is a process of spatial deversification of industrial branches. Over the study period, spatial dispersal has occurred in fifteen branches of industry, while only three (textile, clothing, and wood and wood pruducts) has concentration taken place. These data substantiate the trends, noted in the previous section, toward reduction of the gaps between the degrees of diversification of various regions.

THE NATURE AND CHARACTERISTICS OF BRANCHES IN THE CORE AND PERIPHERY

The nature and characteristics of manufacturing is of decisive importance to the future development of industry, and particularly to its impact on a region and its people. In the 1977 study the branches were classified into "Growth Industries" and "Laggard Industries." The former encompassed electricity and electronics, transportation, chemicals, rubber and plastics, metal and machinery, while the second group included textile, leather and leather products, foodstuffs, and basic metals, and the intermediate group consisted of such branches as printing and publishing, paper and paper products, and non-metallic minerals. The growth industries were marked by growth rates for manpower and added value which, relatively speaking, were several-fold higher than in the laggard branches, by a high percentage of engineers and scientists, and hence also by higher average wages. The laggard industries are mainly connected to private consumer goods, while the growth industries produce inputs for other industries and economic branches, usually connected to

durable goods. It may be stated that the former group is characterized by capital-intensity and the latter by labor intensity (Gradus & Krakover, 1977).

Analysis of data for the late sixties shows evident tr ends to concentration, and a process of bolstering of browth branches in core regions in contrast to laggard branches in peripheral regions. The exceptions were the chemicals industry, which was prominent in the Negev area, and the machinery branch, which began to make its mark in the Yizreel SD.

Have the seventies brought change in the spatial structure of industry in the center and the periphery? Have growth industries penetrated peripheral areas and prevented migration of young people to the center?

To answer these questions the index of geographical concentration (Eij) of branches in development and central regions was calculated. In order to stress the major change in branch characteristics between the two areas we selected only the main industrial branches, those which accounted for more than 3.5% of the total industrial employment in 1978 and whose degree of concentration was higher than 1.0.

Table 5 presents the foremost branches in manufacturing in the central and

Table 5: Characteristics of prominent manufacturing industries in the central and periperal subdistricts, 1978.

Major Branch	1	2	3	4	5	6	7
Central Subdistricts							
Machinery	1.22	+37.1	6.5	+12.5	− 44	+11	5.9
Electric and Electronics products	1.17	− 7.9	45.9	+15.3	+ 35	+ 3	40.2
Transport equipment	1.19	+ 2.6	11.2	+65.3	− 3	+31	21.5
Printing and publishing	1.07	+10.3	0.2	− 7.2	− 16	+ 9	0.5
Development subdistricts							
Foodstuffs	1.02	− 1.9	4.2	−22.3	− 38	−25	2.4
Textiles	1.25	−28.2	2.1	−14.8	− 76	0	1.2
Wood and wood products	1.08	−15.6	1.5	−21.0	+103	+ 7	2.5
Rubber and plastics	1.15	+45.6	3.0	−11.0	− 53	−21	2.9
Chemical and petroleum	1.35	+16.4	22.9	+22.7	+ 44	−13	20.7
Metal products	1.06	+82.8	2.5	+ 8.1	+112	+ 8	2.2

Key:

1 Index of centralization 1978.

2. Percentage of change in index of centralization, 1971—78.

3. Percentage of university graduates in total manpower of the industry, 1975—76.

4. Wages per worker: deviation by percent from average wage in manufacturing, 1978.

5. Change in total employment: deviation by percent from total industrial growth, 1971—78.

6. Change in vlaue added: deviation in percent from total industrial growth, 1971—76.

7. Percentage of expenses for research and development from total expenses for industrial research and development, 1976.

peripheral SDs in 1978 and their features. Four branches displayed an index of concentration greater than 1 in the core: machinery, electricity and electronics, transportation, and printing and publishing. In the peripheral regions there were six prominent branches in 1978: foodstuffs, textiles, wood and wood products, rubber and plastics, chemicals and petroleum, and metal products.

Comparison of the leading branches in the core in 1971 and 1978 indicates relative stability. The transportation (mainly aeronautics) and electricty and electronics branches continue to hold the lead in the center, together with the machinery branch (a sophisticated growth industry which was not formerly prominent in the center), as well as printing and publishing (whose natural place is in metropolitan areas). Rubber and plastics, a leading branch in the center in the past, is now gaining strength in peripheral development regions. Once again, this phenomenon highlights the gradual transition of this branch from private ownership in the center of the country to ownership by kibbutzim mainly in development regions. Despite its total decline in the country as a whole, the textile industry is still more prominent in development regions than in the core. The same is true of the foodstuffs branch. The chemical industry, which began to be prominent in development regions at the beginning of the decade, has increased its presence, particularly in the Beersheva region, although in the Akko SD there has been a relative decline in its concentration. Nonetheless, this branch is still prominent in northern development SDs. The metal products branch first gained importance in the seventies in development regions, though formerly it was prominent in the core. The gradual transition of this branch from the center to development regions is a positive phenomenon which should be encouraged. It is possible that the movement of this growth industry, together with the chemical and rubber and plastic branches, indicates the beginning of a significant change in the branch composition of industry in development regions.

SUMMARY AND CONCLUSION

The end of the sixties witnessed the beginning of a trend to narrowing the industrial gap between center and periphery in Israel; this attested to the relative success of the policy of dispersal of manufacturing implemented by means of the Law for the Encouragement of Capital Investment. The present study points to a slowdown and even a halt in the process of closing inter-regional gaps. The central regions have maintained relative stability, and in some of them (HaSharon and Rehovot — agricultural SDs) there has even been a rise in the level of industrialization. With regard to the nature of branches, sophisticated branches remained prominent in the center, and there are as yet no signs that such branches as electrical products and machinery are infiltrating development areas. We have seen that there is a tendency to more equal dispersal of places of employment in industry between the center and the north of the country, which attests to success of the policy of developing Galilee. On the other hand, the trend to narrowing the gap between the center and the south has been checked. The level of industrialization in the southern district declined becase of the crisis in the textile branch, which remains the main employer in the development towns in the Negev. A large proportion of the workers dismissed from the 'old generation' concerns of this industry were unable to find alternative work in industrial branches of the "new generation," and this led to a decline in

the industrialization level and a rise in the degree of diversification. The argument that Galilee takes precedence over the Negev as regards regional development does not stand the test of reality of center vs. periphery. Competition between these two regions is undersirable. Comparisons should be drawn between Galilee and Negev on the one hand and the coastal plain on the other, and here the general balance sheet in the seventies was not positive. The rate of narrowing of gaps slowed down and even halted.

The principles which guided the planners of the industrialization of the development regions were not sufficiently long-term, but were aimed at a temporary solution of the problem of employment in these regions. In the seventies there was a need for basic renewal of the industrial charater of the development regions. The policy of industrial dispersal must focus on science and wage-intensive industries in peripheral regions; otherwise those workers who have acquired training and skill will prefer to migrate to the center in order to find industries which offer a professional and economic challenge, and the inter-regional gap will increase. The advantages of location in the center are well known: easier contacts, abundance of information, proximity to government offices, financial institutions, research institutes, and ports, availability of skilled manpower, etc. In order for sophisticated concerns to be set up in Galilee and the Negev it is necessary to consider ways of providing suitable selective compensation for the disadvantages of peripheral location, in the form of low communication costs, cheaper fuel, benefits in office maintennace, etc. These should be granted in addition to the existing benefits within the framework of the Law for Encouragement of Capital Investment. There is room in the eighties for an intensification of the efforts to reduce the industrial gap between center and periphery in Israel, if the policy of population dispersal remains a vital national objective.

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