

CHAPTER XII  
CONSTRUCTION

1. MAIN DEVELOPMENTS

Construction output in 1971 totalled IL 4,500 million at current prices; the real increase was 9 percent, compared with an average gain of 25 percent during the first two years of the present building boom (1968-69) and 15 percent in 1970. The slowdown in the year reviewed was due to the relatively sluggish expansion of residential construction and a slight decline in defense construction after it had peaked in 1970. Nonresidential construction was up 10 percent, after being curtailed in the previous year under the Government's countercyclical policy. The policy was changed in 1971 when, along with the rapid growth of housing construction, it was decided to expand the educational system, cultural and health services, and the infrastructure (water, communications, etc.). The stepped up construction of public institutions and service installations was only partly reflected in the figures on the value of new construction put in place (because of the lengthy construction period), but it may be discerned in the data on new starts (a 30 percent gain). In contrast to the above, there was apparently no increase in industrial building starts, which have held steady for the past three years.

In residential construction the excess demand for dwellings pushed up prices by a steep 30 percent or more in the course of 1971, in spite of the larger volume of starts and completions and after it seemed that the housing market was about to cool off at the end of 1970. The excess demand can be attributed to several factors: First of all, in 1970 the incremental construction was concentrated in the public sector, and since in such housing the formal contract with the buyer is generally signed only when the dwelling nears completion, the growth of starts did not find full expression in the market. Secondly, the year reviewed probably saw a resumption and strengthening of the upward trend in housing demand, which had begun after the June 1967 war with the emergence of the economy from the recession. This stemmed from the renewal of income growth, a larger immigration, natural increase, and a rise in the number of marriages. For various reasons, this trend slackened at the end of 1969 and in the course of 1970, but it picked up again in 1971. Advance and speculative purchases were apparently more dominant in the 1971 vigorous growth of demand; these were stimulated by the relative calm along the borders, the intensification of inflationary tendencies in spite of the restraining measures adopted by the Government, the large increase in liquidity and mortgage credit, and the much greater inflow of capital transfers from abroad by immigrants, restitution recipients, and

Table XII-1  
INDICATORS OF CONSTRUCTION ACTIVITY, 1964-71<sup>a</sup>

	1964	1965	1966	1967	1968	1969	1970	1971	Percent annual increase or decrease (-)	
									1970	1971
<b>Construction output (IL million, at 1970 prices)</b>										
Residential	1,195	1,280	1,030	700	810	1,180	1,595	1,850	35	16
Nonresidential	1,105	1,180	1,060	935	1,135	1,305	1,225	1,340	-6	9
Total value of new civilian construction	<b>2,300</b>	<b>2,460</b>	<b>2,095</b>	<b>1,635</b>	<b>1,945</b>	<b>2,485</b>	<b>2,820</b>	<b>3,195</b>	<b>13</b>	<b>13</b>
Other <sup>b</sup>	225	245	280	335	515	650	770	740	18	-4
Total output	<b>2,525</b>	<b>2,710</b>	<b>2,375</b>	<b>1,970</b>	<b>2,460</b>	<b>3,130</b>	<b>3,590</b>	<b>3,935</b>	<b>15</b>	<b>10</b>
<b>Building starts (thousand m<sup>2</sup>)</b>										
Residential	3,750	3,090	2,060	1,650	2,395	3,665	4,450	5,020	21	13
Nonresidential	1,855	1,645	1,365	1,165	1,425	1,445	1,425	1,620	-1	14
Total	<b>5,605</b>	<b>4,735</b>	<b>3,425</b>	<b>2,815</b>	<b>3,820</b>	<b>5,110</b>	<b>5,875</b>	<b>6,640</b>	<b>15</b>	<b>13</b>
<b>Number of dwelling units started</b>										
Private construction	21,080	18,900	13,910	9,750	15,830	23,420	24,700	33,050	5	34
Public construction	27,300	18,980	8,590	9,230	8,430	13,520	21,320	17,880	58	-16
Total	<b>48,380</b>	<b>37,880</b>	<b>22,500</b>	<b>18,980</b>	<b>24,260</b>	<b>36,940</b>	<b>46,020</b>	<b>50,930</b>	<b>25</b>	<b>11</b>

<b>Number of dwelling units completed</b>										
Private	18,800	18,520	18,520	15,330	13,160	16,480	20,180	22,770	22	13
Public	19,180	19,900	19,060	12,570	9,440	9,150	11,160	15,600	22	40
Total	37,980	38,420	37,580	27,900	22,600	25,630	31,340	38,370	22	22
<b>Number of employed (annual average)<sup>c</sup></b>	87,000	92,000	75,600	63,000	70,000	82,000	91,000	105,000	11	15
<b>Domestic sales of cement ('000 tons)</b>	980	1,044	867	650	948	1,242	1,423	1,671	15	17
<b>Purchases of construction equipment (IL million, at 1970 prices)</b>	76	82	28	9	70	79	83	103	5	24
<b>Imports of current construction inputs (\$ million)</b>			10	8	15.5	19	21.5	34	13	58
<b>Construction time for private dwelling units completed (months)</b>	13.6	14.0	15.4	15.8	14.0	12.4	12.0	13.4	-3	12

<sup>a</sup> Data for 1971 are provisional; data for earlier years have been revised.

<sup>b</sup> Partial estimate; consists of defense construction, maintenance, and repair work.

<sup>c</sup> Including approximately 2,000 workers from the administered areas in 1968, 6,000 in 1969, 12,000 in 1970, and 17,000 in 1971 (annual averages).

SOURCE: Central Bureau of Statistics and Bank of Israel calculations.

foreign nationals. All these factors generated expectations of a continued spiralling of prices, and were in turn influenced by such expectations.

In a number of building materials local industry was working at full capacity (cement, lime products, sanitary materials, etc.), and it became necessary to step up imports. However, imports were negligible in comparison with the sector's output — only 2-3 percent. A labor shortage cropped up, especially in the skilled trades; this was reflected in the much larger number of unfilled job openings and the decline in the number of job-seekers who were not placed. However, the labor shortage was apparently no greater than in industry; this is suggested by the fact that the wage hikes granted building workers did not exceed the average for the economy as a whole, as well as by the rapid increase in employment. The building boom of the past five years has spurred the Government and others to invest in the building materials industry, construction equipment, and prefabricated construction. There has also been a tendency to import building components and even complete buildings.

Despite the difficulty of obtaining skilled workers and various materials, this was probably not the major constraint on the volume of construction and the supply of finished dwellings. On the other hand, if more land suitable for immediate construction had been available, this would have facilitated the satisfaction of the demand for building starts.

Pressures in the housing market stem primarily from the stimulative effect of mounting prices on demand and the long gestation period of construction. An upsurge of demand (such as occurred after the Six Day War) therefore results in an immediate shortage of completed units; thereafter demand is fueled by the rise of prices and the likelihood of its continuation. Eventually, after lagging behind the growth of demand, supply adjusts to the level of current demand, including speculative and advance purchases.

## 2. RESIDENTIAL CONSTRUCTION

In the year reviewed 51,000 dwelling units (about 5 million sq. meters) were started and 38,000 completed, continuing the steady upswing in residential construction begun in 1968. Building starts reached an all-time high in 1971 (the previous record was 48,000 in 1964), while the number of dwellings finished was similar to that in earlier boom years. In both area and value, the gain was greater than in previous boom periods (see Tables XII-1 and XII-3).

Nevertheless, demand pressure continued to swell, pushing up dwelling prices by 30 percent or more in 1971. This sparked off demonstrations and illegal occupation of flats by young couples and low-income families. A partial indicator (data on private sector building starts and unsold dwellings — corresponding data for publicly financed construction were not available) shows that home sales by private firms in the second half of 1971 were almost 40 percent higher than in the same period of 1970.

In 1970 it seemed that the residential building market was approaching equilibrium, following the initial housing shortage after the Six Day War and the emergence from the

recession. Private residential starts first levelled off and then declined, and the advance of dwelling prices slowed compared with the general price level. The diminution of excess demand induced private contractors to reduce starts in the last quarter of 1969, and they even sold dwellings to the Ministry of Housing. Subsequently the Ministry of Housing itself decided to cut back on starts (public sector starts began to fall in the third quarter of 1970). However, demand again turned upward in 1971. The renewal of price increases stimulated speculative and advance purchases of housing in various stages of construction. On the supply side, a number of developments (discussed below) created a gap between the sharply increased physical volume of building during the past two years and the number of new units put on the market.

(a) *Residential construction*

The demand for homes engendered by demographic changes (population growth due to immigration and higher birth and marriage rates) and economic factors increased strongly in 1968 and 1969, but slackened in 1970 when the rise in private disposable income and consumption began to falter. Though the demand for housing for immediate occupancy (as opposed to advance and speculative purchases) continued to swell in 1971, various estimates based on the growth of the population and of private disposable income over the past two years) indicate that it did not exceed 40,000 units.<sup>1</sup> Residential building starts, which had reached an annual level of 40,000 units by the second half of 1969, continued upward and totalled 46,000 and 51,000 in 1970 and 1971 respectively. By the second half of 1971 the annual rate was up to 55,000, though the volume of completions was still much smaller. The divergence between the demand estimates based on demographic and economic developments and the actual volume of starts (which presumably reflected actual market demand) suggests that there were other special factors at work on both the demand and supply sides. These created a situation where housing demand included a considerable element of speculative and advance purchases; i.e. numerous homes were bought for future occupancy or as a relatively lucrative investment.

A key factor in such a development is the long gestation period of residential construction (it takes from one to two years to complete a dwelling), so that supply adjusts to changes in demand only with a lag. Previous Bank of Israel *Annual Reports* described how a shortage of completed units arose in 1968 and 1969. Because of the accumulation of a large stock during the previous boom, in 1966-67 starts were cut back severely relative to current demand. The outcome was a very low volume of completions in the following two years, when demand was mounting rapidly, especially after the renewal of large-scale immigration. The shortfall in completed units was of course accompanied by price rises and expectations that the uptrend would persist. These expectations stimulated demand for dwellings not required for immediate occupancy and perpetuated the vicious circle. There are several aspects to this type of demand: (a) The holding up of sale by those about to move into a new home, which means that for a time they own more than one home. The longer the postponement (which becomes more worthwhile the faster

1. According to detailed estimates prepared for the Ministry of Housing, based on the growth of the population, the demolition of old buildings, etc.

**Table XII-2**  
**VALUE OF NEW CONSTRUCTION, BY TYPE, 1965-71<sup>a</sup>**  
 (IL million, at 1970 prices)

	1965	1966	1967	1968	1969	1970	1971	Percent annual increase or decrease (-)		1971 at current prices
								1970	1971	
<b>Residential</b>										
Public	456	340	200	193	279	411	500	47	22	570
Private	824	692	499	619	902	1,185	1,351	31	14	1,541
Total residential construction	1,280	1,032	698	812	1,180	1,596	1,852	35	16	2,111
<b>Nonresidential</b>										
Agriculture <sup>b</sup>	40	42	33	41	40	82	69	105	-16	79
Industry, mining, quarrying	199	119	98	147	139	167	169	20	1	193
Electric power	54	56	42	42	74	72	81	-3	13	93
Water	76	76	72	55	38	39	49	3	26	56
Transport and communications	272	238	233	337	413	305	360	-26	18	407
Commercial premises	80	68	41	35	28	29	35	4	21	40
Hotels and other lodging places	41	27	29	47	529	480	506	-9	5	576
Public institutions and services	419	437	389	431	42	50	73	19	46	83
Total nonresidential construction	1,180	1,061	937	1,135	1,303	1,225	1,342	-6	10	1,527

Thereof:										
Buildings	698	636	510	588	692	733	801	6	9	913
Other construction work	484	426	426	546	611	492	541	-19	10	615
Total value of new construction	2,462	2,094	1,634	1,946	2,483	2,821	3,194	14	13	3,638
Noninvestment output <sup>c</sup>	246	279	335	514	648	770	740	19	-4	830
Grand total	2,708	2,373	1,969	2,460	3,131	3,591	3,934	15	10	4,468

NOTE: Discrepancies in totals are due to the rounding of individual items.

<sup>a</sup> Data for 1971 are provisional; data for earlier years have been revised.

<sup>b</sup> Agricultural construction here does not include investment in afforestation, drainage, and land reclamation and conservation.

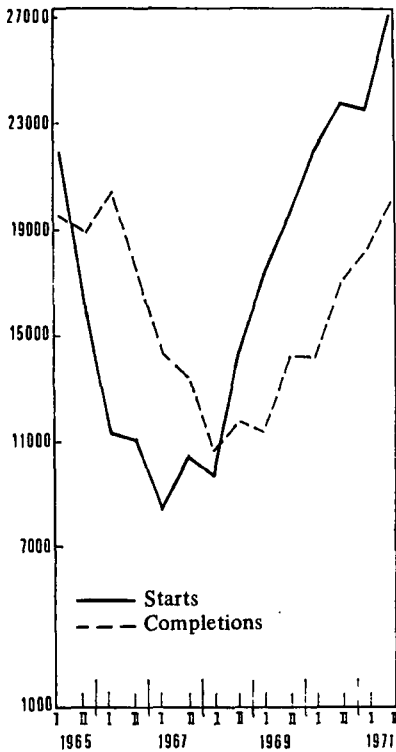
<sup>c</sup> Defense construction, maintenance, and repair work.

SOURCE: Central Bureau of Statistics and Bank of Israel calculations.

housing prices climb), the more it adds to the pressure in the housing market. (b) The purchase of homes for later occupancy. (c) The purchase of real estate for investment purposes. Housing is normally regarded as a fairly illiquid asset, but when a sellers market develops and prices start to spiral, it becomes an attractive investment, even in the short run.

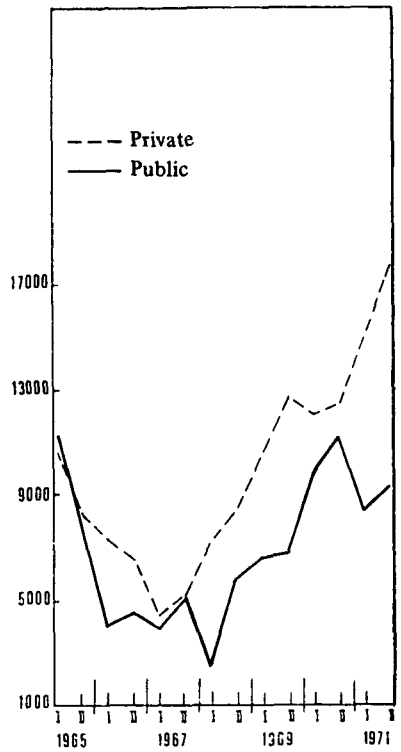
Toward the end of 1969 the housing market appeared to be in equilibrium; that is to say, after expanding rapidly, supply had caught up with demand. This was reflected by an appreciable increase in the stock of unsold units held by private contractors. Expectations of a strong advance of prices ebbed. At the same time, the Government instituted a policy of economic restraint (the "package deal"), which gave rise to uncertainty concerning such economic variables as prices and private incomes and led to the shelving of purchases. The resulting slack in demand was also felt in the consumption of durables during the first half of 1970. Partial data on sales by private builders indicate a decline at the end of 1969 and in the first six months of 1970. Private sector building starts tapered off (and later dropped), the uptrend in housing prices relative to the general price level slowed,

**Figure XII-1**  
**TOTAL RESIDENTIAL CONSTRUCTION,**  
**HALF-YEARLY, 1965-71**  
 (number of units)



SOURCE: Central Bureau of Statistics.

**Figure XII-2**  
**TOTAL RESIDENTIAL CONSTRUCTION**  
**STARTED, HALF-YEARLY, 1965-71**  
 (number of units)



SOURCE: Central Bureau of Statistics.



**Table XII-3**  
**AREA OF BUILDING CONSTRUCTION STARTED AND COMPLETED, BY TYPE, 1962-71<sup>a</sup>**  
 (thousand sq. meters)

	Annual average 1962-65	1966	1967	1968	1969	1970	1971	Percent increase or decrease (-) in 1971	
								As against 1970	As against average 1962-65
<b>Starts</b>									
Residential	3,322	2,057	1,650	2,396	3,667	4,448	5,020	12.9	51.1
Private	1,906	1,496	1,014	1,732	2,567	2,737	3,600	31.5	88.9
Public	1,416	561	636	664	1,100	1,711	1,420	-17.0	0.3
Nonresidential	1,569	1,364	1,164	1,426	1,447	1,424	1,620	13.8	3.3
Total starts	4,891	3,421	2,815	3,822	5,114	5,872	6,640	13.1	35.8
Thereof:									
Private	3,077	2,308	1,684	2,692	3,595	3,765	4,655	23.6	51.3
Public	1,814	1,113	1,131	1,130	1,518	2,107	1,985	-5.8	9.4
<b>Completions</b>									
Residential	2,936	3,116	2,381	1,994	2,428	3,134	3,805	21.4	29.6
Private	1,651	1,888	1,598	1,375	1,770	2,263	2,520	11.4	52.6
Public	1,285	1,228	783	619	658	871	1,285	47.5	0.0
Nonresidential	1,344	1,755	1,137	1,427	1,215	1,323	1,570	18.7	16.8
Total completions	4,280	4,871	3,518	3,421	3,643	4,457	5,375	20.6	25.6
Thereof:									
Private	2,671	3,058	2,352	2,359	2,630	3,217	3,630	12.8	35.9
Public	1,609	1,813	1,166	1,062	1,013	1,240	1,745	40.7	8.5

<sup>a</sup> Data for 1971 are provisional; those for previous years have been revised.

SOURCE: Central Bureau of Statistics.

while the absolute quarterly rise in prices declined from a high of 5.4 percent to 4.1 and 2.3 percent in the next two quarters.

Although private starts levelled off, there was an upsurge of public starts, so that the total volume rose appreciably. However, the Ministry of Housing normally signs contracts or sells its dwelling units near the date of completion. Consequently, even though the area of starts was larger in 1970 than in 1969, the number of units put on the market was smaller. Moreover, the Ministry of Housing purchased thousands of privately built homes (mainly in the first half of 1970), thus further reducing the supply available to the general public.

In the final part of 1970 demand apparently began to pick up again. But private starts continued downward, and the effect of the increase in public sector starts in 1970 was not yet felt at this stage, since construction time is longer in the public than in the private sector and, as mentioned, contracts are signed only when the building nears completion.

The generation of a heavier demand at a time when supply was limited sent prices soaring and heightened expectations that the rapid climb would persist; this in turn further stimulated demand. Several factors influenced this change in the demand trend. In the course of 1970 it became clear that the fears of a recession, current at the beginning of the year, were exaggerated; these apprehensions had dampened demand, including advance purchases. But the Government's restraining measures notwithstanding, the money supply expanded rapidly and the uptrend in the general price level grew more pronounced. These developments, together with the cease-fire that came into effect in August 1970, help explain the revival of housing demand.<sup>2</sup> In the year reviewed the continued growth of the money supply, the further rapid rise in the general price level, along with the revaluation of a number of European currencies and the devaluation of the Israeli pound in August 1971, accentuated the demand for real estate by those owning foreign currency deposits.

The easing of foreign currency controls also enabled Jews living abroad to advance their purchases in anticipation of a continued surge of prices. There are no reliable data on home purchases in foreign currency, but conservative estimates put the 1971 figure at 2,000 units at least. Capital transfers by private individuals from abroad increased from \$87.5 million in 1967 to \$175 million in 1970 and \$300 million in 1971 (\$115 million by new immigrants). As mentioned, it is not clear how the funds transferred were used, but there is no doubt that at least part of the sizable increase — especially that in the year reviewed — was invested in real estate. A similar picture emerges from data on the

2. There are no direct data on sales other than for immediate occupancy. But data on the number of persons joining the Saving-for-Housing schemes may serve as an indirect indicator. In these schemes, which are more likely to attract persons who do not have the means to buy outright, the savings are linked to the price index of public residential construction, and the saver is guaranteed preferential terms in buying a home. The number of persons joining such schemes was as follows: 1960/61 — 5,921; 1961/62 — 7,620; 1962/63 — 10,455; 1963/64 — 14,542; 1964/65 — 4,712; 1965/66 — 413; 1966/67 — -2,060; 1967/68 — -778; 1968 — 1,181; 1969 — 3,130; 1970 — 5,233; 1971 — 14,000.

**Table XII-4**  
**ESTIMATED GROSS MORTGAGE BANK CREDIT, 1969-71**

	Total credit (IL million)			Number of loans (‘000)			Average loan (IL ‘000)		
	1969	1970	1971	1969	1970	1971	1969	1970	1971
<b>Public construction</b>	148.0	242.8	314.5	10.7	14.0	16.7	13.9	17.4	18.9
New immigrants	40.5	121.6	141.4	2.0	4.4	5.1	20.6	27.4	27.6
Families relocated under slum-clearance projects	10.2	6.4	21.8	1.3	0.6	1.4	8.1	10.8	16.2
Young couples	6.5	4.1	26.1	0.4	0.3	1.5	15.5	12.8	17.5
Other	90.8	110.7	125.2	7.0	8.6	8.7	12.9	12.9	13.7
<b>Private construction</b>	70.6	55.5	109.7	5.1	4.4	7.2	13.9	12.6	15.1
<b>Total</b>	<b>218.6</b>	<b>298.3</b>	<b>424.2</b>	<b>15.8</b>	<b>18.4</b>	<b>24.9</b>	<b>13.9</b>	<b>16.2</b>	<b>17.7</b>

foreign currency investments of foreign nationals in Israel. These remained stable at around \$40 million between 1967 and 1970 and then jumped to \$88 million in 1971.

The volume of mortgage credit for the purchase of housing in the private market was cut in 1970 but doubled in 1971 from IL 55 million to IL 110 million (most of it granted from funds raised abroad by a number of small banks). In addition to this, the abundant liquidity in the money market in 1971 made it possible to obtain ordinary credit (even if only short-term) from commercial banks for financing the purchase of housing. Directed public sector credit for this purpose also expanded substantially – from IL 243 million in 1970 to IL 315 million, or by IL 72 million; of this sum, new immigrants received IL 20 million and other residents IL 52 million.

There was an especially big increase in the amount of mortgage financing provided by the public sector to the newly married and slum dwellers (following the demonstrations and squatting in new buildings, which paradoxically were triggered off by the expansion of residential completions; see below). The sum supplied to the newly married was six times the 1970 volume. Nevertheless, the total amount of mortgage financing granted to these two categories was relatively small, totalling IL 48 million compared with IL 125 million in directed public sector credit to persons other than new immigrants, young couples, and low-income families. In addition, the Ministry of Housing eased financing terms in 1971 by reducing the required down payment on dwellings, thus further stimulating the effective demand for homes.

The number of units supplied by the Ministry of Housing, as already noted, did not reflect the full extent of its construction program. Therefore, the expansion of public sector credit without a corresponding increase in the supply of dwellings perforce aggravated the shortage in the market and pushed up prices.

The clamor of the newly married for housing prompted the Government to turn to private and Histadrut construction companies and contractors with a proposal to put up 14,000 units for young couples. Special funds for the granting of mortgage loans to

home buyers and for putting up new units were ensured, so that here too the growth of supply (in this case statistically attributed to the private sector) was accompanied by a parallel growth in effective demand. It is not clear how many units were constructed under this arrangement in 1971, but builders probably tried to have as much of their construction as possible (including projects begun earlier) recorded under this specific heading, mainly because they were thus able to obtain interim financing and – since home buyers were ensured mortgage credit – to win a preferential position in the market in the event that surplus stocks accumulated.

As regards the stock of unsold units held by private contractors, there was apparently a change of trend at the end of 1971, when some of the builders abandoned the caution they had displayed at the end of 1969 and during 1970 and began to deliberately accumulate stocks so as to profit from the persistent rise of prices. Presumably this change in behavior was also influenced by the issuance after the devaluation of August 1971 of an order banning the upping of prices (applicable only in cases where a contract had already been signed). Many contractors had put off the sale of homes in the hope of eventually obtaining permission to charge a higher price. At the end of the year the Ministry of Housing did in fact approve a general rise in prices at a rate equal to the rise in the index of residential construction costs. It may therefore be concluded that instead of checking the advance of prices, the order had the opposite effect, since it engendered expectations of a price rise while reducing the supply of new dwellings.

Even though the volume of completions was much smaller than the volume of starts (38,000 units as against 51,000), this should nevertheless have satisfied most of the demand for dwellings for immediate occupancy. The critical period, when the supply of completed units fell short of demand, was apparently the early part of 1970, and since then the situation has improved. At the beginning of 1971 the stock of completed immigrant housing units began to expand, and it is precisely these completed and vacant dwellings that set off a wave of demonstrations and squatting by the newly married. Some 2,000 units intended originally for new immigrants were transferred to young couples and slum dwellers. Despite this reallocation, there was no special difficulty in furnishing housing for the wave of immigration from the Soviet Union, which suddenly assumed large dimensions in the final months of 1971. On the contrary, the immigrant housing situation improved in comparison with the previous year, for single persons and families alike.

In 1971 the construction period for private residential building, which had been steadily whittled down during the preceding three years, lengthened. Such a development is usually ascribed to a shortage of labor and building materials. But Table XII-1 shows that the construction period actually tends to lengthen when a surplus stock of units accumulates and to contract when homes are in short supply.

### 3. NONRESIDENTIAL CONSTRUCTION

After falling off in 1970, nonresidential construction expanded in 1971 (this is not fully reflected in the annual data on the value of new construction put in place, which rose by

only some 10 percent – see Tables XII-2 and XII-5). The value of new nonresidential construction put in place came to IL 1,500 million at current prices. In terms of area, some 1.6 million square meters were begun (this is a provisional estimate, which will undoubtedly have to be revised upward). The volume of such construction thus eclipsed the peak levels attained during the boom years 1964 and 1965.

In 1969 the Government took various administrative steps to restrict the erection of public buildings and business premises with a view to stepping up residential construction. In 1970 this aim was dovetailed into the Government's general anti-inflationary policy. With the expansion of residential building to the point where the housing market seemed to be approaching equilibrium, permits for putting up public buildings and business premises were issued fairly liberally during 1971. Moreover, it became evident that the curbing of public services construction while residential construction was expanding rapidly created a gap between the level of housing and that of public services provided the home buyers. This was the underlying consideration in stepping up the construction of public buildings and investment in transport, communications, and the water system.

Together with the erection of public buildings (schools, kindergartens, hospitals, telephone exchanges), there has been a striking expansion of hotel construction since the Six Day War. The year reviewed also saw an increase in business and office premises, after several years of slack due to the accumulation of a stock of vacant buildings during the 1964-65 boom and to the administrative restrictions in force in 1969-70.

On the other hand, industrial construction, which has not been subject to administrative curbs, held steady in 1971. The volume of starts stabilized at the 1969 level, and construction seemed to be on a scale adequate to meet the requirements (industrial premises are normally erected in anticipation of an expansion of production, and it is often possible to boost output in existing enterprises by replacing or adding equipment, so that the demand for additional buildings is relatively small). In 1971 industrial construction may have exceeded current requirements, since Government companies putting up premises for sale or rental rather than according to specific contracts expanded their operations during the year.

#### 4. INPUTS

The index of residential construction costs climbed 13 percent in 1971; this is roughly the same as the rise in the general price level, indicating that the supply of building materials and building workers more or less adjusted to the steady expansion of construction activity over the past several years. The local building materials industry is now working at full capacity (this applies also to enterprises that discontinued production during the slump), and it was necessary to increase imports of current building inputs by about 60 percent. But even so, the volume of imports (\$34 million in 1971) amounted to only 3 percent of the sector's output for the year. There are actually no constraints on the amount of building materials and accessories that can be bought abroad, and a shortage of any type of input is usually of short duration, being due chiefly to hitches in the

**Table XII-5**  
**AREA OF NONRESIDENTIAL CONSTRUCTION, 1963-71**  
 (thousand sq. meters)

	1963	1964	1965	1966	1967	1968	1969	1970	1971
	<b>Starts</b>								
Agriculture and irrigation	177	194	108	176	196	131	148	190	120
Industry and crafts	542	720	437	288	233	332	463	489	466
Commercial and office buildings, hotels, etc.	214	315	330	246	176	219	217	217	336
Public buildings	456	628	768	654	560	745	619	528	698
<b>Total</b>	<b>1,389</b>	<b>1,857</b>	<b>1,643</b>	<b>1,364</b>	<b>1,165</b>	<b>1,426</b>	<b>1,447</b>	<b>1,424</b>	<b>1,620</b>
	<b>Completions</b>								
Agriculture and irrigation	174	175	191	140	139	168	136	161	234
Industry and crafts	476	560	587	510	288	325	361	501	491
Commercial and office buildings, hotels, etc.	110	206	274	298	206	316	190	153	230
Public buildings	403	460	547	807	504	618	528	508	615
<b>Total</b>	<b>1,163</b>	<b>1,401</b>	<b>1,599</b>	<b>1,755</b>	<b>1,137</b>	<b>1,427</b>	<b>1,215</b>	<b>1,323</b>	<b>1,570</b>

SOURCE: Central Bureau of Statistics.

**Table XII-6**  
**INCREASE IN RESIDENTIAL CONSTRUCTION INPUT PRICES, 1971**  
 (percentages)

	Weight in index	Annual average		End-year level	
		Rise in price	Percent of total price rise	Rise in price	Percent of total price rise
Quarry materials, marble, and porcelain products	54.8	9.8	5.4	9.3	5.2
Cement and cement prod- ucts, Ytong and silicate products	110.0	9.2	10.9	11.6	10.7
Iron and metal products	95.7	4.8	9.1	9.3	9.2
Wood and kindred products	96.4	12.2	9.8	14.8	9.7
Sanitary and electrical installation materials	63.1	4.9	6.0	8.6	6.0
Wages	514.3	12.3	52.3	17.0	52.6
Transport	15.7	15.1	1.6	20.7	1.7
Equipment and tools	29.6	8.5	2.9	11.7	2.9
Miscellaneous	20.4	10.5	2.0	10.8	2.0
<b>Total</b>	<b>1,000.0</b>	<b>10.5</b>	<b>100.0</b>	<b>14.3</b>	<b>100.0</b>

SOURCE: Central Bureau of Statistics and Bank of Israel calculations.

importation process (organization of the import of products not imported previously, the issuance of permits, customs procedures, and unloading at ports).

The buoyant level of construction activity and the shortage of various materials prompted the Government to encourage large-scale investment in factories manufacturing building materials, accessories, and components. In 1971 capital spending in the non-metallic minerals industry was up 37 percent. It will be recalled that there was a similar development shortly before the last recession (1966-67), when some of the investments initiated during the boom period matured too late. Since it is difficult to predict future demand for the sector's output, and since a shortfall in locally produced inputs can easily be made up by way of imports, a heavy demand for inputs can be satisfied reasonably quickly without fully adjusting productive capacity to demand during peak periods.

After the large-scale purchase of earthmoving equipment in 1968-70, earthwork prices stabilized and in some cases even softened. This was connected with the decline in defense demand (which had peaked in 1970) and with the completion of several large projects (such as the oil pipeline).

In general, contractors tend to be chary of investing in building equipment because of the volatility of construction activity. But their hesitancy during the past few years is remarkable in view of the prevailing assessments concerning the shortage of productive capacity. In contrast to other sectors, capital stock per employee has decreased over the

last four years. This is explained by the supply of building workers from the administered areas. In 1971 purchases of construction equipment rose 25 percent to IL 120 million, but this augmented the existing stock of such equipment by only 5 percent, which is far below the increase in employment.

(a) *Employment and wages*

Employment data for this sector are obtained from three different sources: (1) manpower surveys supplemented by estimates of the number of workers from Judaea, Samaria, and the Gaza Strip employed in Israel; (2) National Insurance Institute data; (3) direct reports of employers to the Central Bureau of Statistics. It is hard to reconcile the figures from these three sources (a difficulty experienced for the third consecutive year). The number of man-days worked by day laborers (from employers' reports) increased by 4 percent, the number of jobs (according to the National Insurance Institute) by 8 percent, and the number of employed (from the manpower surveys) by 15 percent. The manpower surveys also include the self-employed, but the data indicate that most of the increase was concentrated among employees.

The labor input apparently rose at roughly the same rate as output, i.e. by 9 to 10 percent (the increased weight of building construction in general and of the finishing stages in particular, which are labor-intensive, was presumably offset by a slight gain in productivity). The 4-5 percent increase in the number of man-days reported by employers seems to square with the 8 percent increase in the number of jobs, since building workers tend to change their places of employment quite frequently. On the other hand, the increase in the number of employees according to the manpower surveys seems rather dubious, since it does not jibe with the figures from the other sources and is much greater than what the behavior of workers in previous boom periods would lead one to expect.

As regards wages and labor costs, the different sources point to a rise ranging from 11 to 14.5 percent. At first glance this seems to be unduly low, but it should be noted that this is the average increase. Because of the steady accretion of new workers from the administered areas, whose earnings are below the sector average, the rise in labor costs and average wages has been mild compared with other sectors and with output prices.

Moreover, there has apparently been an increase in the number of self-employed. The level of their earnings and the percentage growth therein are much higher than in the case of hired labor for two reasons: first, the self-employed are concentrated in the more highly skilled trades, especially those employed in the final stages of construction, the relative scope of which has expanded over the past two years; and secondly, the output (and income) of the self-employed is appreciably greater than that of day laborers. (Obviously, from the viewpoint of the employer, what counts is the labor cost per unit of output and not per worker.) At any rate, in 1971 the shortage of labor did not seem to be more acute in construction than in other sectors — a conclusion reinforced by data on the growth of employment relative to that of output, the increase in construction wages relative to wage increases in other sectors and to the rise of output prices, and the downtrend in the capital stock per construction worker in recent years. Labor exchange data on the number of unfilled job openings also indicate that the situation is no more



serious in construction than in industry: the proportion of unfilled vacancies was 38 percent in the former as against 57 percent in the latter. Though there was a marked rise in the construction sector in comparison with 1970 (when the figure came to only 20 percent), this was probably due primarily to the continued institutionalization of employment of workers from the administered areas, which to a growing extent is being arranged through labor exchanges in the areas themselves. The available information points to a decline in the number of unemployed skilled building workers and an increase in the number of unfilled job openings, testifying that this type of labor is in short supply.

The conclusion that the supply of construction labor is comparatively elastic and does not impose an effective constraint on output does not contradict the existence of temporary shortages in specific building trades or localities. The training required, the method of operation, and the organizational structure of the industry tend to create such shortages, owing to the sharp fluctuations in the various types of construction activity and in various localities; at the same time, they also ensure that these shortages are short-lived, as there is a high degree of labor mobility in the sector, not only geographical but also between trades and employers. Moreover, as regards workers not employed on a permanent basis, there is a large measure of flexibility in payments, which tends to facilitate labor mobility.