CHAPTER XI

INDUSTRY

1. Main Developments

Israel's industrial development in 1962 for the most part followed the trends of the preceding four years, and especially 1961. Gross output continued to grow at the considerable rate of some 14 per cent in real terms,[1] and reached IL 3,468 million at 1958 prices, as compared with IL 3,042 million in 1961. The rate of expansion slowed down during the year, but for 1962 as a whole it did not fall below the average figure for the period since 1958. The upward trend in the prices of industrial product marketed locally—which also characterized 1961, in contrast to the two relatively stable years preceding it —was accentuated, the rise in 1962 being 10.6 per cent as against approximately 6 per cent in 1961. This steep increase was mainly due to factors operating on the demand side, since an analysis of the connection between the rise in the prices of local output and the rise in production costs attributable to devaluation fails to show any significant correlation between them. Owing to the combination of factors operating on the cost and demand side alike, the short-term impact that devaluation might have had on resource allocation through the price mechanism was largely neutralized. On the other hand, as devaluation greatly increased demand without having any real effect whatever on industrial output, the general level of prices in the local market was pushed up very appreciably.

From the aspect of the allocation of industrial output to the various destinations, there was a certain change for the worse, not only in comparison with 1961 but also as compared with each of the three preceding years. The proportion of incremental gross output channelled to private consumption in 1962 was the highest in the last four years, reaching 54 per cent (of a total increment of over IL 400 million), as against approximately 40 per cent in 1961, 52 per cent in 1960, and 45 per cent in 1959. The percentage of incremental output

[1] The various calculations made for this chapter are based, on the one hand, on input-output tables and estimates of final demand, and on the other hand, on output estimates partly derived from indices of industrial production published by the Central Bureau of Statistics. The consumption estimates and indices of production available when the calculations were made were still provisional. Consequently, most of the computations and tables in this chapter are based on an estimate which assessed the real increase in industrial output at 13 per cent. The discrepancy of 1 per cent does not affect the conclusions drawn.

channelled to export (both directly and indirectly through the manufacture of inputs for productive sectors) showed some improvement as against 1962, but not in comparison with 1960 or 1959.

The share of investment in the incremental output declined, most of the decrease apparently being in productive investment. Thus, exports and productive investment together received less than half the additional industrial output of 1962, while the percentage going to private consumption was the highest of any year since 1957.

Direct industrial exports showed a larger increase in 1962 than in 1961, but a smaller one than in 1960 or 1959. Inclusive of diamonds, the increase (at current f.o.b. dollar prices) came to 19.6 per cent in 1962, as compared with 16.7 per cent in 1961, 29.8 per cent in 1960, and 45.2 per cent in 1959. Excluding diamonds, the rise was a little slower—15.2 per cent, as against 11.8, 29.0, and 50.5 per cent, respectively. At constant producer prices, the growth in industrial exports, including diamonds, amounted to 19.1 per cent in 1962, as against 21.8 per cent in 1961. Of the absolute increase of $ 16.1 million in industrial exports other than diamonds, it is doubtful whether any of it can be ascribed to the alteration of the exchange rate, since the devaluation did not increase the return on export to any significant extent.

Direct industrial exports reached $ 210.9 million in 1962, but their contribution to the improvement of the trade balance remained relatively small, as the value added was only some $ 11—12 million larger than in 1961. Nor was there any improvement through the replacement of imported raw materials. The import component of the industrial sector as a whole and of the individual sub-branches did not show the decrease that might have been expected after devaluation, which was intended to encourage the substitution of locally produced intermediates for imported raw materials. In fact, the import component remained at virtually the same level as that of the last five years. Had it not been for factors which nullified many of the possible effects of devaluation in the industrial sphere, devaluation might have been expected to bring about a structural change in favor of industries with a low import component (at the effective exchange rate) and to the detriment of industries with a high import component. But such a development is not reflected by the data.

During the first half of the year, industrial activity slowed down more than usual for this period, but during the second half it expanded very rapidly, although somewhat less so than in 1961. Taking the year as a whole, industrial output advanced more slowly than in 1961, and the average rate was only a little above the level achieved in the latter part of 1961 and the first quarter of 1962. The slower tempo of industrial expansion must be ascribed mainly to the exceptionally buoyant conditions prevailing in the sector during the preceding period.

The immediate dislocation of the price structure caused by the devaluation therefore did not lead to an immediate deceleration of industrial activity, and

it was quickly arrested by the booming demand in the economy and by the Government's efforts to check price increases anticipated in the wake of the new exchange rate and made possible by the high level of demand. In various branches of industry, there were indications of intense price competition during the year; however, this was only partly due to the devaluation, in the main being caused by the entry into the market of relatively new enterprises which had not yet succeeded in finding the demand expected for their products. In the attempt to check price increases, attention was focused first and foremost on commodities whose prices were likely to be immediately affected by the devaluation owing to their high import component. Insofar as these efforts succeeded, they largely offset the anticipated impact of the devaluation and moderated the rise in the prices of those products which devaluation—barring intervention—should have raised relative to others. Another major consideration was the likely effect of the price increases on the consumer price index; in other words, these measures were largely confined to consumer goods. In return for not raising prices, producers were given various concessions in other areas.

A further subsidiary effect of the price restraining measures, one which formed part of the general trend of industrial policy during the last two years in particular, was the strengthening of the tendency toward cartelization, though this did not always find immediate and overt expression in the registration of cartels in accordance with the Restrictive Trade Practices Law. Negotiations to keep price increases in check and the compensation to be given in return were generally conducted with groups of producers, thus necessitating their collective agreement to each arrangement. The latter factor was bound to encourage cartel arrangements, and often the price of such collective agreement was the accommodation of the arrangement to the least efficient producer in the group.

Investment activity in the industrial sector apparently slowed down somewhat at the beginning of 1962, when the release of imported equipment from the ports was delayed until a decision was reached as to whether equipment ordered and arriving before devaluation would be subject to a surcharge. Taking the year as a whole, gross capital stock in industry apparently continued to expand at approximately the same rate as real gross output. In contrast to what might have been expected after devaluation, provisional indicators point to a certain slowing down in the local production of industrial investment goods. This may perhaps be explained by the fact that in most cases locally made equipment still complements imported equipment instead of substituting for it. Consequently, it is quite likely that when there is a state of uncertainty as to the structure of the enterprises' capital account (as was the case in the months immediately following devaluation), there is a tendency to delay investments that have not become an actual liability. This applies especially to the ordering of local equipment. Moreover, the mechanization of

construction, which was greatly accelerated in the last two years, presumably proceeded somewhat more slowly after devaluation.

Parallel to the slower growth of gross output, the number of industrial wage-earners also increased at a lower rate than in 1961—9.9 per cent as compared with 12.7 per cent. Real gross output per worker thus rose by some 3 per cent in 1962; this was the same rate as in 1961, but slower than in previous years, when the increase was approximately 5 per cent per annum. This was apparently due to two principal factors. First, there are signs that industry, which for the past several years has been faced with a steadily rising demand, has gradually increased the rate of plant utilization. Partial exploitation of equipment and plant is generally accompanied by hidden reserves of manpower. Accordingly, insofar as some of the excess productive capacity is absorbed, the growth rate in industrial employment may be expected to approximate that of output more closely than in the past. A second possible factor is that unemployment has been declining over the past several years, and in 1961 and 1962 there was even a shortage of labor. It is quite likely, therefore, that some of the new workers now entering the industrial sector come from manpower reserves which previously were not readily absorbed owing to their lower productivity. Moreover, the manpower shortage was accentuated in industry as a result of the policy of population dispersal, which diverted to development areas a large part of the labor force added to the economy by immigration. While employment opportunities in these areas have failed to keep pace with the supply of labor, the additional demand generated (partly by the immigrants themselves) has increased aggregate demand in the economy, and accordingly, also the demand for labor in the main industrial centers, which are located in the established urban areas.

Nominal industrial wages rose by 10.4 per cent in 1962, as compared with 9.1 per cent in 1961. The increase in wages was thus similar to that in the general price level. The real daily wage per worker went up in 1962, as in 1961, by 1.4 per cent.

2. Output and Input[1]

Gross industrial output, at 1958 prices, reached IL 3,468 million in 1962,[2] as against IL 3,042 million the year before. Real gross product apparently

[1] See footnote on p. 215.

[2] For the construction of the input-output tables, with whose aid these estimates were made, the Central Bureau of Statistics prepared special indices of production and industrial employment according to the branch detail employed in the input-output tables. Moreover, these indices were weighted, in conformity with the definitions used in the input-output tables, according to gross output in 1958, which is the base year for these tables, and not according to the value added, as was done in the regular indices of industrial production published by the Central Bureau of Statistics. The calculations for this and other chapters of this Report were made by the electronic computing unit of the Ministry of Defense.

expanded at a somewhat slower rate, since both the import component and purchases of local inputs rose slightly.

Table XI-1

GROSS INDUSTRIAL OUTPUT AND PRODUCT, BY FINAL DESTINATION,[a] 1958–62[b]

(IL million, at 1958 prices)

	Year	Private consumption	Public consumption	Exports[c]	Investment and changes in stocks[d]	Total
Output (IL million)	1958	1,242	87	287	396	2,012
	1959	1,383	90	424	427	2,324
	1960	1,535	99	532	453	2,619
	1961	1,704	136	663	539	3,042
	1962	1,915	141	816	562	3,434
Percentage distribution	1958	61.7	4.3	14.3	19.7	100.0
	1959	59.5	3.9	18.2	18.4	100.0
	1960	58.6	3.8	20.3	17.3	100.0
	1961	56.0	4.5	21.8	17.7	100.0
	1962	55.7	4.1	23.8	16.4	100.0
Gross product (IL million)	1958	436	35	106	174	751
	1959	470	39	158	199	866
	1960	529	41	197	200	967
	1961	593	58	250	246	1,147
	1962	652	59	301	253	1,265
Percentage distribution	1958	58.0	4.7	14.1	23.2	100.0
	1959	54.3	4.5	18.2	23.0	100.0
	1960	54.7	4.2	20.4	20.7	100.0
	1961	51.7	5.1	21.8	21.4	100.0
	1962	51.5	4.7	23.8	20.0	100.0

[a] The valuation of exports in this table has been made at the current local market prices of the commodities concerned, and all final destination figures have been reduced by the difference between these imputed prices and the prices actually received by the producers.
[b] Revised estimates for 1958–61; provisional estimate for 1962 (see footnote on p. 215).
[c] Including direct exports and intermediate products serving as inputs for direct exports.
[d] Including errors and omissions. For 1962 no estimate was available of the change in stocks, which generally amounts to 1 per cent of total industrial output.

The allocation of industrial output to the various final uses, which is governed by the state of demand prevailing in the economy, showed, as already mentioned, a certain deterioration as compared with 1961, especially as regards the share of private consumption. Whereas in 1961 private consumption accounted for slightly under 40 per cent of incremental gross output, in 1962 its share went up to 54 per cent (see Table XI–1).

Table XI–2

GROSS INDUSTRIAL OUTPUT, BY BRANCH, 1958–62

(at 1958 prices)

Branch	Gross output (IL million)					Per cent increase or decrease (–) as against preceding year			
	1958	1959	1960	1961	1962	1959	1960	1961	1962
Mining and quarrying	31.3	51.3	57.2	70.2	77.6	63.9	11.5	22.8	10.4
Meat, fish, oil, and dairy products	144.1	162.1	192.6	214.0	237.8	12.5	18.8	11.1	11.1
Other foodstuffs	290.1	339.7	366.4	404.4	446.7	17.1	7.9	10.4	10.4
Textiles and clothing	371.0	405.9	468.7	548.3	627.5	9.4	15.5	17.0	14.4
Wood and carpentry	139.5	160.4	181.8	212.3	251.4	15.0	13.3	16.8	18.4
Paper, printing, and publishing	111.1	117.4	140.4	158.5	173.1	5.7	19.6	12.9	9.2
Leather and leather products	80.1	79.4	83.5	89.8	100.9	–0.8	5.0	7.6	12.3
Rubber and plastics	51.3	65.3	77.3	88.9	101.5	27.3	18.5	14.9	14.2
Chemicals	141.2	176.1	186.4	210.0	226.4	24.7	5.9	12.7	7.8
Oil refining	66.0	72.3	76.8	90.8	112.7	9.5	6.4	18.2	24.1
Nonmetallic minerals	106.4	118.1	129.3	146.0	176.6	11.0	9.6	12.9	20.9
Diamonds	69.0	95.3	126.4	153.4	189.7	38.1	32.7	21.3	23.7
Basic metals and pipes	39.3	46.4	59.3	91.7	105.8	18.0	27.9	54.5	15.5
Metal products	142.7	170.5	168.1	195.4	206.6	19.4	–1.4	16.3	5.7
Machinery and electrical equipment	65.5	77.4	93.7	115.8	121.0	18.2	21.0	23.6	4.5
Household equipment and appliances, other industrial goods	74.3	84.8	99.0	118.4	130.5	14.1	16.7	19.6	10.3
Production and repair of transport equipment	89.3	102.1	111.6	134.3	148.8	14.4	9.3	20.3	10.8
Total	2,012.2	2,324.6	2,618.7	3,042.1	3,434.4	15.5	12.7	16.2	12.9

Table XI-3

DISTRIBUTION OF INCREMENTAL GROSS OUTPUT, BY FINAL DESTINATION, 1960–62

(percentages)

Branch	Consumption			Exports			Investment and stocks		
	1960	1961	1962	1960	1961	1962	1960	1961	1962
Mining and quarrying	24.2	10.0	36.7	41.5	53.8	–31.6	34.3	36.2	95.0
Meat, fish, oil, and dairy products	93.4	96.8	111.2	4.5	–2.2	–2.5	2.1	5.4	–8.7
Other foodstuffs	89.5	71.3	58.0	23.9	23.2	49.0	–13.4	5.5	–7.0
Textiles and clothing	35.2	38.5	51.0	71.1	54.1	58.1	–6.3	7.4	–9.1
Wood and carpentry	95.1	66.6	55.5	18.3	–4.4	25.7	–13.4	37.8	18.8
Paper, printing, and publishing	60.2	70.3	57.9	33.5	20.9	64.7	6.3	8.8	–22.6
Leather and leather products	84.9	104.2	104.8	24.6	–8.7	–1.9	–9.5	4.5	–2.9
Rubber and plastics	20.0	34.5	33.8	63.5	41.6	79.8	16.5	23.9	–13.6
Chemicals	130.4	29.4	63.5	27.1	63.4	34.8	–57.5	7.2	1.7
Oil refining	92.2	56.9	66.5	20.2	34.9	26.9	–12.4	8.2	6.6
Nonmetallic minerals	40.0	34.5	46.8	10.9	10.2	–6.3	49.1	55.3	59.5
Diamonds	0.0	0.0	0.1	97.3	95.5	106.8	2.7	4.5	–6.9
Basic metals and pipes	19.5	28.5	71.5	14.2	16.7	34.1	66.3	54.8	–5.6
Metal products	182.9	39.2	49.2	–152.6	42.6	20.2	69.7	18.2	30.6
Machinery and electrical equipment	20.3	29.7	66.0	13.4	9.3	51.6	66.3	61.0	–17.6
Household equipment and appliances, other industrial goods	38.3	81.4	94.6	29.6	–2.0	–30.6	32.1	20.6	36.0
Production and repair of transport equipment	68.8	87.6	44.4	–22.0	–2.4	36.8	53.2	14.8	18.8
Total	54.6	48.7	55.1	36.7	30.8	39.0	8.7	20.5	5.9

From the estimates of gross output presented in Table XI–2, we see that the real increase was above average in six branches: wood and carpentry, rubber and plastics, oil refining, nonmetallic minerals, diamonds, and basic metals (including pipes). Apart from diamonds, the entire output of which is marketed abroad, the demand generated by exports (both directly, as direct exports of the branch concerned, and indirectly, as inputs to other export branches) proved an important factor in the increased output of wood and wood products, rubber and plastics, and basic metals. As for branches with a below-average increase in output, exports were a major factor chiefly in foodstuffs (except for meat, fish, oil and soap, and dairy products), paper and printing, and transportation equipment. As regards the machinery and electrical equipment branch, the data apparently show that exports accounted for a considerable share of the additional output; however, there is reason to believe that the output estimate in this branch has a downward bias, and this chiefly affects the share of investment in the incremental output, and accordingly the relative shares of other uses, including exports. An absolute decrease in the proportion of incremental output exported was registered in the mining and quarrying branch, nonmetallic minerals, and household equipment and appliances, where the share of investment and private consumption rose at a similar rate.

From the provisional data available, no far-reaching conclusions can be drawn as to the special factors which influenced the growth of output of the individual branches. The deviations from the average rate of expansion for the entire sector were relatively small in 1962, and apparently the general boom in demand that characterized the economy after the devaluation was felt in most industrial branches—either in consequence of the considerable growth of construction activity (which as a rule greatly influences industrial output), or because of the growing demand for various types of consumer goods, especially durables.

From the aspect of the availability of the factors of production, no significant limitations were encountered in 1962 as well; although the manpower shortage apparently became more serious, it still did not constitute a real impediment to the further expansion of industrial production. In spite of the increase in plant utilization which apparently took place in several branches in the past, the sector still possesses a not insignificant reserve of unexploited capacity, and a considerable part of local industry continues to work fewer shifts than similar industries abroad. There are still many possibilities of mechanizing various production processes, a trend which, it is true, has largely characterized investment activity in the last few years. Finally, during the year reviewed as well, it seems that the capital stock continued to grow at a rate not far below that of the increase in gross output. Thus devaluation, which raised the prices primarily of investment goods, has not led—at least until now—to an appreciable reduction

Table XI-4

DIRECT IMPORT COMPONENTS OF INDUSTRIAL SECTOR, 1958–62[a]

Branch	1962	1961	1960	1959	1958
Mining and quarrying	0.0269	0.0182	0.0206	0.0207	0.0283
Meat, fish, oil, and dairy products	0.0183	0.0492	0.0125	0.0237	0.0297
Other foodstuffs	0.1656	0.1727	0.1837	0.1960	0.2039
Textiles and clothing	0.1056	0.0827	0.0813	0.0863	0.0970
Wood and carpentry	0.1743	0.1690	0.1736	0.1751	0.1795
Paper, printing, and publishing	0.1060	0.0956	0.0961	0.0894	0.1064
Leather and leather products	0.0553	0.0704	0.0748	0.0774	0.0855
Rubber and plastics	0.2964	0.2537	0.2553	0.2636	0.2875
Chemicals	0.3304	0.3319	0.3424	0.3139	0.3424
Oil refining	0.6459	0.6667	0.7484	0.6835	0.6993
Nonmetallic minerals	0.0868	0.0847	0.0830	0.0895	0.0946
Diamonds	0.6314	0.6718	0.7073	0.7030	0.6722
Basic metals and pipes	0.3100	0.2848	0.3073	0.3013	0.3506
Metal products	0.1712	0.1691	0.1846	0.1788	0.1988
Machinery and electrical equipment	0.1323	0.1290	0.1285	0.1340	0.1471
Household equipment and appliances, other industrial goods	0.1613	0.1590	0.1687	0.1685	0.1776
Production and repair of transport equipment	0.1830	0.1700	0.1751	0.1850	0.1983
Total	0.1920	0.1868	0.1906	0.1887	0.1950

[a] Import components up to and including 1961 have been calculated from an 80-branch input-output table, and the data cited here have been aggregated from these 80 branches. The components for 1962 are in 30-branch detail only, and some of the discrepancies may stem from this difference in the degree of detail.

in the volume of investment, which is estimated to have declined in 1962 by only some 6 per cent.

The composition of inputs, including the import component of the industrial sector as a whole, did not show any significant change. This constancy, which has marked the last few years, indicates that there has been no sizeable replacement of imported raw materials, despite the considerable efforts made in this direction. Since 1958 the import component has ranged around 19 per cent. To be sure, new, import-substituting enterprises have been established in the various branches during this period, but on the one hand, the trend has been of too insignificant proportions to exert any real effect, and on the other, the

percentage of industrial output channelled to export, where the import component is high, increased during this period. In most industrial branches, there appears to be a fixed technological relationship between the import component and output. The substitution of local materials for imported raw materials on any significant scale will, therefore, depend on more radical changes in the structure of the productive system than can be expected from the reaction of the market forces to moderate shifts in relative prices.

The proportion of labor in the total input declined by 3 per cent in 1962. The share of locally manufactured intermediate products likewise did not change to any marked extent (see Table XI–5).

Table XI–5

COMPOSITION OF INDUSTRIAL INPUTS, 1958–62

(percentages, at 1958 prices)

Year	Locally produced raw materials	Imports c.i.f.[a]	Labor[b]	Total purchased input[c]	Gross profit[d]	Total
1958	43.1	19.5	17.8	80.4	19.6	100.0
1959	43.9	18.8	17.2	79.9	20.1	100.0
1960	43.7	19.0	16.5	79.2	20.8	100.0
1961	43.6	18.7	16.1	78.4	21.6	100.0
1962	44.0	19.2	15.7	78.9	21.1	100.0

[a] At the IL 1.80/$ 1 exchange rate.
[b] Measured in monetary terms, i.e. wages paid.
[c] Excluding taxes.
[d] Gross profit, depreciation, interest, and purchase tax.

3. Industrial Exports

Industrial exports, including diamonds but excluding scrap, ships, and unrequited exports, expanded by 19.6 per cent in 1962 (at current f.o.b. dollar prices). This rate was faster than in 1961 (16.7 per cent), but slower than in 1960 and 1959 (29.8 and 45.2 per cent, respectively). The absolute export increment totalled $ 34.6 million in 1962, as compared with $ 25.3 million the previous year, thus returning to the level of 1960, when it stood at $ 34.7 million; in 1959 it had been larger—$ 37.8 million. Total industrial exports reached $ 210.9 million in 1962, as against $ 176.3 million in 1961. Of the total increment of $ 34.6 million in 1962, 53.6 per cent was accounted for by diamonds, in the export of which Israel has reached second place, after Belgium. However, it should be noted that the domestic value added of diamond exports is small —probably less than 20 per cent.

Table XI-6

ACTUAL RAW MATERIAL IMPORTS IN 1962, AND IMPORTS EXPECTED ON BASIS OF 1961 IMPORT COMPONENTS[a]

(IL thousand, at 1958 prices)

Branch of destination	1961	1962	
	Actual import	Actual import	Import expected on basis of 1961 import components
Mining and quarrying	1,278	2,087	1,412
Meat, fish, oil, and dairy products	10,529	4,352	11,700
Other foodstuffs	69,850	73,973	77,145
Textiles and clothing	45,339	66,261	51,892
Wood and carpentry	35,870	43,810	42,478
Paper, printing, and publishing	15,150	18,342	16,543
Leather and leather products	6,324	5,579	7,104
Rubber and plastics	22,544	30,076	25,742
Chemicals	69,699	74,787	75,127
Oil refining	60,557	72,804	75,158
Nonmetallic minerals	12,367	15,325	14,954
Diamonds	103,026	119,779	127,442
Basic metals and pipes	26,102	32,811	30,143
Metal products	33,048	35,366	34,933
Machinery and electrical equipment	14,941	16,010	15,612
Household equipment and appliances, other industrial goods	18,821	21,050	20,750
Production and repair of transport equipment	22,826	27,227	25,293
Total	568,279	659,639	653,428

[a] C.i.f. prices at the IL 1.80/$ 1 exchange rate.

There was also a change in 1962 in the composition of industrial exports other than diamonds. Of the total increase of $ 16.1 million in such exports, almost a quarter was accounted for by yarns; in respect of the largest component element—cotton yarn—export is very unprofitable, and it is doubtful whether it even covers variable costs. On the other hand, the steepest decline was in exports of minerals, which contracted by some $ 2.2 million, and in exports of arts and crafts, where the decrease totalled $ 1.5 million. In both items, the percentage of domestic value added is above average. Thus it may be

concluded that, even disregarding the expansion of diamond exports, the domestic value added component of industrial exports dropped in 1962.

The biggest absolute increase in industrial exports other than diamonds occurred, as stated, in yarns. The value of these exports rose by approximately $ 4.0 million, of which $ 2.4 million represents the increase in exports of cotton yarn, which was only possible thanks to heavy subsidization. The growth of yarn exports was double that in 1961, when it totalled $ 2.0 million—of which cotton yarn accounted for merely $ 500,000. The second largest increase was in exports of metal goods, which contributed $ 3.7 million, or 23.2 per cent, to the total increment. Part of this export is by its very nature subject to considerable fluctuations (see Table XI–7).

Table XI–7

INCREMENTAL INDUSTRIAL EXPORTS, EXCLUDING DIAMONDS, BY MAIN BRANCH, 1961–62

($ thousand, at current f.o.b. prices)

Branches in order of 1962 export increment	1961 as against 1960		1962 as against 1961	
	$ thousand	%	$ thousand	%
Yarn	2,008	12.87	3,989	24.68
Metal goods	1,959	12.56	3,746	23.19
Foodstuffs	968	6.21	3,205	19.83
Chemicals and pharmaceuticals	1,538	9.86	2,304	14.26
Vehicles and tires	–440	–2.82	1,725	10.67
Building materials and wood (cement and plywood)	–352	–2.26	1,027	6.35
Machinery and equipment	–69	–0.44	1,007	6.23
Textile materials	540	3.46	777	4.81
Light industrial products	135	0.87	688	4.26
Other textile products	584	3.74	629	3.89
Plastics	403	2.58	323	1.99
Leather products	275	1.76	242	1.50
Clothing	3,615	23.18	207	1.28
Electrical equipment	1,091	6.99	–36	–0.22
Arts and crafts	1,113	7.14	–1,485	–9.19
Minerals	2,230	14.30	–2,187	–13.53
Total	15,598	100.00	16,161	100.00

In third place was foodstuffs, with an increase of $ 3.2 million, much of it due to the larger export of citrus products; in 1961 the increment totalled

only $ 1 million. Further expansion of such export is at present hampered chiefly by the inadequate supply of citrus for industrial processing.

In fourth place was chemicals and pharmaceuticals. The total export increment of this branch reached $ 2.3 million, of which approximately half was due to bigger potash sales.

The bulk of the increase in the vehicle and tire branch was accounted for

Table XI–8

INDUSTRIAL EXPORTS,[a] BY MAIN BRANCH, 1958–62

(IL million, at 1958 prices)

Branch	1958	1959	1960	1961	1962	Average annual rate of increase, 1958–62 (%)	Increase or decrease (–) from 1961 to 1962 (%)
Mining and quarrying	6.8	15.1	15.8	20.0	18.5	28.3	–7.3
Meat, fish, oil, and dairy products	1.1	1.4	1.8	1.4	0.9	–5.2	38.2
Other foodstuffs	16.3	20.9	23.8	28.8	39.8	25.0	38.5
Textiles and clothing	17.8	22.2	40.1	56.8	70.5	41.1	24.1
Wood and carpentry	7.9	11.0	12.7	12.2	16.2	19.6	32.7
Paper, printing, and publishing	4.2	6.0	8.8	10.2	11.2	28.1	10.6
Leather and leather products	1.3	0.5	0.9	0.7	0.5	–19.6	–22.4
Rubber and plastics	15.9	19.5	25.0	27.8	34.0	20.8	22.4
Chemicals	8.2	19.1	19.5	29.5	33.4	42.1	13.3
Oil refining	—	—	—	3.1	4.6	[b]	52.1
Nonmetallic minerals	4.7	7.6	7.6	8.3	6.7	9.3	–20.1
Diamonds	67.9	94.5	124.8	150.4	189.2	29.2	25.8
Basic metals and pipes	0.8	1.4	2.4	3.2	5.2	62.0	61.4
Metal products	3.1	15.7	13.5	16.1	16.1	50.8	0.1
Machinery and electrical equipment	0.8	1.2	2.2	2.6	2.6	33.4	0.4
Household equipment	6.4	9.5	12.5	11.9	8.5	7.3	–27.9
Production and repair of transport equipment	5.5	12.6	10.0	8.8	8.5	11.6	–3.4
Total	168.7	258.2	321.4	391.8	466.3	29.0	19.0
Total excluding diamonds	100.8	163.7	196.6	241.4	277.1	28.7	14.8

[a] At consumer prices.
[b] Export began only in 1961.

by the latter item, and in respect of building materials and wood, by plywood.

The rise in industrial exports at constant producer prices reached 19.0 per cent in 1962, compared with 21.8 per cent in 1961 (see Table XI–8). Since 1958 there has been a growth of 276 per cent, or an average of some 29 per cent per annum. As already indicated, most of the expansion occurred during the first two years of the period referred to, i.e. 1959 and 1960.

Taking the period as a whole, there was no substantial difference between the growth rate for all industrial exports and that for all items other than diamonds. The fastest increase was in the basic metals and pipe branch, which exported very little in 1958, but showed a figure of IL 5.2 million (at 1958 producer prices) in 1962. Second in respect of the rate of expansion was metal goods, which grew more than fivefold. There was also a conspicuous advance in exports of textiles and clothing, which increased fourfold during this five-year period, and now accounts for some 15 per cent of the total value of industrial exports including diamonds, and about a quarter of the value excluding diamonds, as compared with 10.5 and 17.6 per cent, respectively, in 1958. After diamonds and textiles, the biggest exporting branch is the food industry, which in 1962 accounted for 14.3 per cent of all industrial exports other than diamonds. The relative shares of the wood and rubber industries (mainly plywood and tires) reached approximately 12 per cent during the year reviewed. Altogether, the textile, clothing, food, rubber, and wood industries account for around two-thirds of total industrial exports other than diamonds.

F.o.b. prices of exports declined slightly, but as against this production costs rose in a number of countries competing with Israel's exports, thus improving the latter's ability to compete in foreign markets. The expansion of exports is based primarily, and to a growing extent, on their linkage with the level of domestic demand, a link maintained by administrative intervention in various ways. In 1962 such intervention was less pronounced as regards a number of products, owing to the partial liberalization of raw material imports, but it was accentuated in respect of others. Official subsidies paid from Government budgets were abolished, but for a number of items there have been set up equalization funds or export subsidization funds created from the levies on raw materials destined for the local market. In other cases, special arrangements have often been made which are binding on the parties concerned and which have been legally authorized for the express purpose of fostering export in this manner. The result of these arangements has been that, in one way or another, the volume of exports has in many branches become a function of the level of domestic demand.

One of the consequences of linking exports with the local market has been that the subsidization of any particular item is in fact borne by the local consumers of that item. It is therefore likely that when the local consumption of a certain product manufactured at a relatively high real cost expands, the

export of this product will receive more encouragement than that of another item with a smaller local demand, though it may be more profitable to export the latter.

The bulk of industrial exports since 1956—in which year they began to expand rapidly and constitute a serious factor in Israel's trade balance—has been concentrated in the hands of a relatively small number of big exporters. Industrialists in branches other than diamonds with exports exceeding $ 20,000 f.o.b. in any of the years between 1956 and 1962 have been classified, in a more extensive survey,[1] into 12 size groups, with the differential between each two groups being 66 per cent. This classification makes it possible to follow changes in the distribution between the various size groups at different points in time, and to follow the distribution of the exporters added to the list. Tables XI–9 to XI–12 present the main conclusions drawn from the data. Table XI–9 shows the distribution of exporters added between 1957 and 1962 and those appearing for the first time in 1962. It reveals that 16 per cent of the export increment accruing from new exporters (i.e. the increment during the first year in which they appeared on the list) was provided by 78 per cent of the new exporters, while over half

Table XI–9

NEW EXPORTERS, 1957–62

(Comparative distribution of exports and No. of exporters)

Size group ($ thousand)	1957 to 1962[a]		1962[b]	
	Per cent of total exporters	Per cent of total exports	Per cent of total exporters	Per cent of total exports
Up to 18.8	50.8	4.1	0	0
18.9 to 31.3	13.7	4.5	26.7	4.7
31.4 to 52.1	13.7	7.2	33.2	10.0
52.2 to 86.6	5.2	4.6	6.7	2.9
86.7 to 143.9	8.1	11.7	13.3	8.9
144.0 to 238.9	3.0	7.8	0	0
239.0 to 396.6	2.2	8.8	6.7	12.4
396.7 to 658.4	1.1	7.8	6.7	29.5
658.5 to 1,093.0	1.1	12.5	6.7	31.6
1,093.1 to 1,814.4	0.4	8.8	0.	0
1,814.5 to 3,011.9	0.7	22.2	0	0
3,012.0 to 4,999.9	0	0	0	0
Total	100.0	100.0	100.0	100.0

[a] New exporters added from 1957 to 1962 inclusive.
[b] New exporters added in 1962.

[1] See footnote on p. 241.

Table XI–10

CHANGES IN THE DISTRIBUTION OF EXPORTS, BY SIZE GROUP, 1956–62

Size group in 1956 (Value of exports in $ thousand)	No. of exporters added, as a per cent of all new exporters[a]	No. discontinuing export, as a per cent of all such exporters	Exporters dropping in size group in 1962		Exporters rising in size group in 1962		Exporters remaining in same size group	
			Per cent of total exporters	Per cent of total value of exports	Per cent of total exporters	Per cent of total value of exports	Per cent of total exporters	Per cent of total value of exports
Up to 18.8	21.2	52.4	—	—	45.9	15.2	65.0	3.0
18.9 to 31.3	11.2	16.7	26.3	8.9	13.5	4.2	10.0	2.3
31.4 to 52.1	17.5	7.1	15.8	2.1	8.3	3.7	7.5	2.6
52.2 to 86.6	10.3	9.5	26.3	8.3	9.0	5.3	5.0	2.4
86.7 to 143.9	12.5	4.8	15.8	9.7	6.8	9.3	—	—
144.0 to 238.9	9.4	7.1	10.5	46.6	3.8	4.5	2.5	4.6
239.0 to 396.6	6.3	2.4	—	—	3.8	6.5	2.5	5.3
396.7 to 658.4	3.1	—	—	—	3.0	9.7	2.5	11.7
658.5 to 1,093.0	6.7	—	5.3	24.4	4.5	25.2	—	—
1,093.1 to 1,814.4	—	—	—	—	0.7	9.8	2.5	31.0
1,814.5 to 3,011.9	0.9	—	—	—	0.7	6.6	2.5	37.1
3,012.0 to 4,999.9	0.9	—	—	—	—	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] According to their size group in 1962; exporters who were added after 1956 but did not export in 1962 have not been included.

Table XI–11

DISTRIBUTION OF EXPORTERS, BY RATE OF CHANGE IN VALUE OF EXPORTS,* 1956–62

(percentages)

Period	Dropped to smaller size group									Moved to higher size group								
	–8	–7	–6	–5	–4	–3	–2	–1	0	+1	+2	+3	+4	+5	+6	+7	+8	
1956 to 1959	—	—	0.5	1.4	0.5	1.8	3.2	3.7	29.3	19.3	20.6	11.0	4.1	2.3	0.9	0.9	0.5	100.0
1957 to 1960	—	—	—	—	1.9	2.3	3.9	8.6	25.4	25.3	13.2	8.9	6.2	2.7	1.6	—	—	100.0
1958 to 1961	—	—	0.4	0.4	1.1	0.7	5.1	5.8	26.3	21.7	12.6	12.6	6.5	4.7	1.4	0.7	—	100.0
1959 to 1962	—	—	0.3	—	1.6	2.0	7.9	10.5	27.4	23.7	9.2	8.6	4.3	1.6	1.6	0.3	1.0	100.0
1956 to 1962	—	—	—	—	1.6	1.0	2.6	4.7	20.9	20.8	13.5	14.1	9.9	6.2	0.5	2.6	1.6	100.0

* Each size group is 66 per cent larger than the one below it. Accordingly +1 refers to an average increase of 66.7 per cent in the value of export, one of +2 refers to an average increase of approximately 111.0 per cent, etc. For the size groups, see Tables XI–9 and XI–10.

the increment was provided by only 5.6 per cent of the new exporters. The three top groups—$ 1,093,000 or more—accounted for 31 per cent of total exports by new exporters, and this by only three out of a total of 270 new exporters—i.e. 1.1 per cent. The concentration would have been still greater were it not for the fact that some of the big producers start out with small trial shipments.

Table XI–10 shows the distribution of exporters added to the list, those who stopped exporting, and those who moved from one size group to another. Table XI–11 summarizes the shifts between size groups between 1956 and 1962. These tables show that throughout this period the far greater share of the export was executed by a small number of big exporters, and that most of the exporters who dropped out belonged to the smaller size groups. Hence, the relatively large number of small exporters and their comparatively small share of the export increment do not essentially indicate a transition from small beginnings to export of major proportions. More detailed tables showing changes since 1956 bring out this point still more emphatically.

Taking into consideration that exports have expanded at an average rate of some 20 per cent, an even growth among all exporters would have resulted in everyone moving up one size group every three years. Those who failed to make this advance thus lagged behind the average growth rate. Disregarding new exporters and those who stopped exporting, we find that over the period 1956–62 some 55 per cent of the exporters remained in the same size group or moved up one or two groups, while approximately 10 per cent dropped to lower groups. It also becomes apparent that there was a greater shifting of positions in the lower six size groups than in the upper six. During the years 1956 to 1962, the percentage of industrialists who stopped exporting or whose export declined came to 15.2 per cent in the lower six groups, but only 3.2 per cent in the upper six.

Of the total export in the 1956–62 period, 41.7 per cent was accounted for by producers appearing on the list for the first time during these years. Of the $ 46.5 million worth of exports executed by them in 1962, the four highest size groups were responsible for $ 27 million, or 58 per cent; this sum was accounted for by only 7 per cent of those added between 1956 and 1962 (8.5 per cent if the 47 concerns who exported in one of these years but not in 1962 are disregarded).

The changes in the distribution of exporters between the various size groups —changes influenced by various factors, including the Government's policy of export promotion—may be regarded as determined by the law of probability. According to this explanation, the movement of an exporter from one size group to another depends on the volume of his exports at the beginning of the period of comparison and on the quantitative difference between one size group and the next, rather than on the development of his exports prior to the period of comparison. Under these assumptions, the decisive factor determining the growth of an industrialist's export is its volume at the start of the

Table XI–12

EXPECTED AND ACTUAL DISTRIBUTION OF EXPORTERS, BY SIZE GROUP, 1962

Size group ($ thousand)	Actual distribution in 1962		Expected distribution in 1962—projected from 1956–59 table		Expected distribution in 1965			
					Projected from 1959–62 table		Projected from 1956–59 table	
	Per cent of exporters	Per cent of value of exports	Per cent of exporters	Per cent of value of exports	Per cent of exporters	Per cent of value of exports	Per cent of exporters	Per cent of value of exports
Up to 18.8	19.8	0.6	19.5	0.4	17.5	0.2	16.7	0.2
18.9 to 31.3	12.5	0.9	9.9	0.4	8.6	0.3	7.6	0.2
31.4 to 52.1	8.9	1.4	17.2	1.6	8.6	0.6	15.2	0.8
52.2 to 86.6	8.9	2.3	10.5	1.8	8.0	1.0	8.5	0.8
86.7 to 143.9	13.0	4.6	10.5	3.1	13.0	3.0	9.4	1.5
144.0 to 238.9	10.4	6.4	9.9	5.7	11.4	4.4	10.3	3.7
239.0 to 396.6	5.2	6.6	7.9	9.1	6.9	4.4	10.3	8.4
396.7 to 658.4	7.8	9.8	5.2	10.1	7.8	9.8	7.0	9.9
658.5 to 1,093.0	5.7	17.9	4.1	14.3	9.4	19.9	6.7	17.9
1,093.1 to 1,814.4	4.2	13.1	1.7	10.0	5.0	20.4	3.0	13.1
1,814.5 to 3,011.9	1.6	9.9	0.9	9.7	1.9	9.6	1.2	9.8
3,012.0 to 4,999.9	2.1	26.4	2.6	33.8	1.9	26.5	4.0	33.8

period of comparison. One implicit assumption of this approach is that all the factors determining the movement from one size group to another (such as competitiveness, the ability to penetrate foreign markets, the tendency to turn to such markets, and Government export encouragement) are largely connected with the magnitude of the initial export. It seems that this assumption is not very far from reality. It is therefore possible to regard the tables as indicating the probability of movement from one size group to another, and to assume that it will remain more or less constant, i.e. all those factors responsible for the changes will continue to operate in the same manner. Thus it becomes possible to learn from the tables the probable future distribution of exporters as between the various size groups, as well as the number of exporters.

Table XI–12 compares the actual distribution of exporters in 1962 with the distribution that might have been expected on the basis of a table showing movements between size groups during the 1956–59 period. A similar projection to the year 1965 is also given for illustrative purposes. The similarity of the curve in both the forecast and the actual distribution tends to substantiate the hypothesis that the factors now influencing the development of exports (including Government encouragement) will lead to a similar distribution in the future as well. Thus most of the additional exports will be accounted for by a relatively small number of big exporters, while sales by the small exporters will continue to be unstable and proportionately low.

These conclusions are substantiated by those of the analysis presented below, and demonstrate that in the most important area of economic policy—the development of exports—the decisive factor is the initial size of the exporter-producer. The Government's export encouragement policy is only one of the factors influencing the distribution reflected by these tables. Consequently, unless there are reasons to believe that the exports of small producers are more profitable to the economy, it is possible to draw two conclusions: first, the preponderant weight of a small number of big exporters is likely to encourage the policy of direct export promotion in the future as well; and secondly, insofar as there is no difference between the profitability of exports by big and small exporters, it will be easier to expand exports by encouraging the former. Finally, the data indicate that, insofar as the objective is to develop exports as quickly as possible and to ensure greater stability, it will be necessary to take such steps as will enable the smaller exporting producer to acquire at least some of the characteristics of the big exporter.

4. Liberalization of Imports

Under the post-devaluation policy, the administrative protection of a long list of products began to be replaced in 1962 by fiscal protection. Both methods take cognizance of the fact that in a young economy like Israel the protection of a very large percentage of local production against foreign competition is

unavoidable. The main difference between the two methods is that under the administrative system it is actually impossible to determine the real costs of local production, which is granted unconditional protection. On the other hand, when customs tariffs are employed, the extent of protection is delineated, and though it may be excessive or ineffective at times, it does not confer automatic immunity from foreign competition if local producers continue to raise their prices.

The main purpose of exposing local goods to the competition of imports was to provide an incentive for greater efficiency. This objective, however, was circumscribed in advance by various postulates. The most important of these was to prevent, as far as possible, the liquidation of existing enterprises as a result of their inability to compete with imports. Another was the granting of priority to enterprises in development areas. This multiplicity of aims considerably reduced the possibilities of exposing local products to real foreign competition on a large scale. In many cases the need to continue protecting part of the enterprises because of one or another of these considerations resulted in such protection being extended to other enterprises producing the same goods, even though they were not entitled to it according to any of these criteria. It therefore appears that the liberalization policy was subject to very significant limitations from the outset. In several cases the threat to expose local products to foreign competition did result in greater efforts to increase efficiency or prevented price increases, but as a rule an endeavor was made—even within the limited sphere where some freedom of action was possible—to terminate administrative protection by agreement and in cooperation with the producers concerned, through public committees.

The public committee dealing with liberalization discussed some 60 industrial products during 1962. Of these, seven were manufactured by monopolies. The producers of 31 additional items were asked to submit a plan for intra-branch organization—in other words, the extent of protection was made conditional upon the creation of cartels, which tend to assure the continued existence of all enterprises in the branch concerned.

It is estimated, that the aggregate value of the products discussed by the committee amounted to approximately IL 500 million, but this gives no indication of the real degree of exposure to competing imports. The customs tariffs fixed within the framework of fiscal protection were not uniform, in most cases ranging from 60 to 90 per cent. Different costs per dollar saved and the varying stages of development reached by local enterprises necessitate different rates of customs duty. The assumption is that new enterprises, or enterprises laboring under temporary handicaps likely to disappear when production develops, are entitled to protection. However, there was a tendency to make allowance for less efficient producers when fixing the extent of protection, so as to prevent the closing of enterprises. Moreover, as long as different rates of customs duty are levied on raw materials and on the finished products manufactured from these

materials, a uniform rate of customs duty on finished products penalizes firms with a high percentage of value added relative to those producing the same articles but with a smaller value added. Furthermore, the rate of protection is often fixed according to the actual level of production costs, so that those whose ability to compete is comparatively limited receive a relatively high degree of protection.

To sum up, it seems that the liberalization of imports has been carried out on a limited scale—so much so, that even if fully implemented under the conditions set, it will have no significant effect upon the trade balance. The considerations governing it have been based on too many—and not always consistent—objectives.

5. Price Developments

The price level of industrial output sold in the local market rose by 10.6 per cent in 1962, after a rise of 5.9 per cent in 1961. Thus the year 1962 witnessed an acceleration of the trend away from the relative price stability of 1960 and 1959, when industrial prices rose by 2.2 and 1.9 per cent, respectively. The price increases in 1961 and 1962 were due mainly to demand factors, and not—as might have been expected had demand been kept in reasonable check—to cost factors.

An attempt to find a correlation between the increase in the prices of industrial products and various factors which might have been expected to influence production costs as a result of the devaluation fails to produce any significant results.[1] Had the devaluation affected production costs to the extent that might have been anticipated, it would have been reasonable to expect a high correlation between the rise in the costs of direct and indirect imports and the rise in the prices of local industrial products. But the calculations show that there is no rank correlation or any other correlation between them. The rise in prices was not greatest in the branches with a high import component, or in branches where the cost of imported inputs rose particularly. There is reason to believe that this was in some measure due to Government intervention, which attempted to check the price increases expected after devaluation. These efforts were mainly concerned with preventing or delaying as long as possible a rise in the prices of commodities included in the basket used for the calculation of the consumer price index, so as to restrain increases in wages. It is impossible to establish to what extent these efforts achieved their objectives, and to what extent the same objectives could have been attained without Government intervention, simply through the autonomous functioning of the price mechanism.

The price of the main input influenced by the devaluation—the imported

[1] All correlations were calculated in 80-branch detail, of which 51 were industrial branches.

Table XI–13

INDEX OF INDUSTRIAL OUTPUT PRICES IN LOCAL MARKET, BY BRANCH, 1959–62

(1958 = 100)

Branch	Weight	1959	1960	1961	1962	Per cent increase in 1962 over 1961
Mining and quarrying	1.4	97.1	99.9	108.7	124.6	14.6
Meat, fish, oil, and dairy products	7.9	103.0	106.7	116.2	117.2	0.9
Other foodstuffs	15.0	99.7	101.0	104.9	119.2	13.6
Textiles and clothing	19.4	100.2	100.2	106.1	114.9	8.3
Wood and carpentry	7.2	102.5	107.7	118.5	133.7	12.8
Paper, printing, publishing	5.9	103.2	113.2	127.3	143.4	5.6
Leather and leather products	4.2	108.4	109.2	114.1	133.5	17.0
Rubber and plastics	1.7	95.4	91.9	95.3	96.3	1.0
Chemicals	7.4	102.3	103.3	107.1	114.0	6.4
Oil refining	3.6	101.8	102.9	108.1	115.8	7.1
Nonmetallic minerals	5.5	101.2	103.4	109.0	128.4	17.8
Diamonds[a]	0.1	97.8	96.5	93.3	94.3	1.1
Basic metals, pipes	2.0	100.9	101.1	106.8	130.5	22.2
Metal products	7.4	100.6	104.0	108.8	127.4	17.1
Machinery and electrical equipment	2.4	101.6	103.1	105.2	119.0	13.1
Household equipment	3.6	101.3	104.6	108.4	120.6	11.3
Production and repair of transport equipment	4.3	113.4	114.6	117.8	132.2	12.2
Total	100.0	101.9	104.1	110.2	121.9	10.6

[a] At export prices.

input—rose by an average of 31.8 per cent in 1962, as a result of the change in the effective exchange rate; the total change in the cost of the direct imported input to industry, including increases in c.i.f. import prices, reached 35.7 per cent. The rise in production costs caused by this development, on the basis of an average direct import component of 19.2 per cent, thus totalled 6.7 per cent (for details of changes in the various branches, see Table XI–14).

The biggest price increase in the direct imported input occurred in the diamond branch, but no significance should be attached to this, since the entire diamond output is destined for export. In second place is oil refining, but here too the picture obtained from the data is misleading, since heavy duties were levied on refined fuel prior to devaluation, so that the alteration of the

Table XI-14

INCREASE IN OUTLAY ON MAJOR INPUTS[a] AND IN NOMINAL VALUE OF OUTPUT, BY MAIN INDUSTRIAL BRANCH, 1962

(percentages)

Branch	Increase in costs of major inputs				Change in nominal value of output for local market
	Wages	Imports	Domestic inputs	Total increase	
Basic metals and pipes	2.0	10.6	4.1	16.7	22.2
Nonmetallic minerals	3.1	2.2	4.8	10.1	17.8
Metal goods	2.8	5.5	5.0	13.3	17.1
Leather and leather products	0.7	2.1	5.5	8.3	17.0
Mining and quarrying	3.4	0.6	5.2	9.2	14.6
Other foodstuffs	1.6	1.8	7.0	10.4	13.6
Wood and carpentry	1.5	2.6	5.1	9.2	12.8
Production and repair of transport equipment	2.9	1.8	4.1	8.8	12.2
Household equipment and appliances	2.0	4.6	5.0	11.6	11.3
Textiles and clothing	1.2	3.8	4.4	9.4	8.3
Oil refining	0.9	37.5	2.5	40.9	7.1
Chemicals	1.8	5.3	4.4	11.5	6.4
Paper, printing, and publishing	2.3	2.4	3.5	8.2	5.6
Diamonds	2.2	45.3	0.5	48.0	1.1
Rubber and plastics	1.8	5.9	2.5	10.2	1.0
Meat, fish, oil, and dairy products	0.8	0.9	−0.3	1.4	0.9

[a] As a per cent of each IL worth of output, according to 1961 input components.

exchange rate applicable to the raw material took the place of taxes on the finished product. The same is true of some of the imports for the textile branch, which showed the third highest increase. As regards the two branches least affected by the higher price of imports—the food industry and the production and repair of transport equipment—it should be noted that this was due to two different factors: in the food branch, the effective exchange rate for part of the imported input was raised only some time after devaluation, whereas in the production and repair of transport equipment the effective exchange rate was already high before the devaluation took place.

A different picture emerges if we take into consideration the increase in production costs caused by the change in effective exchange rates. Apart from

the diamond and oil refining branches, where the import component is far larger than elsewhere in Israel industry, the rise in production costs due to changes on effective exchange rates ranged from 0.6 to 10.6 per cent. This estimate takes into consideration the size of the direct import component in each branch, according to the import components in 1961. The rise in production costs directly caused by the higher cost of imports amounted to less than 2.5 per cent in mining and quarrying, foodstuffs, paper and printing, leather and leather products, nonmetallic minerals, and the production and repair of transport equipment. In basic metals and pipes, where the increase in production costs directly due to devaluation was greater than in any other branch besides diamonds and oil refining, the relatively high import component (about 28 per cent) was a major factor. In other branches, devaluation pushed up costs by less than 6 per cent.

As may be gathered from the above, local prices rose more than the increase in the cost of the direct imported input component warranted. With regard to fuel, the prices of which are fixed by the Government, the higher effective exchange rate for imported fuel was, as already mentioned, substituted for taxes on the refined product. As for chemicals, the prices of which are also fixed by the Government in many cases, the actual rise in costs occasioned by the devaluation was apparently allowed for when prices were decided upon.

This analysis necessarily disregards the increase in real depreciation caused by the devaluation, which is estimated to average some 1.5 per cent per IL 1 worth of output for the industrial sector as a whole. This, however, does not change the general picture emerging from the other data.

If we take into account the influence of the change in the price of the total imported input, i.e. including also the rise in the prices of the indirect imported input as a result of the higher prices paid for direct imports by domestic sectors supplying inputs to other branches, we find that the picture changes. But even here no significant connection can be established between the higher prices in the local market and the price increases due to devaluation.

Of the major inputs—imports, wages, and domestic intermediates—the increase was smallest in wages, followed by imports, and lastly by inputs from local production, which already partly reflects the higher costs of the other two types of input. The rise in the prices of all these input categories was smaller than the average rise in the price of industrial output. Most indirect taxes on local output are calculated ad valorem, so the proportion of such taxes in the gross output remained more or less unchanged.

The average increase in the cost of imports per IL 1 of output caused by the devaluation and by the changes in c.i.f. import prices was, as already stated, 6.7 per cent for the industrial sector as a whole. The rise in labor costs per IL 1 of output was about 1.7 per cent, and that in the cost of other local inputs other than those purchased from industry itself was 1.8 per cent. (This calculation is based on the 1961 input components, and therefore does not take into

consideration the slight increase in the import component of industry in 1962, or the decline in the wage component, which came to almost 3 per cent.) As against these increases in costs, the prices of industrial output in the local market rose by an average of 10.6 per cent.

It may therefore be concluded that developments in the prices of industrial inputs and in the prices of industrial output resulted in a certain rise in the level of industrial profits. This conclusion, however, is subject to a reservation concerning the effects of devaluation on the capital account, which cannot be ascertained from the available data.

The devaluation of 1962 brought effective exchange rates closer to the average effective exchange rate, but its influence in this respect was not pronounced.

6. Basic Problems of Industrial Development

Devaluation, together with some serious difficulties revealed quite independently of it in certain industrial branches during 1962, underscored several of the central problems of industrial development and the obstacles confronting the sector in attaining the objectives dictated by the long-term requirements of the economy. The alteration of the exchange rate and the abolition of a large percentage of the export premiums, as well as the attempts to terminate some of the administrative protection of local products against competing imports, showed up how few are the branches capable of producing export items or import substitutes at prices competitive in the international market. An analysis of the situation in industry after devaluation, including a comparison with the possible effects of devaluation had various factors not intervened, indicates that the cardinal problem of this sector—the level of its real costs—is closely connected with the basic structure of the existing industries. Indeed, this structure places several serious obstacles in the way of continued industrial development, and particularly the expansion of export—obstacles which partly derive from the objective conditions prevailing in the Israel economy and can be surmounted only through a special effort.

The present structure of Israel industry combines a number of characteristics which render it abnormal as compared with the structure of most industrial states. First and foremost is the fact that in most branches the industrial enterprises are very much smaller than similar concerns in other industrial states. At the same time, however, there is a very high degree of concentration in Israel—a phenomenon which in other economies is usually associated with size.

Israel has only very few enterprises producing on a scale and technological level comparable with that attained by their potential foreign competitors. This applies even to a considerable proportion of the bigger Israel concerns. The relatively small scale is in itself a marked disadvantage, and its effects are felt not only in the various industrial branches themselves, but also in the service

branches supplying industry with inputs, raising real costs far above the level that would permit competition under normal circumstances. From the aspect of local industry's ability to compete, there is no real compensation for these drawbacks. It must be assumed that for any modern industry, based on mechanized processes, not only are technology and scale the decisive factors determining the level of production costs, but a large proportion of industrial products cannot be made at all—or at best only with considerable difficulty—according to the models, design, and quality of the goods traded in the world market, except through certain fixed technological processes. Even if some factors of production were much cheaper in Israel than in other industrial states, it is doubtful whether this could compensate for the higher costs arising from the small scale of output and the relatively lower technological level.

However, the small size of local enterprises is not their sole handicap. In addition to this, they generally produce a large number of items, and the degree of specialization is far lower than in foreign firms belonging to the same branches. Examples may be found in almost all branches of Israel industry. Moreover, the under-exploitation of productive capacity, which often accompanies such fragmentation, is one of the factors making equipment obsolete before it is physically worn out. This phenomenon exists in other economic sectors, as well as in industries supplying goods and services to industry itself, such as the metal and equipment branches. There is no practical way of estimating the total increase in costs caused in this manner, but the direct and indirect wastage of resources due to partial exploitation of capacity, over-diversification, and the small scale of output must be very considerable—and is almost certainly responsible for the disparity between the present level of production costs and the level that would make Israel's industry competitive in the world market.

Side by side with small-scale output and the low degree of specialization, the production of most commodities is concentrated in so few enterprises as to make competition—regarded by economic theory as an essential pre-condition for the optimum allocation of available resources—virtually impossible from the very start.

In a more detailed study of the structure of Israel's industry,[1] an attempt was made to classify industrial products into some 450 groups, according to the degree of competition prevailing in each. Nine degrees of competition were distinguished, ranging from pure monopolies and duopolies (when a certain item is produced by only one or two enterprises), defined as Grade 1, to a very high degree of competition, defined as Grade 9. The gradings obtained were tested by various accepted criteria for determining the degree of concentration or monopoly, and arranged in descending order. This grading does not attribute any significance to the distances between the groups, but merely fixes the order

[1] "Structure and Performance of Industry in Israel", by M. Merhav (in preparation).

or scale. It should be noted that a breakdown into 450 product groups still leaves each group fairly large; a more detailed breakdown, were it possible on the basis of available statistical data, would certainly have disclosed an even smaller degree of competition in the sector. The distribution of items according to some of the major criteria used to test the grading will be found in Table XI–15.

It should be pointed out that a considerable proportion of total output is concentrated in the three biggest enterprises even when the degree of competition is 9—i.e. the highest. The ratio between this percentage and the percentage concentrated in the 10 largest enterprises discloses the small number of enterprises in most branches, as 30 per cent of the output in Grade 9 is concentrated in the three biggest concerns, while 31.6 per cent is produced by the seven next largest. Thus we find that over three-fifths of total output is concentrated in the hands of no more than ten concerns. Taking industrial output as a whole, over 25 per cent is produced by the two most monopolistic grades, where virtually all production is in the hands of three firms, while nearly 50 per cent consists of items which are in the main (to the extent of some 75 per cent) manufactured by no more than three plants. The rate of concentration is high according to every yardstick used to examine the degrees of competition fixed. In several countries controlling cartels and monopolies, a concentration of 30 per cent of output is defined as monopoly.

Altogether, 62.7 per cent of total industrial output is accounted for by the three biggest enterprises making each item; 75.8 per cent by the top six, and 84.2 per cent by the top ten.

This structure, which is very unusual as compared with other countries, has a twofold disadvantage. On the one hand, it is monopoloid, with all the consequent adverse effects on the price mechanism and the allocation of resources and incomes, as well as the economic and other inelasticities that this implies. On the other hand, it suffers from all the handicaps of small-scale production, over-diversification, and relative technological backwardness. These characteristics are largely due to the objective limitations of the Israel economy, and the usual type of economic analysis, based largely on the economic situation in other countries, is not always applicable under such conditions.

Nevertheless, in contrast to the situation in bigger and better developed industrial states, where monopolistic and monopoly-like structures created by a prolonged process of concentration and elimination of small, less efficient enterprises are normally accompanied by a high degree of economic and technological efficiency, in Israel a structure preventing competition (and, as we shall later show, also preventing further concentration and at times even leading to still greater fragmentation) is accompanied by a relatively low technological level and small-scale, over-fragmentized production, with the inevitable consequence of a high level of real costs.

The situation existing in industry cannot, therefore, be blamed in any way on

Table XI–15

DISTRIBUTION OF INDUSTRIAL PRODUCTS, BY DEGREE OF COMPETITION[a]

(percentages)

	Degree of competition									
	1	2	3	4	5	6	7	8	9	All degrees
A. Per cent of total output in each grade, concentrated:										
In 3 biggest enterprises producing each item	99.4	90.2	81.2	73.1	65.3	52.0	49.1	42.1	30.0	62.7
In 6 biggest enterprises producing each item	100.0	97.4	96.9	86.0	84.7	68.5	71.0	60.3	46.3	75.8
In 10 biggest enterprises producing each item	100.0	99.4	100.0	93.4	93.9	78.8	85.4	74.0	61.6	84.2
B. Weight of each grade in total output										
IL million	184.3	162.9	95.5	162.0	76.6	152.3	38.1	90.1	332.0	1,293.8
Per cent of total output	14.2	12.6	7.6	12.5	5.9	11.7	2.9	6.9	25.7	100.0

[a] The research is based on special tabulations prepared for this purpose from the data of the Survey of Industries and Crafts, 1958, in 5-digit SITC detail and arranged in descending order of the percentage of the output concentrated in the various enterprises producing the item concerned. The files containing the required data were put at our disposal by the Central Bureau of Statistics, and the tabulations were prepared by the Office Mechanization Center. The data cited here are based on the definitions used in the Survey of Industries and Crafts, which are not identical with the definitions of the input-output system used for other analyses in this chapter.

the behavior of producers or private investors, which it would be possible to alter by suitable legislation. Under existing conditions, they could hardly have acted otherwise than they did. The existing industrial structure is the result of the producers' logical reaction to the economic, political, and social conditions prevailing in Israel.

The orientation of the local producer and investor is necessarily first and foremost to the local market and not to exports, which involve a larger degree of risk. The Israel economy possesses no outstanding advantages in the production of commodities traded in the world market—except for a very few items. On the contrary, objective conditions, such as the paucity of natural resources and remoteness, adversely affect Israel's ability to compete. The local market is small as regards its absolute size—to an extent without parallel in any other industrial state—yet at the same time it represents a relatively high standard of living, reflected by a considerable demand for a highly diversified basket of commodities resembling that of developed countries. These two factors together —the small absolute size of the market and its highly diversified character— form the background for two of the phenomena mentioned: the small scale of production—which cannot expand very much beyond the existing demand— and the over-fragmentation of such production. Thus Israel's industry confirms the dictum that the division of labor is determined by the size of the market.

One of the consequences of the policy pursued throughout the years of encouraging investments of almost any kind, has been that in most branches new enterprises have been established in the existing lines of production while the older concerns still possess unexploited capacity or a degree of know-how and ability enabling them to expand further. The resulting multiplicity of enterprises has, on the one hand, been insufficient to create genuine competition, being in the last resort limited by the scale of the local market and by the minimum size of the individual enterprise dictated by technological considerations; and, on the other hand, it has prevented existing enterprises from reaching the minimum size which would enable them to stand comparison with their potential competitors abroad. Consequently, this horizontal expansion of industry has been largely responsible for preventing the rationalization of existing plants by the concentration of the available investment capital, know-how, entrepreneurship, and managerial talent, instead diffusing the economy's development effort over too wide a field. The result has been that, side by side with other developments in the same direction, cartels have sprung up in many branches, or else small groups of enterprises have refrained from competing with one another even without making an express agreement within the meaning of the law governing restrictive trade practices. These cartels of small and petty concerns— as compared with the proportions likely to permit the penetration of foreign markets on competitive terms—have created a "protective umbrella", under which—together with the predominating central group—a fair number of even smaller plants and workshops often shelter.

Such cartel agreements—whether express or silent—or even the passive refraining from competition which is characteristic of an oligopolistic branch, generally cover the existing basket of commodities. Insofar as one of the enterprises in a cartelized group wishes to expand, it will therefore tend as a rule to start producing items which are not directly competitive with those produced by its rivals. In other words, the expansion is likely to turn to new commodities, causing further diversification of output within each plant and reducing the degree of specialization.

The trends described above were strengthened over the years—and especially in 1961 and 1962—by a certain structural change in the demand for industrial products. Industry is increasingly switching to the production of better quality goods, intended for a comparatively high-income consuming public, and there are indications that the relative proportion of standard, mass-produced goods has been declining. One of the results has again been greater diversification, and often also an increase in the labor component. This may partly explain the slower rate of increase in output per worker during 1961 and 1962.

One of the main consequences of devaluation was that it made imported equipment relatively more expensive. The low exchange rate for imported equipment in force prior to devaluation helped, it is true, to encourage investments in Israel throughout all the years. However, like every other general subsidy on a single factor of production, this means of encouragement lacked selectivity, often causing a waste of resources which would have contributed much more to accelerating economic progress in accordance with the country's long-range needs if used in an alternative manner. In the more advanced stages of industrial development, when the accent will no longer be on the general and uncontrolled expansion of the production system, such a situation is liable to encourage not only investments profitable to the economy from the overall economic aspect and which accord with long-term needs and considerations, but also investments undesirable from these viewpoints.

The low exchange rate for imported equipment was one of the factors making for the faulty industrial structure described above, also causing over-fragmentation, which today is one of the chief obstacles facing the sector.

In several major industries, it is clear that the fragmentary nature of their development pattern has been largely due to the failure to concentrate on a limited number of objectives and to the reluctance to invest on a sufficiently large and concentrated scale. This approach can be chiefly attributed, apart from the fear of risks, to the premise that capital was the scarce factor of production in Israel, while labor was in ample supply. However, even if during the early period of Israel's industrial development capital was a serious limiting factor, it is already some years since investment capital is no more difficult to obtain than in any other developing economy.

It is no exaggeration to say that today the greatest scarcity is of know-how and entrepreneurship, and that next in order comes skilled labor. The fact

that unemployment still exists by no means indicates a relative abundance of labor. Indeed, the reverse is often true: the employment of workers of the types accounting for most of the unemployment—namely, unskilled labor—necessitates big capital investments, since only highly mechanized (and thus usually capital-intensive) industries are able to employ such workers.

From the aspect of the comparative scarcity and the relative prices of the factors of production, Israel apparently stands somewhere between the under-developed countries and the highly developed industrial states. As regards know-how and entrepreneurship, the level in Israel is higher than in most under-developed countries, and in many cases even no lower than in the industrial states. However, the supply of know-how is quantitatively insufficient. As regards entrepreneurship, this is in short supply only in relation to the development requirements of the economy from a national viewpoint. The extensive investment activity proves that entrepreneurship as such exists, but it is forced into channels of development not necessarily conforming to the general needs of the economy, because of the limited size of the local market and the fact that the individual investor must base his operations on more short-range considerations. In this respect, Israel differs from many under-developed countries, where the absence of investment initiative is one of the principal stumbling blocks to progress.

As regards labor, Israel also differs from under-developed countries in two respects. First and foremost, it possesses a larger supply of skilled labor, the level of which often reaches that attained in highly industrialized states. On the other hand, there is a relative abundance of unskilled labor in Israel—at least up to the last two years—but, in contrast to other countries where development is mainly based on this factor of production, the wages paid to unskilled labor here are not so low as to constitute a real economic advantage to the economy.

Hence, sound development, based on the efficient exploitation of scarce factors of production—know-how, entrepreneurship, and skilled labor—may even be encouraged by the relative increase in the cost of imported equipment caused by the devaluation, which is likely to make investments more selective. The lack of selectivity, which leads to the wastage of one factor of production (capital), inevitably involves the wastage of other complementary factors, which are—as already mentioned—still scarcer.

Just as in the process of development the general encouragement of investment has given way to selectivity, so it would now seem that the time has come to fix priorities for the different economic objectives, as well as the evaluation criteria themselves. Too many objectives and too many criteria can lead, in the final analysis, to the absence of a clear scale of priorities—and thus to the continuation of general encouragement for all investments. It is easier to make the necessary change today than in the past, since the problem of employment, which used to be one of the principal development considerations, is no longer serious—in fact there is even a shortage of labor. On the assumption that the limitations imposed by the local market are one of the main factors retarding

development and causing most of the undesirable phenomena described above, the main directions which the industrial development policy should now take are as follows: To strive to change the existing industrial structure by encouraging the expansion and concentration of existing enterprises, a more rational division of production, and greater specialization; together with this, local production, whose competitiveness in the local market is limited by objective and unalterable circumstances, should be exposed to the competition of imported goods within reasonable bounds.

7. Main Industrial Branches

(a) *Food industry*

The gross output of the food industry increased by some 10.7 per cent in 1962; this was somewhat slower than the average growth rate for the past four years—12 per cent per annum—but similar to the rate in 1961. Most of the increase apparently occurred in those sub-branches catering to the rising income groups. This phenomenon has been noticeable for some years past, and no doubt is partly due to developments in the sphere of food marketing. Marketing through stores of the supermarket type, which are based on self-service, is possible chiefly in respect of commodities that are storable—such as canned goods—and packed in such a manner as to be easily identified.

In most branches of the food industry, exploitation of productive capacity is below 50 per cent. Nevertheless, considerable investments have been made in these branches in the last few years, increasing capacity still further. Competition between the plants has resulted in the establishment of similar enterprises even though the capacity of the existing concerns already exceeds the absorptive capacity of the local market, and from the viewpoint of export development there is no advantage in encouraging the duplication of enterprises rather than expanding existing ones.

The main export branch of the food industry (most of whose products are essentially unsuitable for marketing abroad) is the canning industry, especially citrus processing. The productive capacity of this branch has almost doubled over the last four years, chiefly through the establishment of two new plants and the replacement of obsolete equipment in existing enterprises. The percentage of capacity exploited is low, being limited by the seasonal nature of citrus cultivation and by the non-availability of fruit for industrial processing.

The future expansion of this branch largely depends on the development of Israel's trade relations with the countries of the European Common Market, which absorbs approximately half its exports, and also on the development of new products. This development, in turn, depends primarily on a higher level of know-how, but the splitting up of production over 23 enterprises, at the same time that raw material quotas have been fixed which limit the expansion of efficient plants, makes it difficult to establish modern research laboratories based

on highly-trained staff. It therefore seems that if this branch is to expand its exports or to meet the competition expected in the Common Market countries, it will largely depend on the development of the big concerns.

There are four cartels in the branch, the most important of which deals with the joint purchase of raw materials, the setting of production and export quotas, and joint marketing arrangements for the home market. The other cartel agreements intervene in fewer spheres. The Government has been working for the establishment of a marketing board in this branch, similar to that existing in the agricultural sector. Such a board, if established, would be exempt —according to legislation presently in force—from control under the Restrictive Trade Practices Law.

The next largest export branch is the oil and soap industry, where there is also excess productive capacity. The fact that some 50 per cent of the capacity is unexploited has not, however, prevented the further expansion of existing plants. Indeed, it appears that the structure of this industry, which for a long time was based on cartel agreements, even encouraged this development. Here we have an outstanding example of how the present structure leads to investments which from the overall economic aspect are futile. The expansion of this branch was due to the desire of each enterprise to assure for itself—through an increase in its capacity—a larger percentage of the marketing quotas. More restraint would undoubtedly have been exercised were it not for the cheapness of imported equipment and the generally favorable investment climate prevailing in the economy.

One of the positive developments in the food branch in the past several years has been the considerable expansion of grain silos. The capacity of such silos was enlarged in 1962 by a further 13 per cent, completing an expansion program which took several years to implement. The development of these silos, especially the big one in Haifa harbor, made it possible to change from loading and transportation in sacks to bulk handling. Consequently, the costs of hauling and handling grain have been reduced by almost a third, quite apart from the big saving in maritime transport costs, which reached some $ 1.3 million in 1962 alone.

A high degree of concentration accompanied by low utilization of productive capacity characterizes almost all branches of the food industry: flour products, beverages, sugar products, alcohol, tobacco products, etc. At the same time, cartelization is widespread.

(b) *Textiles and clothing*

The textile and clothing branch expanded its output by 14.4 per cent in 1962, compared with 15.5 per cent in each of the two preceding years. The provisional data available do not permit comparisons between rates of expansion in the various sub-branches, but it seems that the clothing industry in particular expanded rapidly, owing to the booming demand prevailing in the economy

during 1962, while cotton spinning, which largely depends on exports, was confronted by serious difficulties because of the temporary contraction of the export market on the one hand, and the accumulation of production surpluses on the other.

In recent years development efforts have been concentrated mainly on the textile industry, especially cotton spinning. The number of cotton spindles has almost trebled since 1958, and with the completion of the present development program, now in the final stage of implementation, it will reach 310,000, with a spinning capacity of 25,000 tons of cotton per annum. The capital invested in the development of cotton spinning in recent years is estimated, on a replacement value basis, at IL 60 million, and the planned capacity will soon exceed the local cotton yarn requirements by 150 per cent. In recent years under-developed countries, where both wages and the level of skilled labor are low, have been displacing developed industrial states as the main producers of textile yarns. Cotton spinning, which is among the first industries to be established in every developing country (especially when this provides an internal market for raw cotton previously exported), is gradually becoming a primary production industry which highly industrialized states are inclined to abandon. From this aspect, the stage of development reached by Israel more closely resembles the highly industrialized states than those that are now in the initial stages of development. It is doubtful whether Israel can ever compete successfully in industries based on low wages. Moreover, the structure of the local cotton spinning industry made the attainment of a high level of technological and economic efficiency impossible from the outset, since instead of establishing a few large production units specializing in a limited number of products, the industry was split up into relatively small units relying on fixed quotas in the local market.

The main shortcomings of this industry are thus neither under-exploitation of productive capacity nor technological backwardness, since the equipment is for the most part ultra-modern, while as regards exploitation, in terms of average hours worked per spindle, Israel cotton spinneries are among the best in the world—after Hong Kong, the United States, and Egypt. However, there are two cardinal problems facing the industry here: first, its faulty structure, which does not permit specialization and leads to the splitting up of production among the existing mills and to excessively small production units; and secondly, the excessive size of the industry as a whole in relation to the actual markets available to it. Thus the individual units in the industry are too small, while its overall size is too large. The best hope of extricating the industry from its present difficulties lies in the development of export processing industries—weaving and clothing. But there is not necessarily a link between the profitability of these industries and the problems of the branch supplying them with raw materials.

The spinning industry belongs to "basic industries" of the type that in

recent years has often been developed before the establishment of industries consuming its products. The spinning industry thus demonstrates that the existence of industries producing goods and materials for further processing does not in itself necessarily spur the establishment of the processing industries. Often, the main motive for further expansion is supplied precisely by the previous development of industries dealing with the last stages of the production process. The prior development of the latter industries may define the size of the future market available to the basic industry still to be established, thus also indicating the optimum size of its plants.

An industry related to cotton spinning is worsted wool spinning, which has also been expanding at an average annual rate of 50 per cent since 1958. Present plans provide for another big increase in capacity—from 27,000 spindles in 1961 to 46,000. In this industry too, exports of yarn, which reached $ 3.2 million in 1962, must be regarded as a temporary development, since the output is earmarked for processing by the weaving and clothing branches —i.e. for indirect export.

The weaving industry, the development of which is largely dependent on that of the spinning industry, today includes some 350 enterprises (of which two-thirds weave cotton), averaging 17 looms per plant. The branch is thus split up into too many units, much of the equipment is obsolete, and productive capacity is low—especially in the small concerns. There are only 16 weaving mills with more than 50 looms. In modern mills abroad, such a number of looms is operated by one loom fixer and one weaver. The processing of the entire output of the spinning industry would, according to present plans, require a 75 per cent increase in the number of existing looms, some 18 per cent of it for the replacement of obsolete equipment. The development plans aim primarily at establishing relatively big production units, but even among the projects now in various stages of execution, the size ranges from 12 to 416 looms per plant, and in four of the eight plants now being erected, the number of looms is less than 60.

The output of the weaving branch is likewise intended largely for indirect export. Direct exports have encountered difficulties in penetrating foreign markets, which are often protected by tariff barriers. Another difficulty is the insufficiently high quality of local weaving, which will certainly affect indirect exports as well unless an improvement sets in. As regards the exploitation and quality of equipment, the situation in weaving is much the same as in spinning. Here too the percentage of capacity exploited is high as compared with other countries, though it varies considerably between the individual plants, in many of them reaching only 50 per cent. The main problem affecting the efficiency of the industry is the dispersal of equipment over an excessive number of small production units. The inflation of production costs owing to these factors and the low productivity of labor is estimated at 20 per cent.

Roughly the same situation prevails in cotton and wool weaving, though in

the latter the proportion of modern equipment is lower than in cotton weaving, while the exploitation rate and the average size of the enterprises are smaller. The large number of enterprises and over-diversification (resulting in excessively small production series) in the weaving branch have also led to the over-fragmentation of production in the finishing and final processing branches, thus largely preventing the establishment of more efficient plants and the rationalization of the manufacturing processes.

Dyeing and finishing, which account for approximately a quarter of the total cost of cloth production, largely determine the quality of the final product and its export possibilities.

In contrast to the branches described above, which at least potentially are typical factory branches, the clothing industry is almost wholly based on workshops. But here too we find that exports are executed not by the small concerns supplying the needs of the local market, but by factories or semi-factory enterprises working on a contract basis. This industry relies on independent workers who earn relatively high rates of pay for the production of small series, which are given out to a large number of people and thus make standardization impossible. This problem exists in almost all the sub-branches, constituting a serious obstacle to the expansion of exports. Another stumbling block which the branch will shortly encounter—unless it changes over to real factory methods—is the shortage of skilled labor, for only such a system permits the utilization of semi-skilled and unskilled labor, the shortage of which is less acute. A somewhat similar situation prevails in an allied branch—knitted goods. Knitwear is today produced by 166 enterprises, but only eight of them are large by Israel standards, accounting for approximately one-third of total output. This industry is one of the few enjoying natural advantages in respect of ability to compete in the world market. The know-how available in this branch is relatively well-developed, both as regards designing, which determines the salability of the final product in the export market, and in the processing and final stages, which in many other branches are more faulty than basic production. Wages in the knitwear branch are relatively low, since it employs mainly women.

Summing up, it may be said that the chief problems of the textile industry are similar in all the various sub-branches: excessive fragmentation and lack of specialization, the insufficiently large size of the individual plant and the excessive size of overall productive capacity relative to the available market, and as a consequence, the low exploitation of equipment in some of the branches and technological backwardness.

(c) *Metal and equipment industries*

The metal and machinery industries—which expanded at an average rate of some 17 per cent per annum during the period 1958 to 1961 and at a slightly lower rate in 1962—occupy a strategic position in Israel's industrial

structure, in that in the main they are the ones responsible for the manufacture and maintenance of capital goods, not only for the industrial sector itself but for the economy as a whole.

As indicated, the expansion of the metal industry was somewhat slower in 1962. This applies particularly to the production of machinery and electrical equipment, and it may be assumed that devaluation was one of the reasons. Although there was apparently reason to believe that devaluation, which raised the price of imported equipment relative to locally made equipment, would have the opposite effect and encourage local production of these goods, in the short run neither supply nor demand could immediately adjust itself to the new price relationships. The demand for equipment is determined by long-term considerations, and during the period right after devaluation, when investors were still in the dark about the effect of devaluation on their investment projects, and especially about the future size of the development budget, a certain restraint in ordering equipment was only to be expected. It must be added that, owing to the fact that local equipment manufacturers were not protected in the past against the competition of imported equipment, local equipment in the large majority of cases complements rather than competes with imported equipment, and the branch largely depends on the demand for the replacement of equipment parts, maintenance, repairs, accessories, and auxiliary equipment. The demand for equipment of these types can usually be postponed, and the uncertainty concerning the future position of their capital account presumably caused many enterprises to defer their planned orders for local equipment in all cases where it was not absolutely essential for the operating of the plant. It should not be assumed that the existing production system, which over the years based itself mainly on complementary equipment, can quickly shift to the production of equipment competing with imported items, even though it already possesses most of the necessary facilities for supplying such equipment.

In other branches, such as basic metals, the relatively slower expansion of 1962 may be explained by the fact that big development projects implemented over the last few years neared completion. As regards steel production, the iron smelter was closed during the year, after it became apparent that its operation was unprofitable.

The metal industry as a whole, which accounted for more than 20 per cent of the gross industrial output in 1962, is the most fragmentized of all Israel industries. The metal branches are by their nature at the bottom of the production pyramid, and the more the final stages of production are split up over many plants and many items requiring maintenance services, repairs, spare parts, etc., the greater is the fragmentation of the branches supplying these inputs. Consequently, the metal branches are mainly based on workshops, and factories with a sufficiently large market for their products to enable them to make series of a reasonable size and employ efficient production

methods are few and far between. Moreover, if in other branches excessive fragmentation and over-diversification cause a wastage of the economy's scarcest factor of production, know-how and skills, in the metal and machinery industries this applies even more, since the items and services produced by them are often largely based on high-grade skilled labor. As long as there was considerable unemployment in the Israel economy, this may not have constituted a major problem, but the shortage of skilled labor has now become the main bottleneck in the development of these branches, which are the most promising from the aspect of further import substitution in the future. Some new, relatively big plants found this obstacle to be one of their principal problems. This matter is serious, since in branches where the scale of production is not a decisive factor, Israel products are able to compete with similar products made abroad, in respect of both price and quality. As for the level of know-how, many sections of the metal industry are not inferior to similar enterprises abroad, but owing to the structure of the industry, the know-how is not exploited efficiently.

Thus the cardinal problem of the branch is the existence of too many small production units and the excessive number of items produced by each unit. Another major problem is the shortage of industrial service enterprises. This is connected with the first problem, since the establishment of such enterprises —e.g. for machining, forging, thermal treatment, etc.—on a rational scale can only be profitable if the production series are not too small.

While over-diversification and small scale are the central problems of the metal industries, as of most other industrial branches, it is possible to demonstrate the matter of optimum size by reference to two relatively large enterprises (by Israel standards) in this branch, one of which was actually planned even before statehood, while the second began to operate only in 1962. The scale of local steel production, for instance, which is based on domestic requirements, is several times smaller than that usual abroad, and it is the scale of production that determines the level of real costs. From the present plans for the expansion of productive capacity, it can be seen that the industrialization policy takes cognizance of the main shortcoming, and that recently there has been a tendency to encourage the expansion of existing plants. Nevertheless, it is doubtful—even disregarding the question of the profitability or unprofitability of producing steel in Israel on any scale whatever—whether the planned expansion will succeed in bringing the local industry up to a scale really comparable with that of steel industries abroad. The situation is similar as regards shipbuilding, which began in Israel in 1962. The shipyard was from the outset planned for a size that was too small to meet the present or anticipated requirements of the Israel merchant fleet, since the average ship in the fleet is bigger than can be produced here. On the other hand, the shipyard is too small to be able to compete in the export market.

These two enterprises, which from the viewpoint of size are exceptional, not only as regards the metal branch but in respect of Israel industry as a whole, demonstrate the extent to which the problem of the scale of production constitutes the chief obstacle to competing with imports in the local market or to exporting—even if we assume that these industries, on any scale whatever, are profitable to the economy.

Among the main service enterprises which were established at the Government's initiative and which reveal even more strikingly the same problems, is the forging plant, with a planned capacity of 3,000 tons per annum in one shift. The total amount of forgings required in Israel today is about 1,200 tons per annum, and even this quantity includes many different products, so that the attainment of a reasonable rate of exploitation by the existing plants seems unlikely in the foreseeable future. Nevertheless, there is reason to believe that the development of the metal industry as a whole, for which forgings constitute one of its key requirements, justified the erection of a technically efficient forging plant, even if this involved aid from the public exchequer. From this aspect, forging is one of the basic industries, the absence of which causes bottlenecks in the country's industrialization.

In casting, which is another of the basic metal industries, we also find the same structural faults: too many small enterprises existing side by side with a small number of big enterprises which control the industry. Without a high level of technical and economic efficiency, no real development can be expected in the manufacture of machinery and equipment, yet here too efficiency is low, owing to small production series. It also suffers from a serious shortage of labor, and this points up the need to economize on the available manpower by increasing the efficiency of existing plants and preventing the further fragmentation of production.

Rolling, extrusion, and electric welding of aluminum are done by a small number of enterprises, and production is concentrated. Though some of the equipment is not modern and some is not fully exploited, the prices of these products in the local market bear comparison with the domestic prices charged for the same products abroad, though as compared with import prices, which are often based on the marginal costs in the exporting states, they are higher. As regards quality, the local products are not inferior to similar imported items.

The iron pipe industry was considerably expanded in recent years, and it has begun to develop exports on a rather significant scale. In 1962 exports more than doubled—from $ 549,000 to $ 1,248,000. In seamless pipes, which are used chiefly in industries employing continuous processes, 50 per cent of total output was exported. The preponderant share of the output is accounted for by two enterprises, which have divided production between them according to type of pipe, and the percentage of capacity exploited is high, the plants working two or even three shifts at full capacity.

Similar developments may be found in almost every other branch of the

metal industry. When production is not concentrated in one or two plants, there is often a cartel or a joint marketing company. This applies to wire manufacture, where capacity is only 25 per cent exploited, and the liquidation of some of the plants as a result of the fierce competition which has developed in recent years was prevented only by an authorized cartel agreement. This agreement stipulated that the enterprises were to export 30 per cent of their output, but no export has as yet taken place. The local price level guaranteed by the cartel agreement meanwhile enables all the enterprises to continue in business. After the agreement, a certain division of production took place in the branch, one processing stage being concentrated in one of the factories; however, this did not affect the level of production costs to any significant extent.

Almost every product and sub-branch provides examples of the correlation between small-scale output, over-diversification, technical backwardness, and a low rate of exploitation—often side by side with the existence of unconcealed or quasi-cartels and a relatively high cost per dollar saved. On the other hand, in many of the cases where the scale of production is similar to that in other countries, there is greater concentration and the cost per dollar of value added is lower. Just as in the textile industry we saw how over-diversification in the dyeing and finishing branches raises their own costs and consequently those of all plants using these services, so we find a similar situation in the metal industry—be it in forging, casting, die-making, painting, galvanization, or metal-plating. Not only do production costs rise in consequence, but such a situation also stimulates investments, since the bigger factories requiring services of this nature tend to set up independent departments for this purpose, the scale of which is usually similar to that of the enterprises specializing in the service concerned. Though the production costs in such departments are no lower than in the latter concerns, the factory possesses the advantage of self-supply of the requisite services.

In the equipment manufacturing branches, the situation is even more serious. Not only has their development been retarded by the low exchange rate for imported equipment prior to devaluation, but owing to the production of small series in most industries, no sizeable market has hitherto been developed for auxiliary equipment of many types, the introduction of which would be profitable only if production were on a bigger scale. Whenever a certain item of equipment has been produced in series as large as those normal abroad, it has usually been able to compete from the standpoint of both quality and price.

The devaluation, which made competing imports more expensive, opened the way for the development of this industry, as its potential market—if only to supply the demand arising from the depreciation of existing equipment—is apparently very large. However, the change in relative prices that occurred in 1962 is only a facilitating factor in the development of this industry, the degree of which is likely to determine, to no small extent, the pace of Israel's

general industrial development and the degree of efficiency in other industrial branches.

The progress of this industry is largely dependent on the development of know-how, and insofar as this cannot be obtained abroad, it must be developed locally—a long-term process, since it is connected with the general development of all the other industrial branches.

(d) *Other branches*

The above general description of the situation in several of the industrial branches—food, textiles, and metals, which together account for some 60 per cent of total industrial output—was intended primarily to indicate the central problems of industrial development, which in certain respects has reached a turning point. The other industrial branches are, as a rule, confronted with similar problems. On the one hand, there are enterprises which are big by Israel standards but are unable to properly fulfil their primary economic objectives because, in comparison with the foreign producers with whom they have to compete, they are too small. Wherever the Israel producer can compete at a reasonable cost per dollar saved, it is often found that he can match his competitors abroad also from the technological aspect. But such instances are few and far between. Most branches are characterized by over-fragmentation, a wastage of capital owing to low utilization, and a wastage of raw materials owing to purchases in small quantities (and therefore at high prices) and to the excessive fragmentation of production, and especially a wastage of managerial talent and professional and scientific know-how, the country's scarcest factors of production.