Regulatory changes will cause the industry to develop in several directions.

In the area of the competition between Bezek and the cable companies for the fast internet, the arrangement permitting this has been completed, licenses have been granted, and the companies may start introducing this service in 2002.

In international communications, at the beginning of 2002 the exclusive licenses of the three current operators expire. The Ministry of Communications' new policy will include granting licenses to all applicants as of 2003.

In the field of the internet, internet providers will be permitted to buy data capacity directly from the undersea cable operator.

5. Construction

Construction was in deep recession in 2001; the number of building starts was at its lowest level since the late 1980s.

The construction industry was in deep recession in 2001. Its product and output, which has been falling for the last three years, fell even more steeply (Table 1.22), and this applied especially to privately-initiated residential construction. The number of building starts in 2001, 32,000, was the lowest since the end of the 1980s, and far below the (net) additional number of households, which is estimated at 45,000. The industry's share of business-sector product continued to decline (Figure 1.43).

The decline in construction output extended to almost all its component industries, and the 16 percent fall in private construction output (excluding renovations), which accounts for 40 percent of the industry's output, is particularly prominent. The output of earthworks (representing 19 percent of total output) rose by 15 percent, apparently due to the increase in road-building.

The fall in demand and excessive demand forecasts are among the main reasons for the slump in the industry in 2001.

There are two main reasons for the slump in the industry in 2001. The first is the drop in demand, for both residential and nonresidential construction. Another reason is what appears *ex post* to be an excessive demand forecast in the first three quarters of 2000 (before the outbreak of the *intifada*), together with a decline in prices and rise in

Table 1.22
Output and Product in Construction, 1986–2001[a]

				Annual average change (percent)							
	1999	2000	2001	1986–89	1990–95	1996	1997	1998	1999	2000	2001
Total output (*millions of 1995 NIS*)	36,601	34,526	31,966	3.3	14.2	8.6	1.8	–6.5	–10.3	–5.7	–7.4
Residential	18,707	17,253	14,941	3.2	13.0	6.1	0.9	–9.5	–7.5	–7.8	–13.4
Nonresidential	15,588	14,754	14,348	5.4	19.1	11.4	3.1	–3.9	–14.6	–5.4	–2.7
Other[b]	2,306	2,519	2,677	–1.3	0.6	10.4	0.6	0.9	–2.0	9.2	6.3
Total area of building starts *(thousands of sq. m.)*	9,038	9,704	7,232	1.4	22.2	–10.4	–7.6	–12.8	–8.0	7.4	–25.5
Residential	6,195	7,107	5,210	2.8	21.1	–13.9	–6.8	–12.8	–9.8	14.7	–26.7
Nonresidential	2,843	2,597	2,022	–2.6	25.3	–1.5	–9.5	–12.6	–3.7	–8.7	–22.1
Residential starts *(thousand units)*	39	46	32	–1.3	24.2	–19.1	–9.4	–16.9	–12.8	18.3	–30.6
Residential completions *(thousand units)*	46	43	37	–2.6	9.4	37.6	28.4	–20.9	–14.1	–7.2	–14
Change in construction product				3.7	7.5	9.5	2.1	–7.3	–9.0	–4.8	–9.2

[a] Calculated from unrounded figures; some figures may differ from Hebrew original due to corrections.
[b] Includes defense construction and an estimate of maintenance.
SOURCE: Based on Central Bureau of Statistics data.

stock. At all events, the process of the industry's adjustment to the situation after the influx of immigrants appears to have ended, and hence the fall in its output in the last two years is the outcome of cyclical rather than long-term factors, as was the case in 1998–99.

The decline in the labor supply does not at present appear to be an effective constraint on the expansion of activity.

Today the decline in the labor supply does not appear to be an effective constraint on an increase in activity. While the *intifada* had an immediate impact on the labor supply, creating a temporary shortage of workers in 2000:IV, many foreign workers—and even Israelis—entered the industry in 2001 (Table 1.23). The contraction of demand also prevented a shortage of labor. This conclusion is also borne out by data from the Bank of Israel's Companies Survey: the proportion of companies reporting a lack of workers as an obstacle to the expansion of their activity declined (monotonically) from 33 percent in 2000:IV to only 7 percent in 2001:IV,[51] and the proportion of companies reporting demand constraints rose from 38 to 66 percent.

The credit/industry product ratio rose steeply in 2001, indicating an increase in the industry credit risk.

Another supply-side constraint is finance. Indications of this are provided by the cut in construction time (a surprising finding, see below), the Companies Survey figures, pointing to a rise in the proportion of companies reporting funding difficulties in 2001:IV, and data from the banking system on the credit/industry product ratio. Total credit to the industry[52] remained stable in the first two quarters of 2001 and rose in 2001:III. The fall in the industry's product led to a steep rise in its credit/business-sector product ratio,[53] indicating a deterioration in its repayment ability, and thus an increase in its credit risk. This could lead to credit rationing and even to an increase in its price, especially since the fall in prices reduces the value of collateral. It seems, however, that the decline in demand and prices are the main causes of these financing difficulties.

The industry supply is determined by contractors' price expectations. In other words, the flow of investment is determined by stock price.[54] The flow of investment relative to stock is small (only about 2 percent), so that it may be assumed that supply is inelastic in the short run, and prices change mainly due to a shift in demand. Because of the long time required to complete a construction project,[55] investment is determined on the basis of a forecast of expected demand two or three years ahead, and if this is not realized it gives rise to a cycle in activity.[56] This factor appears to have contributed to

[51] A shortage of workers may be experienced by small contractors and renovators. The Companies Survey sample is not a representative one.

[52] Balance-sheet credit data, Supervisor of Banks, Bank of Israel, *Annual Information on the Banking Corporations*, 2000, Table IV.3.

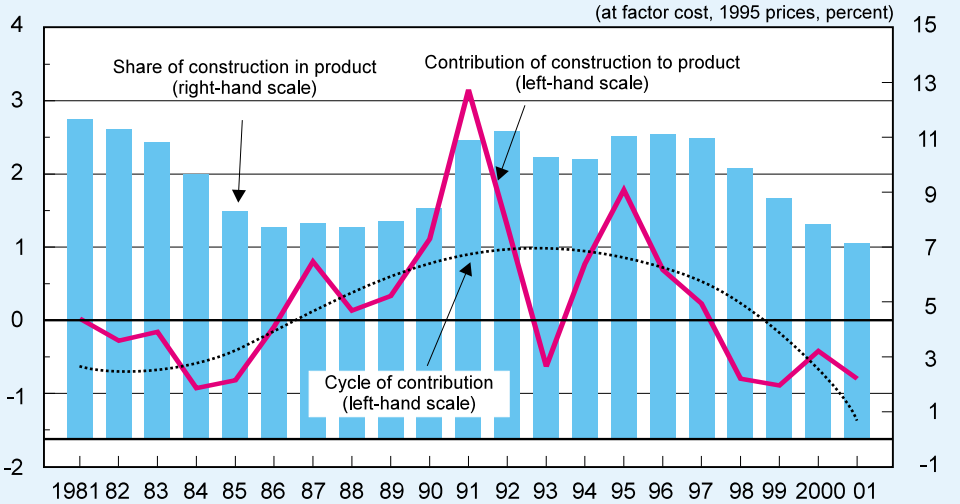
[53] In general, the credit/business-sector product ratio has been rising for the last few years, but at a steeper rate in construction (see Supervisor of Banks, Bank of Israel, *Israel's Banking System, Annual Survey*, 2000).

[54] Assuming no constraints. The correlation between the housing price index/construction input index ratio and construction investment since 1995 is 0.8. Since the land component is included in the price of the apartment but not in the input index, the correlation was examined for only a short period.

[55] In residential construction the construction stage is about two years as a long-term average (compared with a year in the US).

[56] The expectations would appear to be adaptive; see Moshe Bar-Natan, Michael Binstock, and Yoel Hitowsky (1995), "An Econometric Model of the Israeli Housing Market," Bank of Israel Research Department, *Discussion Paper* no. 95.02.

Figure 1.43
Direct Contribution of Construction Product to Business-Sector Product, 1981–2001



SOURCE: Based on Central Bureau of Statistics data.

The unfulfilled demand forecast has caused a cycle in the industry's activity. This appears to have contributed to the contraction of activity in 2001.

the decline in activity in 2001; an indication of this is provided by the development of the unsold stock of housing held by contractors and building starts in the last two years. The stock rose steadily during 2000, reaching a peak at the end of the year; the adjustment of activity in 2001 was expressed in the steep decline in the number of building starts (Table 1.22) and over 30 percent drop in the number of permits for privately-initiated construction (reflecting a longer horizon of expectations). *Ex post*, contractors' expectations of a shift in activity, as expressed in building starts, appear to have been confounded: in 2000 the number of building starts rose by 18.3 percent, indicating that contractors expected an increase in demand, but apartment prices have fallen markedly in the last two years (Table 1.25), starting before the *intifada*.

These processes, and especially the decline in demand, led to direct government intervention, by means of a program to stimulate demand and a proposal to reform the taxation of the industry (see Boxes 1.13 and 1.14).

A similar process was evident in nonresidential construction, although in that sphere the fall in output and the area of building starts was slightly more moderate. In this case, the long-term cause of the reduction in investment was the lower share of investment in structures and rise in the share of investment in equipment (see section on investment). Developments in the short term were affected by the business cycle. The data on nonresidential construction stocks and prices are incomplete, but excess supply seems to account for the fall in prices.

The main reasons for the decline in demand in 2001 were the business cycle and the security situation. The *intifada* caused demand to fall not only in areas regarded as

dangerous, but also through the general rise in uncertainty, which led to a change in the risk perception attributed to real estate ownership. The drop in demand in 2001 is indicated by the contraction in the number of mortgages taken up, in the number of transactions (Table 1.24), and in prices (Table 1.25). Note that the price data are an underestimate of the fall in demand, since contractors tend to offer inducements of various kinds rather than reduce prices, and these inducements are not included in the housing price index.

The main reasons for the fall in demand in 2001 were the business cycle and the security situation.

The strong impact of the *intifada* on the industry is evident in National Accounts data for 2000:IV, when residential investment plummeted by almost 50 percent (annual rate). This represented a turning point after the surge in activity at the beginning of 2000, so that the total output of the industry fell in 2000. Since then the National Accounts data indicate a downward trend.

Mortgage interest peaked at the beginning of 2001, since when it has been declining, and its annual average rate fell by a moderate 0.5 percentage point. While the elasticity of demand relative to interest is estimated as high,[57] this factor does not appear to have been dominant, for several reasons. First, the risk factor, which intensified as economic uncertainty grew, was greater. Second, a reduction in the interest rate is expected to

Mortgage interest peaked at the beginning of the year and has been declining since then. As an annual average it has declined by a moderate 0.5 percentage point.

Table 1.23
Factor Inputs and Productivity in Construction, 1985–2001

(percent)

			Annual average change								
	2000	2001	1985–89	1990–94	1995	1996	1997	1998	1999	2000	2001
Employment *(thousands)*[a]	235.9	198.4	3.9	8.2	9.8	8.0	4.8	–1.9	–3.8	–2.9	–15.9
Total											
Israelis	116.4	116.7	3.7	12.9	3.3	4.4	–2.5	–10.4	–8.4	–3.2	0.3
Palestinians	59.0	7.9	4.1	–6.2	–18.3	–12.9	28.1	42.5	7.1	–8.8	–86.6
Foreign workers	60.5	73.8			114.6	36.5	10.1	–11.3	–4.6	4.5	22.0
Construction equipment capital stock											
(NIS million, 1995 prices)[b]	8,880	9,633	–2.7	10.4	19.6	19.9	13.7	10.8	8.6	7.3	8.5
Cement sales *('000 tons)*	4,502	4,345	2.5	11.9	24.0	–9.8	–2.4	–7.8	–4.8	–7.0	–3.5
Labor productivity[c]			0.4	0.2	3.2	–3.3	–2.8	–4.5	–4.0	–2.3	6.1
TFP[d]			3.3	–0.1	2.4	–4.7	–4.0	–6.6	–6.2	–3.8	1.4
Residential construction time[e]	23.5	22.2	–2.5	0.2	0.0	–1.9	5.4	3.3	1.8	4.9	–5.5

[a] Number of persons employed according to Central Bureau of Statistics data.
[b] Capital stock at beginning of year.
[c] Product per hour worked.
[d] Product per weighted unit of capital and labor: average weight of labor, 84 percent.
[e] Private construction.
SOURCE: Based on Central Bureau of Statistics data.

[57] See Zvi Eckstein, Ami Barnea, and Menahem Perlman (1998), "The Demand for Credit in the Construction Industry," Bank of Israel Research Department, *Discussion Paper* no. 98.01 (Hebrew).

have an effect only if it does not reflect a decline in demand for investment. Looking to the future, a rise in the share of variable-interest mortgages (which are indexed to shorter-term interest) is expected to reinforce the effect of interest on demand.

Of late there have been signs of a change in the trend of demand, and apartment prices stopped declining in the middle of the year.

Note that of late there have been signs of a trend change in demand. Apartment prices stopped declining in the middle of 2001, since when they appear to have been rising.[58] This was partly due to the Ministry of Construction and Housing's program to stimulate demand (which came to an end at the end of the year), and the recent interest-rate cut. This reduction may give an impetus to demand in the near future, assuming that the effect of the security situation on prices has come to an end.

The behavior of apartment prices in recent years may have led to a change in the perception of the risk of owning this asset, or to a shift in expectations of capital gain in the future. These processes could explain what appears to contradict market equilibrium: during 2001 the price of housing services (measured from renewed rental contracts) rose, while that of apartments fell (Table 1.25). Consequently, the composition of the total return on housing changed, and this had a considerable effect on the CPI.

From a historical perspective, the return on rent was low, and the total return on an apartment comprises a capital gain component of 2–3 percent a year, and resembles the return on bonds—evidence that the market is in equilibrium. The composition of the total return is supported by expectations that the trend of apartment prices will also be positive in the future, due to the rapid rate of population growth. It seems, however, that expectations have changed after several years of falling apartment prices and growing economic uncertainty.

Employment, investment, and productivity

The *intifada* caused a sharp shift in construction employment and its composition.

The *intifada* caused a sharp shift in construction employment and its composition; the composition of employment before the *intifada* was as follows: 121,000 Israelis, 63,000 Palestinians—more than a quarter of the industry's employees—and 60,700 foreign workers (including those without a permit; unadjusted data for 2000:III). In 2001:II the composition was as follows: 121,000 Israelis, 73,200 foreign workers, and only 4,300 Palestinians (all of them illegal, as since June 2001 no permits for entry into Israel have been issued for Palestinians).

From time to time it is contended that Palestinians or foreign workers complement Israelis, because Israelis are not prepared to work in certain construction occupations[59] ('wet work'), thus, the proportion of Israelis to non-Israelis in the industry should remain constant, and they will not serve as substitutes for one another. Employment statistics, on the other hand, show that while the number of non-Israelis fell drastically in 2001, the number of Israelis has not declined but has risen. Quarterly Labor Force Survey data (seasonally adjusted) for the beginning of the year indicate some substitution of workers, but this trend changed later. Since 2001:II the number of foreign workers has begun to rise, and that of Israelis to fall slightly.

[58] The data on housing prices are for 2001:III.

[59] Cement, concrete, plastering, and flooring.

Another indication that there is no complementarity is provided by employment data for 1997–2000, when the industry underwent a process of adjustment to the situation after the influx of immigrants. This was expressed in the decline in total employment, but increase in employment of non-Israelis at the expense of Israelis.[60]

Employment figures indicate that the ratio of non-Israeli to Israeli workers is one of substitution not complementarity.

Wages in construction were up by 4.8 percent in real terms in 2001 over the 2000 average (including Palestinian and foreign workers), reflecting the change in the composition of employment. Excluding Palestinians, wages dipped slightly (by 0.3 percent, Table 2.9)—almost certainly due to the higher share of foreign workers. The wage increase served to raise the construction input index by one percent (excluding wages, the index did not change in 2001).

Wages in construction rose in real terms in 2001, reflecting the shift in the composition of employment.

Investment in construction equipment and capital stock:[61] capital per worker in Israel is very low by international standards.[62] The trend appears to have changed in 1994, however and the rate of investment is now far higher. Capital per worker doubled in 1994–2000, possibly because of changes in the composition of construction, i.e., the increased share of nonresidential construction, which is more industrialized, or the switch to high-rise construction, which requires investment in cranes. Investment figures show that this was relatively high in 2001 (though less than in 2000), despite the low expectations, reflecting the substitution between capital and labor. Substitution in the opposite direction is indicated by the decline in capital stock in 1967–68 and 1985–90, when the industry absorbed the flow of cheap labor from the territories (Table 1.A.1.14).

Capital per worker doubled from 1994 to 2000, and this reflects the substitutability between capital and labor.

There may be another reason for the low level of industrialization in the industry, namely, the wide fluctuations in activity due to the irregular demographic developments in Israel (influxes of immigrants), which make industrialization less worthwhile; capital stock, unlike labor input, cannot be adjusted to the level of activity in the short term (assuming that it is industry-specific capital that cannot be sold). Contractors will consequently prefer to use labor (especially if it is cheap) rather than capital, whose average utilization could be low.

Productivity: due to the prepicitate reduction in the labor force the industry's production ability plummeted, while labor productivity rose. This also caused TFP (total factor productivity) to increase, despite the sharp drop in product, after declining in the last few years due to the lag in adjustment of factor inputs to the level of activity.

Due to the sudden contraction of the labor force, labor productivity and TFP rose.

Length of residential construction time

Surprisingly, the length of residential construction time fell in 2001 (Table 1.23), even though the labor force declined far more steeply than did the stock of buildings under construction. A similar picture emerges from the quarterly data. There are two possible explanations for this:

Residential building time fell surprisingly in 2001.

[60] In 1996 there were 150,500 Israeli employees in construction and only 95,200 non-Israelis (foreign workers and Palestinians). In 2000 there were only 116,400 Israelis but 119,500 non-Israelis.

[61] The figure is for construction equipment capital stock only, and hence is an underestimate of capital stock in the industry.

[62] Menahem Perlman (1998), "The Production Function of the Construction Industry, and the Industrialization of Construction," *A.G.P. Applied Economics Ltd.* The comparison uses 1994 data.

Table 1.24
Indicators of Supply and Demand, the Housing Market, 1990–2001

	Annual average 1990–95	1996	1997	1998	1999	2000	2001
Permits for private residential construction		35,164	36,574	33,263	30,795	30,397	23,712
Number of transactions[a]	115,619	117,780	96,643	88,675	101,452	95,694	81,424
Residential land (*units*)[b]	40,333	36,640	30,219	18,434	28,299	22,466	14,595
Private-sector apartments[c]	12,848	17,100	16,460	14,537	14,302	14,009	15,395
Housing loans taken by eligible persons	51,536	54,962	45,578	41,062	40,241	38,518	34,619
of which Immigrants	22,300	21,365	14,802	9,987	9,772	9,003	8,002
Young couples	17,631	27,015	25,455	26,102	23,623	21,937	20,969
Total mortgage loans (*NIS million, current prices*)	11,781	17,865	18,554	17,257	19,593	18,870	17,518
of which Nondirected	6,310	12,157	13,917	12,815	14,426	14,228	13,976
Average interest on nondirected mortgages of over 15 years	5.16	5.61	5.13	5.93	6.28	6.51	6.05

[a] By date of implementation of transaction; including new and second-hand apartments, and unrequited gifts to relatives; excluding bequests, apartments sold as part of a farm, protected rental apartments occupied when the sale went through, some apartments in industrial or commercial buildings sold as a package deal, and the 'Build your own home' program.
[b] According to number of transactions implemented (as distinct from those offered); data from Israel Lands Administration; excluding units as yet unplanned.
[c] Until 1998, in the 24 largest towns; as of 1998, in the entire country.
SOURCE: Based on data from the Ministry of Construction and Housing, the Israel Lands Administration, and the Income Tax Commission.

• There may be some diversion of workers from nonresidential to residential construction. This could be done quickly because most contractors deal with both spheres. Labor Force Survey data do not allow for the examination of this hypothesis as they do not make a distinction between the two categories. If the explanation is correct, the length of building time of nonresidential construction has risen.

• Workers may be diverted to projects which are in the final stages of completion, possibly also due to financing difficulties. Length of building time is measured from buildings whose construction is completed, and the building time of those buildings may have risen considerably, and if this is the case it will go up again soon.

Long-term trends in the demand for housing

The fall in demand for housing has long-term causes.

In the last few years the main reason for the fall in demand was demographic—the adjustment of the size of the industry to the period after the influx of immigrants. In addition, there appear to be other long-term causes of the decline in demand for housing, among them the reduction in the inflation environment, which increased the relative risk of real-estate assets.[63] Another reason is the real interest on mortgages, which rose

[63] Yona Rubinstein (2001), "Housing Prices in Israel, 1974–96: A Financial 'Bubble'?" in Leo Leiderman (ed.), *Inflation and Disinflation in Israel*, Bank of Israel.

in 1995–2000. Furthermore, many alternative investment channels are available today, with the greater efficiency of the market and the availability of possibilities of investing in real estate abroad.[64]

These processes caused the industry's product to decline in 1998 and 1999. All in all, in the 1990s (1990–2000) the increment in the residential stock was similar to the (net) increment in households, indicating that the industry's process of adjustment to the influx of immigrants has concluded.[65] The other factors are expected to continue influencing demand.

Box 1.13
Government Policy and the Long-Term Demand for Housing

From time to time it is suggested that a counter-cyclical fiscal policy should be implemented in order to smooth construction activity and avoid the unemployment of factor inputs and wide fluctuations in housing prices, or as part of a wider counter-cyclical policy. In the latter case, it is claimed that because of the intensity of use of domestic inputs, supporting the industry is an efficient way of implementing this policy. In view of the sharp fall in the industry's activity in 2001 and the rise in the stock of unsold apartments in 2000, it was decided to implement a policy of government intervention in order to increase demand. The program of the Ministry of Construction and Housing (the 'Sharansky Program') determined a temporary subsidy (between 17.6.2001 and the end of the year) for eligible persons purchasing new apartments in about 20 settlements, an additional subsidy for persons purchasing apartments in specific locations, and a higher subsidy for national preference zones. While the program was in operation—from the middle to the end of 2001—the rate of monthly sales in the areas concerned almost doubled.[1] In addition, a committee was set up to review taxation in the industry (see Box 1.14).

What should the objectives of government policy be, and which instruments should be used to attain them?

In principle, given perfectly competitive markets, there is no place for intervention in the residential housing market, at least not for reasons of economic efficiency. In effect, since the supply of land and the process of planning and issuing building permits are controlled by the state, the question of whether to intervene is irrelevant. For all practical purposes, the state has almost complete control of the supply side in the long run.

It is generally thought that the main aim of government policy is to guarantee 'appropriate housing' for households, for both social and economic

[1] This was partly due to the cessation of demand after the idea of the program was first mooted.

[64] It is difficult to assess the extent to which this possibility is utilized. From the balance of payments figures it is not possible to identify transactions precisely as most of them are implemented via interbank transfers abroad.

[65] According to census figures for 1995, some 100,000 apartments were used for other purposes. This stock may have altered since, so that the above calculation may not be entirely correct.

Table 1.25
Selected and Relative Construction Prices,[a] 1986–2001

(change over previous period, percent)

		Apartment prices						
	Prices	Relative to CPI[b]	Relative to input price index	Relative to $ exchange rate	Rent relative to CPI	Input prices	Output prices	Product prices
1986–89 (annual average)	24.1	–1.1	–2.5		–0.2	27.2	29.9	32.2
1990–95 (annual average)	22.8	8.1	9.6		15.5	12.0	14.1	13.7
1995	15.1	4.6	3.4	15.2	–5.4	11.3	23.4	11.2
1996	16.0	4.2	7.4	9.3	–0.2	8.0	8.3	10.3
1997	9.1	0.1	1.0	0.6	2.7	8.0	8.2	8.2
1998	3.7	–1.7	–1.6	–5.5	4.9	5.3	5.0	5.0
1999	4.2	–1.0	–0.7	–4.4	2.9	4.9	5.0	5.2
2000	–4.8	–5.8	–6.8	–3.3	–3.0	2.2	1.1	2.4
2001	–3.3	–4.3	–4.5	–7.9	2.3	1.3	1.1	2.7
1999								
I	–0.6	0.0	–1.2	2.9	–1.8	0.6		
II	–0.7	–1.0	–1.7	–1.4	–0.5	1.0		
III	1.3	0.1	–0.9	–1.0	2.2	2.2		
IV	0.4	–1.4	0.7	–1.5	0.1	–1.1		
2000								
I	–4.3	–3.4	–4.3	–0.2	–3.4	0.0		
II	1.1	0.3	0.0	0.1	–1.0	1.1		
III	–2.2	–2.4	–4.7	–1.2	0.0	2.6		
IV	–1.5	–1.5	0.2	–2.5	0.2	–1.7		
2001								
I	–0.8	–0.2	–1.1	–2.9	1.4	0.3		
II	–1.3	–2.6	–1.4	–0.8	0.029	0.1		
III	0.7	–0.3	–1.3	–3.7	1.4	2.0		
IV	0.3	0.4	1.7	–1.1	0.9	–1.4		

[a] At current prices.
[b] In January 1999 the method of calculation by the Central Bureau of Statistics was changed.
SOURCE: Based on Central Bureau of Statistics data.

purposes. High housing prices can lead to overcrowding and even emigration or a decline in the immigration rate. Due to the weight of this item in total expenditure, a rise in housing prices can also have an electoral price.

For several years the Ministry of Construction and Housing has been operating aid plans intended to help young couples buy an apartment. In 2000 the aid provided by the Ministry for the purchase of homes was NIS 1.6 billion, in addition to rent subsidies extended to certain sections of the population (NIS 1.4 billion that year).

A topic that is allied with construction policy is population dispersal, for economic reasons. Government policy must consider both the economies of scale of cities and the efficient dispersal of the population in order to enhance labor productivity. Thus, for example, wage differences between regions (in the same occupation) indicate inefficiency of production[2] (assuming that wages are correlated with marginal output). Another consideration of government policy is the preservation of open spaces.

If 'quantity' in the market is defined as the number of housing units, demand for incremental units (at least in a given price range) equals the (net) increment in households: according to this definition, the only reason for a change in demand is demographic.[3] The assumption is that each household generates demand for one apartment. There is a possibility that at a very high price, or with low permanent income, several households will share an apartment (as was the case in Israel in the 1950s), or will live together as an extended family. The number of building starts a year should equal the forecast increment in households, *ceteris paribus*. The response of prices to a deviation from this rule could be clearly seen in 1990–95, when the increment in apartments (247,000) was significantly below that in households (324,000) due to the influx of immigrants. In those years apartment prices rose (in real terms) at an annual rate of 8 percent, far higher than the long-term trend of prices.

Because it controls the effective supply of land and the planning processes, the state can ensure that the increment in quantity will be roughly equal to the demographic increment. By creating an available planning stock, it can also enable the market to respond rapidly to unexpected demographic shocks. The state currently administers land policy on the basis of fiscal considerations too: land auctions in which a minimum price is not reached are canceled. Consequently, the policy of the Israel Lands Authority is usually pro-cyclical. In addition, the government's population-dispersal policy is not necessarily in line with considerations of efficiency.

In spite of its complete control of the (incremental) supply side, and hence

[2] Karl E. Case (2000). "Real Estate and the Macroeconomy," *Brookings Papers on Economic Activity.*

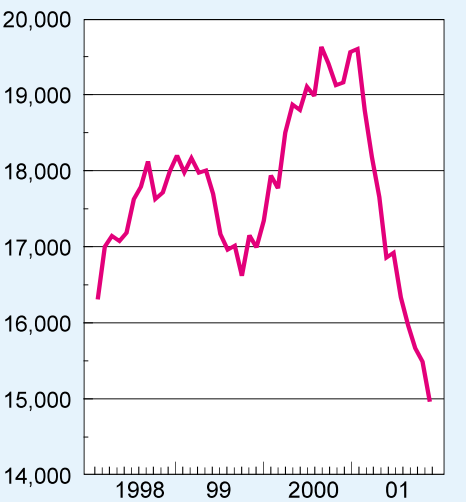
[3] If quantity is defined as area, it is assumed that permanent income and the interest rate also affect demand.

of the price of apartments in the long term, the government decided in 2001 to operate through the demand side (the 'Sharansky Program'). There is no clear justification for this, especially since increasing demand through various forms of subsidization will cause prices to rise. The subsidy is in effect divided between purchasers and contractors in accordance with the ratio of supply elasticity to demand, so that a problem of moral hazard arises, as contractors do not fully internalize the risk associated with construction activity, especially when the subsidy is granted *ex post*. Under these conditions, contractors will not act solely in accordance with considerations of profit or loss, but will prefer to wait for the next aid program.

It is generally thought that construction activity impacts on other industries[4] due to the intensity of its use of domestically-produced inputs, but that does not seem to be the case today. In 1995, when the industry's output was 22 percent higher than in 2001, it bought almost 10 percent of manufacturing output.[5] The industry's share of product has been falling in recent years, and given its present size it is unable to serve as an engine of growth, unless demand soars, for instance due to an influx of immigrants. The tariff-reduction program opened up the input market to competing iron and concrete imports,[6] moreover, so that the industry's multiplier is smaller today than in the past. Note, too, that the industry still employs a high proportion of non-Israeli workers, so that the connection between construction product and welfare (of Israelis) is not direct.

There is no reason to implement a general counter-cyclical policy via construction, and certainly not from the demand side, nor does there appear to be any possibility of doing so. On the other hand, land policy should be geared to long-term demand, i.e., it should be a-cyclical, whereas today it appear to be pro-cyclical. The object of policy should be to bring supply into line with long-term demand rather than to obtain maximum revenues.

Figure 1.44
Private Residential Construction, Jan 1998–Dec 2001



SOURCE: Ministry of Construction and Housing.

[4] The multiplier effect..

[5] Input-output tables for 1995, use matrix (direct coefficients).

[6] See section on manufacturing.

Box 1.14
The Reform of Real-Estate Taxes

In August the Minister of Finance appointed a committee (the Rabinowitz Commission) to examine the system of real-estate taxation and propose its reform.

Three special taxes are currently imposed on real estate: land betterment tax, which is in effect a capital gains tax, imposed primarily on transactions involving land; purchase tax, which is a progressive turnover tax imposed on the buyer; and sales tax, which is a fixed tax on turnover, and is lower for new apartments. Receipts from real-estate taxes amounted to NIS 3.8 billion in 2000, only NIS 1.6 billion of it from apartment purchases. Most of the receipts related to land transactions (mainly betterment) and nonresidential structures.

Special taxes account for a small part of the general tax burden in the industry, so that their adverse effect on economic efficiency (the 'deadweight loss') would appear to be low, due to demand inelasticity.[1] In addition, the supply is not completely elastic, so that the optimum tax, i.e., tax which minimizes the excess burden, is high.[2]

The tax burden in the industry has recently been eased due to the reform of real-estate taxes implemented in January 2000. Property tax[3] was abolished, purchase tax reduced, and sales tax imposed. The further liberalization (tariff reduction) also contributed to the changes.

The commission recommended the introduction of several interim measures, primarily the reduction of taxes, by the end of 2001, as well as permanent tax reductions aimed at increasing demand in the industry, especially in the near future.

The reform will result in a deficit, and according to the commission's calculations, it is expected to cost between NIS 200 million and NIS 300 million in 2002.

The commission's main recommendations are as follows:

Betterment tax: this should be reduced at a fixed percentage of the cumulative betterment since the determining day (7.11.2001) to a uniform rate of 25 percent. The tax should be reduced in 2002, and to a lesser extent in 2003, both directly and by recognizing the accelerated depreciation of land.

[1] The excess burden reflects the impact on the allocation of resources resulting from a distortion of the relative price in comparison with a situation of no taxation. In Israel the elasticity of the demand for housing is significantly below unity; see Zvi Eckstein, Ami Barnea, and Menahem Perlman (1998), "The Demand for Credit in the Construction Industry," Bank of Israel Research Department, *Discussion Paper* no. 98.01 (Hebrew).
[2] Imposing a high tax on a product the demand for and supply of which is inelastic minimizes the adverse effect on the efficient allocation of resources (Ramsey pricing).
[3] An annual tax of 1.2 percent of the value of the land serving as business stock, and 2.5 percent of other land.

Purchase tax: this should be reduced in the next two years.

Sales tax: currently contractors pay an effective tax of 0.5 percent when selling an apartment.[4] The tax on land and business structures is 2.5 percent. most transactions involving apartments are exempt from tax,[5] and the commission recommends abolishing it.

There is a slew of reductions and exemptions from betterment and sales taxes for special building projects, key-money apartments, and rental construction.

Income tax: the commission recommends that mortgage payments should not be regarded as deductible, primarily because this would require transition to a general reporting system.

As regards the implications of these recommendations, a discussion of tax policy is basically a question of the tradeoff between efficiency and distributive justice, and is hence partly normative. There are also fiscal considerations, such as financing public expenditure and the direct effect of these recommendations on construction activity.

The most significant recommendation, at least in fiscal terms, appears to concern the betterment tax. Its reduction refers mainly to transactions involving land and nonresidential structures, so that the link between it and increased activity in the field of residential construction is mainly indirect. Since the reduction of this tax is temporary, it will undoubtedly cause transactions to be brought forward. Consequently, even though the rise in activity will offset some of the loss in revenues, this essentially involves forgoing future revenue.

As regard housing, the revenue base is narrow (most transactions are exempt), and the revenues are low (NIS 140 million in 2000). It may be preferable to exempt housing transactions from this tax for administrative reasons, as well as to minimize the friction between the individual and the authorities, unless a far-reaching reform incorporating capital gains tax is introduced[6] and the tax base is expanded.

Purchase tax is a fairly high turnover tax on mobility. Thus, for example, the tax on a first apartment costing more than NIS 1 million is 2.7 percent (4 percent on a second apartment), while the tax on inexpensive apartments is low. The excess tax burden derived from purchase tax could be expressed in a reduction in labor productivity due to the adverse effect on mobility. Turnover taxes, such as sales

[4] The tax on new apartments is 0.8 percent, but the actual tax paid is deductible.
[5] According to the report of the State Revenue Administration for 2000, most transactions that are exempt from betterment tax are also exempt from sales tax.
[6] The commission's long-term recommendation in this respect is essentially similar to that of the Ben Bassat Committee, where it constitutes part of a general reform.

and purchase taxes, do not exist in the US, but are imposed in many other countries, as the comparison below indicates.

Note that some of the tax reductions proposed by the commission are temporary. For the reasons given in the preceding box, as well as for the fiscal considerations explained above, it is advisable to focus on permanent measures.

The Committee's Recommendations

	Today	In 2002	In 2003	In 2004+
Betterment tax, individuals	30%–50%	10% reduction and accelerated depreciation of 25% on land assets	20% reduction and accelerated depreciation of 25% on land assets	25% of cumulative betterment since determining date
Betterment tax, firms	36%	As for individuals	As for individuals	As for individuals
Purchase tax:				
Lowest bracket	0.5%	0% for eligible persons	0% for eligible persons	0.5%
Highest bracket	5%	4.5%	4.75%	5%

Purchase tax in various countries[7] (percent)

Austria	Australia	Italy	Germany	Netherlands	Turkey	Norway	Spain	France	Switzerland
3.5	5	7	3.5	6	1.8	2.5	6.7	4.9	3.5

(In Turkey and Italy tax is imposed on both buyer and seller.)

[7] Source: PWC publications.

6. Commerce and services

The product of the commerce and services industry dipped by 0.4 percent[66] in 2001 (Table 1.26), compared with a 14.7 percent increase in 2000. Excluding start-ups, product rose by 1.8 percent, compared with 10.4 percent in 2000. In spite of the decline, the industry's growth rate is still higher than that of the rest of the business sector, whose total product fell by 1.9 percent. The industry's share of business-sector product consequently rose from 47.1 percent in 2000 to 51.2 percent in 2001. Employment in

The product of the commerce and services industry dipped by 0.4 percent in 2001, compared with a 14.7 percent rise in 2000.

[66] The method of calculating product has been changed. In the past the product of this industry was based on that of the entire industry, whereas now it is calculated on the basis of the revenue of each individual industry.