4. Transport and Communications

The product of the entire industry contracted by 3 percent, most of it in the transport industry.

The product of the transport and communications industry declined by about 3 percent, after its growth was checked in 2001, and labor input fell by 4 percent (Table 1.23). Prices in the industry rose by 1 percent more than in the business sector in general. Developments varied in the different segments of the industry: transport services contracted by 4 percent, alongside a rise in their relative price, while communications services dipped by about 1 percent, with a decline in their relative price (Figure 1.26, Table 1.23).

Table 1.23
Transport and Communications, Main Indicators, 1995–2002

(annual change, constant prices, percent)

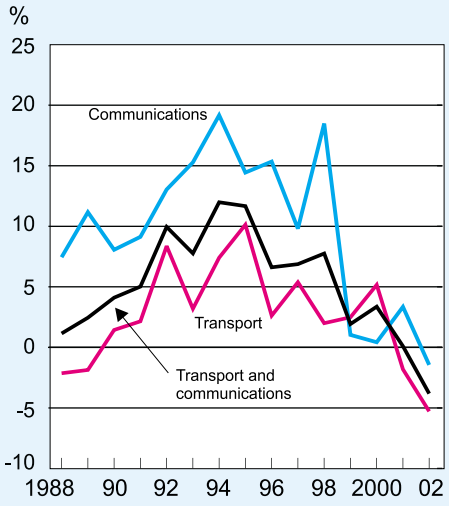
	Total				Transport[a]				Communications and deliveries			
	1995–2000	2000	2001	2002	1995–2000	2000	2001	2002	1995–2000	2000	2001	2002
Total gross product	5	3	0.2	–3	4	5	–2	–4	9	0	3	–1
Gross investment	6	16	7	–20	4	9	14	–21	13	39	–10	–17
Capital stock[b]	8	7	7	7								
Employees	4	3	4	–4	3	0	–2	–5	9	15	20	1
Labor input	4	6	1	–4	3	3	–5	–6	9	18	16	0
Labor productivity	1	–2	0	1	0	3	3	2	0	–15	–11	–2
Total factor productivity	–1	–3	–3	–4								
Cost to producers[c]	4	2	1	–3	4	3	1	–3	3	3	–1	–3
Real wage[d]	2	2	2	–5	2	2	3	–5	0	0	–1	–6

[a] Including Palestinian employees.
[b] At beginning of year.
[c] Adjusted for transport and communications prices.
[d] Deflated by the CPI.
SOURCE: Based on Central Bureau of Statistics data.

The activity of the industry was affected by the recession, the Intifada, and the fall in incoming tourism. Investment in the industry plummeted.

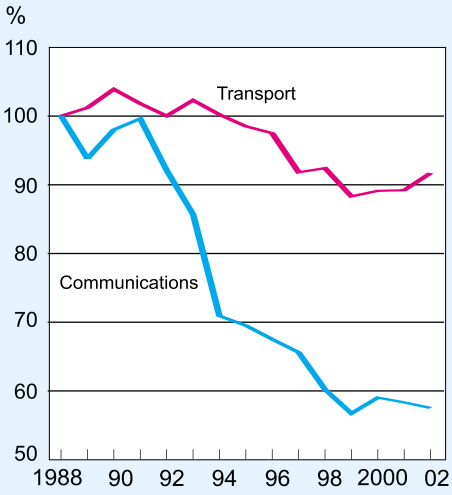
The expansion of activity in the industry was hampered by the ongoing recession and the Intifada, parts of the industry being affected directly by the steep drop in tourism. Most of the decline in demand was in transport services, while the product of communications, where the decline was moderate, contracted by less than that of the business sector as a whole. The competitive nature, or reduction of monopoly power, of the various segments of the industry contributed to activity in them. Investment in the industry plummeted by 20 percent in 2002, after its growth had slowed in 2001; the industry's capital stock continued to rise in 2002, nonetheless (Table 1.A.1.13). In the last two years unit labor costs in the industry have risen by about 1 percent: labor productivity remained unchanged, on average, and the real wage per employee post (to the employer) dipped by about 1 percent. The total wage figure depends on the number of employee posts, which rose by 2 percent more than labor input.

Figure 1.25
Growth of Transport and Communications Product, 1988–2002



SOURCE: Appendix Table 1.A.3.

Figure 1.26
Relative Price Indices of Transport and Communications,[a] 1988–2002



[a] Relative to business-sector product price; 1987=100.

SOURCE: Based on Central Bureau of Statistics data.

The industry's share of business-sector product stabilized, and the industry's importance for economic activity is greater than is indicated by its share.

The industry's share of business-sector product stabilized in 2002, since its product contracted, in line with that of the other principal industries. Its significance is greater than is indicated by its share, for several reasons. This is an infrastructure industry with spillovers; the services of a considerable amount of its capital—roads—are not included in the product of transport but in that of the other principal industries using it. To date this has changed only slightly as a result of the operation of the first stages of the No. 6 toll road, and the services of the private vehicles which use them are not included in the industry's product. The industry is crucial for the quality of life, enabling the integration of the various parts of the country with one another, and thereby providing social and economic benefits. The composition of the industry's product shows a clear long-term rise in the share of communications, which accounted for 39 percent of the industry's product in 2002.

The industry is capital-intensive, and its labor productivity is high.

The characteristics of the industry's activity are very different from those of the other principal industries. Its capital/labor ratio, product per worker, and wage per employee post are particularly high, although the gap in capital intensity and wages has narrowed slightly in recent years (Table 1.24).

Investment in the transport and communications infrastructure—which excludes investment in transport vehicles—plunged by 9 percent in 2002, after its growth rate slowed in 2001 (Table 1.26). This decline was concentrated mainly in communications, and investment in the land transport infrastructure, which is vital for economic activity, rose. Even greater investment is required in the coming years, however, in order to overcome the marked cumulative infrastructure shortfall.

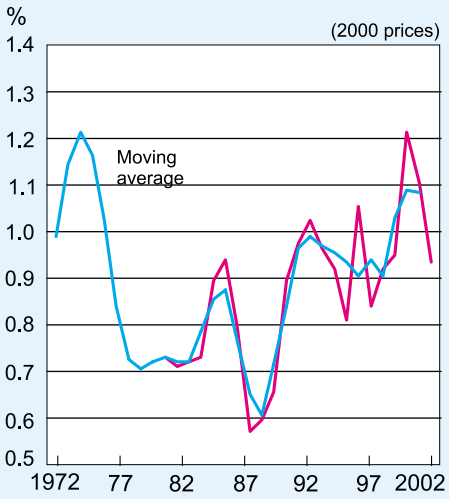
Table 1.24
Transport and Communications Compared to the Business Sector, 1996–2002

(business sector=100)

	1996–2000	2001–2002	2002
Labor productivity	185	176	177
Annual output per unit of capital	41	41	41
Capital per unit of labor	452	428	437
Wage per employee post	131	121	121

For source and definitions see Table 1.8.

Figure 1.27
Share in GDP of Investment in Transport, 1972–2002



SOURCE: Based on Central Bureau of Statistics data.

Demand for transport services was hit by the overall decline in demand. The impact of the Intifada on bus travel, and of the events of September 11, 2001 on air travel, is notable. Demand for train services rose as their supply improved.

The decline in demand for transport services derived from the overall fall in demand, partly in intermediate inputs for other industries, and partly in end-products. Note, as regards the latter, that in addition to the contraction of private consumption, the share of transport and communications in consumption fell in 2002, due to the decline in the share of consumption of transport services, while that of communications services continued to grow (Figure 1.28). Prominent among the factors directly affecting demand for the product of the industry were that of the Intifada on bus product, for the second year in succession, and the drop in incoming and outgoing tourism, as a result of the Intifada and the events of September 11, 2001—which impacted on air and land transport and travel agents (most of the 'other' item in Tables 1.25 and 1.26). Air travel services contracted by 6 percent in 2002 (Table 1.25 and Figure 1.29), while their price rose. The drop in product stemmed from the continued fall in air travel, which has been greatly in evidence since the eruption of the Intifada, whereas freight haulage by Israeli firms rose due to the diversion of activity from foreign firms. Shipping services increased substantially, while other transport services—mainly parking, storage, and freezing services, travel agencies, and gas and oil lines—contracted by 11 percent. In contrast with the decline in the product of most spheres of land transport, that of trains grew by 31 percent in 2002, soaring by over 120 percent in the last five years. This is the result of the combination of growing road congestion and improved train services because of the steep rise in investment in them.

In planning the supply of land transport services for the coming decades it is necessary to prepare for the marked expansion of demand for travel because of the expected

Table 1.25
Prices and Real Output in Transport and Communications, 1999–2002

(annual rate of change, percent)

	Share of GDP	Real output				Relative prices[a]			
	2000	1999	2000	2001	2002	1999	2000	2001	2002
Land transport	35	1	3	0	–3	–5	1	0	1
of which Trucks	20	1	4	2	–2	–7	1	0	3
Buses	7	–3	2	–11	–11	0	4	1	0
Trains	0.7	30	20	5	31	–6	–2	–1	3
Marine freight	10	3	7	–2	6	2	–1	–7	3
Air services	8	9	8	–10	–6	–6	–13	2	3
Other[b]	10	2	9	4	–11				
1. Total transport	61	2	5	–2	–4	–4	1	0	3
2. Communications	39	1	0	3	–1	–6	4	–1	–1
3. Total	100	2	3	0	–3	–4	1	0	1

[a] Normalized by the business-sector-product deflator.
[b] Including travel agents, storage and car parks.
For source, definitions and calculation method see notes to Appendix Table 1.A. 32.

The supply of transport services will have to be based on public transport to a greater extent.

increase in population, economic activity, and leisure pursuits. The supply of the expansion of the transport infrastructure will become more expensive, and the desired solution is greater utilization of public transport by developing its services and making them more efficient. Public transport has both social and economic advantages over private vehicles, providing cheap transport that is less harmful to the environment and utilizes resources—vehicles, land, and the infrastructure—more efficiently.

Figure 1.28
Share in GDP of Private Consumption of Communications and Transport, 1993–2002

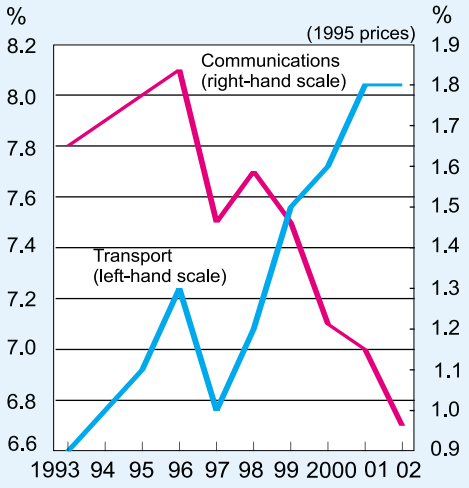
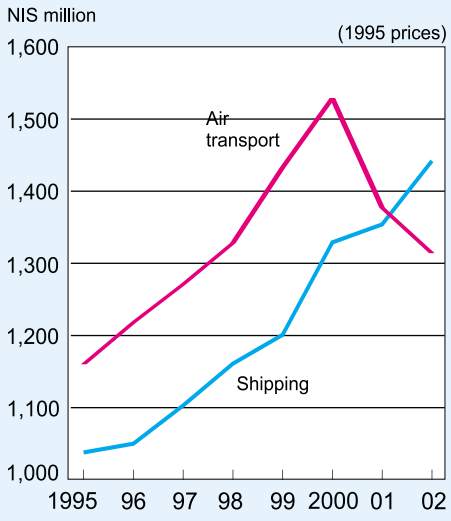


Figure 1.29
Product of Shipping and Air Transport, 1995–2002



Under the rubric of public transport mention should be made of the heavy railway, which is more suitable for longer journeys, as its advantages in rapidly transporting large numbers of passengers (and quantities of freight) using a separate track not subject to traffic jams, outweigh its disadvantages in rigidity of timetables and collection and dispersal of passengers. Note, too, in this context the suburban and light railways (above and below ground), which are suitable for transporting large numbers of passengers in, to, and from the metropolitan area, and buses and collective taxis (*sherutim*), which afford greater flexibility in collecting and dispersing passengers but are not as efficient as rail transport in extent and speed of travel.

The product of buses declined by 11 percent in 2002, representing a further exacerbation of the long-term trend (Table 1.25). The share of the use of buses for passenger transportation is declining over time, as greater use is made of private vehicles—a feature which is characteristic of western countries and is due primarily to the rise in the standard of living. The rise in the share of private vehicles causes greater suburbanization, reducing the efficiency of public transport and further increasing the share of private vehicles. The security incidents have served to accelerate this trend in Israel, and in the last two years the product of buses has fallen by 22 percent. The diversion of travel to the railway has also had an effect, and in the last few years there has been a significant change in the structure of the market (Box 1.6).

After many years of neglect, there has been a turnaround in the railway system in recent years. Investment in the railways has soared, and they are now on the verge of a reorganization which will make their accelerated development possible (Box 1.7).

Box 1.6
Introducing Competition in Public Transport Services

Activity in this sphere is characterized by monopoly: in 2000 the two major bus cooperatives (Egged and Dan) supplied almost all public transport by bus, operating 95 percent of the buses—70 percent of it by Egged.[1] In 2002 Dan was reorganized as a limited company, and Egged was made more efficient; both these developments were the result of the introduction of competition into this sphere.

At the beginning of 1997 the government decided to open up public transport to competition, and in mid-1998 the Ministry of Transport set up a Public Transport Administration. In 1999 the Anti-Trust Authority declared that Egged, including the companies owned and controlled by it, had a monopoly of interurban public transport services.

The Public Transport Administration issued a plan aimed at introducing competition by stages: within seven years tenders would be issued for all the public transport lines, initially for 21 percent of the lines controlled by

[1] State Comptroller, *Report on Bus Companies*, June 2002.

Basic Data on Public Transport; Buses, 2001

	(percent of potential output)
Number of buses[a] ('000)	5.4
Revenue *(NIS billion)*	2.3
Share in transport revenue *(percent)*	13.0
Number of employed persons ('000)	11.1
of whom: Members of cooperatives ('000)	4.2
Employees ('000)	6.9

[a] Excluding operators dealing with tourist and excursion services.
SOURCE: Central Bureau of Statistics.

Egged and 23 percent of those controlled by Dan. At that stage neither Egged nor Dan would be permitted to participate in the tenders to control 15 percent of the industry's activity, so that new operators would be able to enter it and gain a firm foothold. In 2000 the government signed an agreement with Egged which settled *inter alia* the subject of competition. The agreement stipulated the amounts the government would pay Egged and the concessions Egged and Dan would receive in the framework of the introduction of competition. While the agreement was in force (9 years) other operators would be offered no more than 25 percent of the lines, and the share of the initial lines to be offered in tenders, in which Egged and Dan were unable to participate, was reduced to 8 percent.

The Transfer of Networks of Bus Routes from the Cooperatives to Concessionaires, 2001–2002

	No. of routes	Weekly journeys		No. of passengers	Reduction in fares
		Number	Increase[a]		
Cluster of routes			(%)	(per day)	(%)
Safed–Nahariya[b]	45	2,900	30	11,000	24
Hadera–Netanya[b]	33	2,500	25	11,000	12
Ramla–Lod, Matityahu[b]	44	4,800	33	12,500	18
Beersheva–Tel Aviv[b, c]	7	1,920	7	16,000	47
Ashdod–Tel Aviv[d]	11	2,100	13	18,000	56
Tiberias[d]	25	2,600	15	10,000	52
K. Ono area	23	7,800	5	50,000	10

[a] From the pre-competition situation.
[b] Routes started in 2002.
[c] Two routes operated jointly with Egged which adjusted fares to match those of the concessionaire.
[d] Routes started in 2003 that currently constitute about 2.5 percent of Egged's activities.
[e] Routes taken from Dan that constituted about 8 percent of its activities. The reduction in fares to date amounts to 10 percent and is planned to reach 30 percent gradually.
SOURCE: Transport Authority.

As the industry was gradually opened to competition, travel was transferred to the new bus companies; the product of the transport cooperatives, which had previously enjoyed a monopoly, fell by 14 percent, while that of all bus transport declined by less—12 percent. The transition was accompanied by improvements in timetables and significant reductions in fares.

In 1994 and 1998 franchises to operate public transport lines were granted for some new towns as well as for local and interurban journeys. The fares were 50 percent lower than those in other settlements in the area, and with time Egged also reduced its fares there.

The process of opening public transport to competition yielded significant results in 2002, as the lines controlled by the new operators went into use. Note that all the clusters of routes operating in 2002 were transferred from Egged, cutting its activity by 5.5 percent. This, together with the lines that will be taken from it in 2003, amounted to an 8 percent reduction in its activity—equivalent to the rate to be deducted from Dan and controlled by a private operator in 2003.

Box 1.7
The Development of Israel's Railway

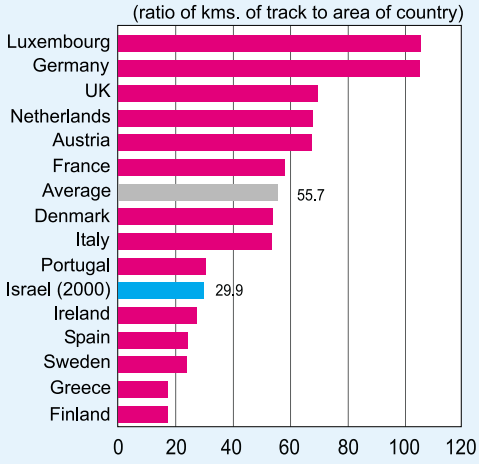
Trains can move large amounts of passengers and freight quickly—an obvious advantage as road congestion increases—but are not flexible as regards collecting and dispersing them. The activity of trains is limited because there has been virtually no investment in the system for years, and since there are no waterways in Israel there has been a heavy burden on the roads, which have also suffered from insufficient investment.

In the past the railways were part of the Ministry of Transport and, until they were placed under the aegis of the Ports Authority in 1988, investment in them was negligible. For ten years the Authority's assets were used for investing in and subsidizing the trains, until the responsibility for them was returned to the government in 1998.

The paucity of investment led to extremely low rail intensity in Israel compared with western countries for which data are available (Figure 1). According to this very rough index, in order to bring rail intensity in Israel to the level customary in those countries the railway system would have to be enlarged by 80 percent. Because of Israel's limited rail system, the use of trains was also very low. In Europe there are five times as many kilometers of track per passenger as there are in Israel (Figure 2), and fifteen times as many journeys per inhabitant (Figure 3).

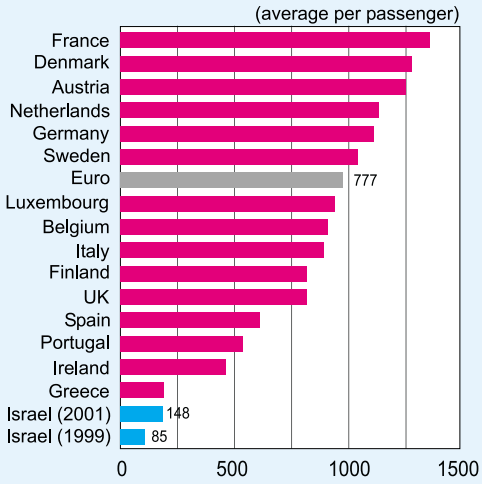
Since the railways have been neglected for many years, use of them by passengers has been declining (Figure 4), and they were utilized mainly for freight. Since 1985 there has been an increase in passenger traffic by rail, and since 1990 this has been very significant. In 2001 it was six times as large as in 1990, and its share of revenue grew to 80 percent (Figure 6). The greatest number of passengers is on the Tel Aviv-Haifa line. Jerusalem has not been served by trains since 1998.

Figure 1
Rail Intensity in Israel and Selected European Countries, 1999



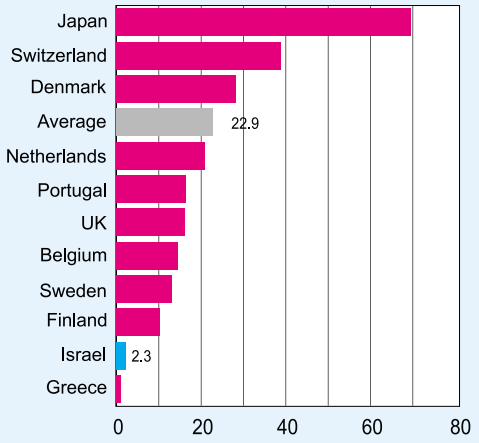
SOURCE: Central Bureau of Statistics and European Union Energy & Transport in Figures, 2001.

Figure 2
Rail kms. per Passenger in Israel and Selected European Countries, 1999



SOURCE: Central Bureau of Statistics and European Union Energy & Transport in Figures, 2001.

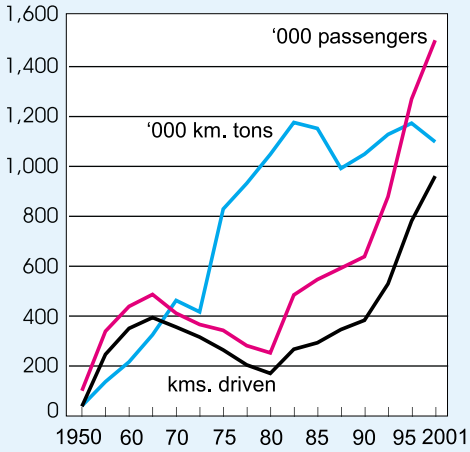
Figure 3
Journeys by Train per Resident[a], International Comparison, 1999



[a] The number of passengers divided by the population.

SOURCE: Central Bureau of Statistics data for 2001 (Israel) and UIC data for 1999 (other countries).

Figure 4
The Use of the Railway[a], 1950–2001

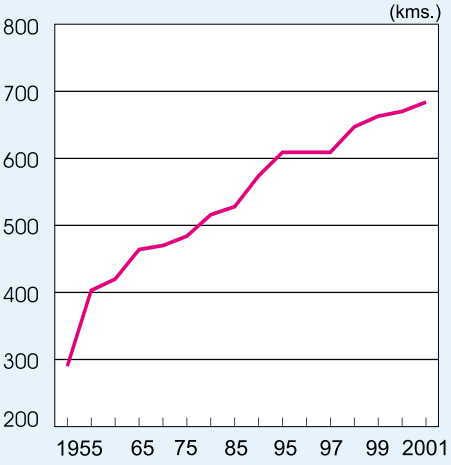


[a] Annual data from 1995; till then, every fifth year.

SOURCE: Central Bureau of Statistics.

In the next few years a vast increase in investment in the railways is planned, virtually tripling the amount invested in the preceding five years—some NIS 11 billion, after NIS 4 billion in 1998–2002 (at 2003 prices).

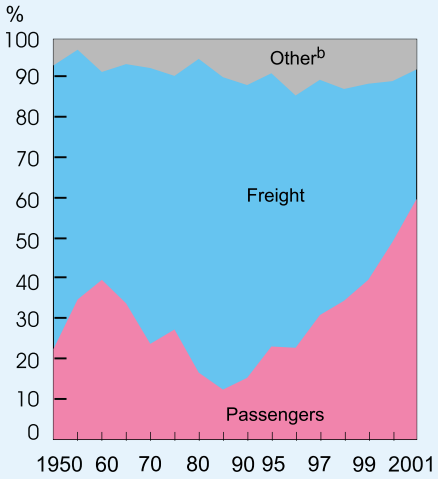
Figure 5
Length of Railway Lines, 1950–2001[a]



[a] Annual data from 1995; till then, every fifth year.

SOURCE: Central Bureau of Statistics.

Figure 6
Composition of Railway Revenue, 1950–2001[a]



[a] Annual data from 1995; till then, every fifth year.
[b] E.g. income from storage and rental of carriages.

SOURCE: Central Bureau of Statistics.

These plans may include some lines that are not economically worthwhile, but are operated for security, social, and other reasons, such as a safe line to the Palestinian Authority and the lines serving areas with low population density.

The incorporation of the railways in the framework of an independent government company will probably enable them to function more efficiently as well as help them to raise capital. The decision to move in this direction was approved by the Knesset in the framework of the Arrangements Law that accompanied the 2003 budget. After the incorporation, the basis for raising capital by the railway in the future could be the assets they own, which will be registered as their property. The grants they are expected to receive from the government can also be recorded as balance-sheet assets.

Investment in the infrastructure

Infrastructure investment is one of the few spheres in which direct government involvement in economic activity is justified; no private company will invest sufficiently in it as the return on it is lower for a private entity than it is to the economy as a whole (externalities). The infrastructure is essential for economic activity and growth, providing links between economic agents—both internally, by connecting regions with centers of employment, and externally—and economic activity is based on the provision of essential services such as electricity, water, and sewage disposal.

Table 1.26
Investment in Transport and Communications, 2000–2002

	Investment in 2001 (current prices)		Real change (percent)		
	Actual (NIS bill.)	Percent	2000	2001	2002
1. Transport infrastructure (excl. vehicles)	6.9	33	23	20	–3
of which Air and sea ports	0.9	4	69	–14	–38
Land transport	6.0	29	15	36	15
of which Roads	4.4	21	18	30	0
Trains	1.5	7	–10	102	68
Other[a]	0.1	1	–5	–17	–77
2. Total vehicles	8.8	42	3	10	–32
Passenger cars	3.8	18	34	–9	–25
Ships and planes[b]	1.2	6	–66	182	–62
3. Communications[c]	5.1	25	39	–10	–17
4. Transport and communications infrastructure (1+3)	12	58	31	4	–9
5. Transport and communications (1+2+3)	20.7	100	16	7	–20

[a] Transport services, local authority transport, and gas and oil pipelines.
[b] Excluding exports.
[c] Including mail and package delivery.
SOURCE: Based on Central Bureau of Statistics data.

Infrastructure investment declined by some 5 percent due to the steep drop in investment in communications.

Infrastructure investment declined by 5 percent in 2002 (Tables 1.26 and 1.27), with a fall in investment in communications, transport, and electricity, while investment in the water system remained unchanged (Table 1.A.19). The share of infrastructure investment in GDP declined at the end of the 1990s, eventually stabilizing in 2000, since when it has fluctuated (Figure 1.30, Table 1.27). With regard to the composition of infrastructure investment, note the important role of transport and communications, the significant part played by investment in electricity, and the very small share of investment in water and electricity (Figure 1.31).

The share of the public sector in infrastructure investment rose.

The share of infrastructure investment financed by the general government sector diminished until 2000, since when it has grown (Table 1.28); investment in communications—which is implemented by the private sector—declined, so that the share of private financing also fell.

Investment in the transport and communications infrastructure declined by 9 percent in 2002. The difference between the two segments of the industry as regards the investing element dictated differences in the development of investment in them. In communications, in which the business sector invests, investment began to decline in 2001, as the recession and the high-tech crisis set in, and in 2002 this intensified to a 17 percent fall. In the transport infrastructure, on the other hand, the public sector plays a major role, taking a direct part in initiating and financing investment in it. This investment dipped slightly, by 3 percent, in 2002. Investment in roads remained unchanged, in trains it rose by an impressive 68 percent, after having doubled in 2001.

Table 1.27
The Infrastructure and Investment in it, 1995–2002

	Electricity	Water	Transport and communications[a] Total	Transport and communications[a] *of which* Roads	Total infrastructure
	1	2	3	4	5=1+2+3
Capital stock at end 2002 (NIS billion)					
Composition (%)	62.8	13.8	148.2	67.5	224.8
Real change (%)	27.9	6.2	65.9	30	100.0
Average 1995–99	10.6	–1.6	9.6	9.3	8.7
2000	5.7	–2.0	6.0	5.0	5.2
2001	3.6	–2.0	7.6	5.6	5.7
2002	3.9	–2.0	7.1	6.9	5.5
Gross investment in 2002 (NIS billion)					
Composition (%)	4.1	0.3	11.8	4.4	16.1
Real change (%)	25.2	1.8	73	27	100.0
Average 1995–99	1.2	–4.4	6.3	–4.1	4.2
2000	–23.5	–0.5	30.5	17.6	12.5
2001	7.2	–4.7	3.5	30.1	4.1
2002	9.5	3.5	–9.8	0.1	–5.3
Share of gross investment in GDP (current prices, %)					
Average 1995–99	1.8	0.1	3.4	1.1	5.3
2000	1.0	0.1	3.5	0.9	4.6
2001	1.1	0.1	3.8	1.3	4.9
2002	1.3	0.1	3.7	1.4	5.0

[a] Excluding vehicles.
SOURCE: Based on Central Bureau of Statistics data.

Investment in sea and air ports plummeted, and the construction of the principal projects—*Natbag 2000* and the Jubilee Port—is not keeping to the original timetable. An increase in the land transport infrastructure is crucial for the economy, and far more investment is required over many years in order to overcome the considerable cumulative shortfall in this sphere.

The major transport infrastructure projects

Transport in general
Route 6, Cross-Israel: approximately one third of its central section was opened to traffic at the beginning of 2003, and the remainder is expected to be opened in 2004. Cooperation with the private sector in building the road has yielded a high level of performance as regards both quality and speed. Work began in November 1999, and the intention is to continue developing the road, extending it northward as rapidly as possible so as to improve the connection between the periphery and the center of Israel. The southward extension of the road is also being discussed.

Figure 1.30
Share in GDP of Infrastructure Investment, 1991–2002

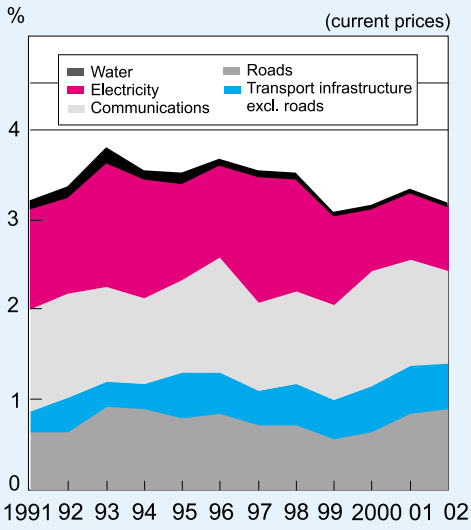


Figure 1.31
Distribution of Infrastructure Investment, 2002

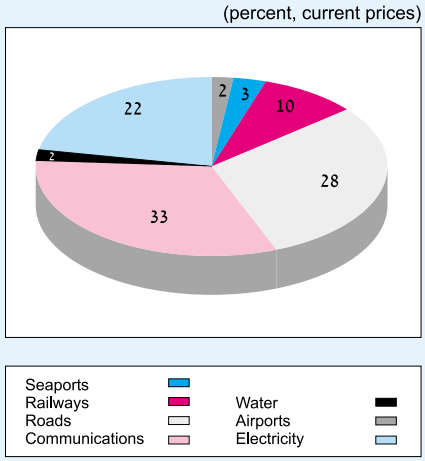


Table 1.28
Investment by Financing Sector, 1995–2002

(percent)

	Public sector[a]	Private sector and not financed by the state[b]	"Derech Eretz" (Highway 6)	Total
1995	35	65	–	100
1996	32	68	–	100
1997	30	70	–	100
1998	31	69	–	100
1999	28	72	–	100
2000	24	72	4	100
2001	29	65	6	100
2002	32	59	8	100

[a] Roads (excluding Highway 6), railway lines, water and sewage.
[b] Communications, electricity, seaports and airports.
SOURCE: Based on Central Bureau of Statistics data.

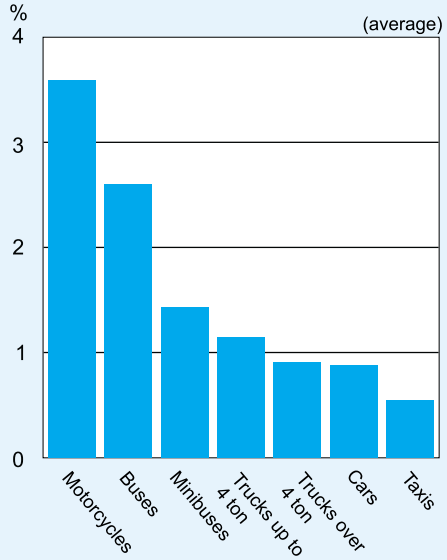
The operation of various infrastructures could be made more efficient if the railways were organized as companies and the sea ports became competing for-profit centers. The same applies to the operation of public transport and the supply of services at *Natbag 2000*.

Structural changes

Railways: the railways are currently undergoing a process of change prior to becoming an independent company. This will lead to several significant changes: as a company the railway will be able to raise capital independently and will have more freedom in planning and implementation than when they were subordinate to the Ports and Railways Authority.

Sea ports: the ports could be made more efficient if they could compete with one another and each one was organized as an independent company. Because of the opposition of the General Federation of Labor (Histadrut), a substitute to this has been mooted in the form of the operation of each port as a for-profit unit. The situation will improve once the Jubilee Port functions as a for-profit unit distinct from Ashdod Port, and the Israel Shipyards are allowed to compete with the ports in certain spheres. The distorted pricing of the services provided by the ports hampers efforts to make them more efficient; the prices do not reflect the relative cost of the various services and some of them subsidize others (cross-subsidization). Since each port does not provide an identical basket of activities, the cross-subsidization in conjunction with their organization as separate for-profit centers could lead to the creation of a surplus in one port and a deficit in another. A team is currently examining the structure of the price scales.

Figure 1.32
Index of the Relative Risk of Involvement in a Fatal Accident,[a] 2001–2002



[a] The rate of risk of a particular type of vehicle *divided by* the risk of all types of vehicle, with the rate of risk being the number of total accidents per kilometer traveled.

Buses: as stated, the operation of lines by new operators has succeeded, prices have fallen, and the service is good.

The Dan cooperative has been reorganized as a company, and this has enabled it to function more efficiently.

Fuelling services at *Natbag*: at the beginning of 2003 an additional operator will start working in the airport, with far lower prices than those currently in effect.

Freight cargo handling at *Natbag*: the introduction of competition will go into effect once a new operator begins work. A tender will be issued, and only in 2005 will the new operator start.

Flight services: there is room for further expansion of lines allocated to El-Al's competitors, including charter flights and freight.

Truck haulage: trucks play an important part in economic activity, and are a major user of the roads. As recommended by the Sagis Committee,[29] it is important to intensify the implementation of the law regarding the operation of trucks, because the disturbance they create on the roads and their high level of involvement in serious accidents far

[29] Public Committee to Examine the Haulage Industry, April 2002.

exceeds their share of total traffic. Heavy trucks (at least 34 tons) are involved in serious accidents nine times more often than the average, and account for three times as many kilometers driven.[30]

Figure 1.33
Share in GDP of Investment in Roads, 1966–2002

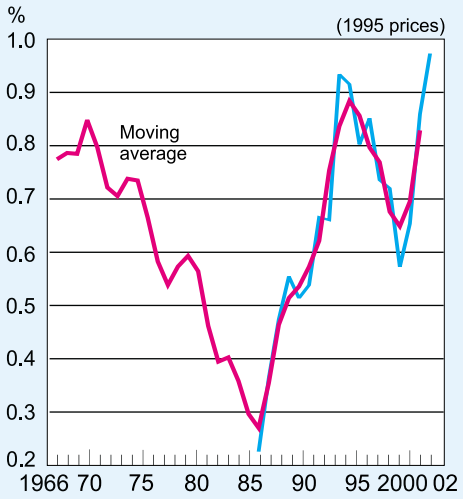
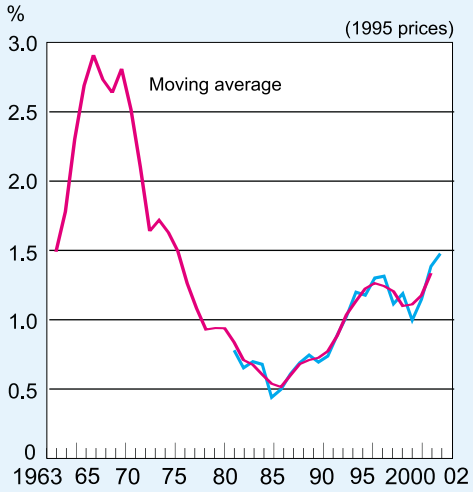


Figure 1.34
Share in GDP of Investment in Transport (excluding vehicles), 1963–2002



It is important to improve the functioning of the safety officers of the haulage companies, and to clearly define the driver's responsibility for everything associated with the safety of the vehicle.

It is important to intensify monitoring of the activity of trucks, improve the functioning of safety officers, reduce and supervise permitted loads on axles, and divert trucks to night-time travel.

It is important to reduce the permitted load on truck axles, in accordance with the stricter requirements in force in Europe and the US, and to monitor this. The monitoring is important both for improving safety and for reducing aggravated amortization of the infrastructure. Some 95 percent of the damage to roads—cracks and fractures—is caused by trucks. The process of monitoring and enforcing limits on loads must be effected at the trucks' point of departure, serving to reinforce the activity of the police.

In order to ease pressure on the roads it is important to encourage freight haulage—especially of dangerous loads—by night, when traffic is less dense. The utilization of trucks for haulage on return journeys should also be encouraged, so as to reduce the number of journeys made by empty trucks. Journeys made by loaded trucks currently account for only 55 percent of journeys, on average. It is also important to gradually reduce the age of the trucks on the roads, so that they are not more than 10 or 12 years old, as well as to act to divert freight haulage to the trains.

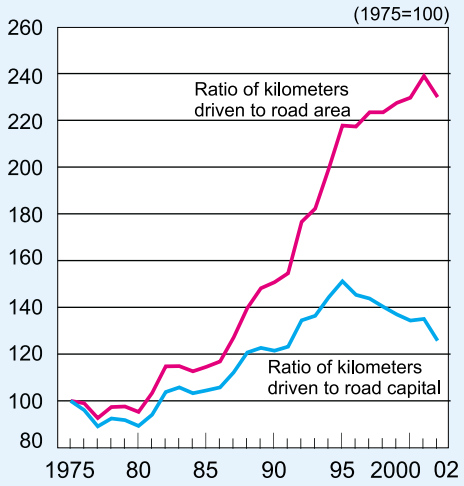
[30] Minutes of the parliamentary commission of inquiry into road accidents, the Knesset, 15 October, 2002.

The transport and roads infrastructure

Congestion on Israel's roads is still very high, despite indications of an improvement as investment increases.

As a result of the paucity of investment over the years, the level of service of the transport infrastructure lags far behind that accepted in western countries. Consequently, congestion on the roads has risen and has only recently begun to decline according to the various indices, based on the amount of road services demanded (kilometers driven) and the supply of road services (road surface or capital). One of the indices, kilometers driven per unit of road capital, began to decline in 1996, after rising for 15 years. Another, kilometers driven per unit of road surface, fell only in 2002, after rising for two decades (Figure 1.35). The decline in 2002 stemmed from some reduction in kilometers driven (weighted in accordance with the disturbance to traffic, see Table 1.A.1.36), as a result of the recession. In any event, the indices show that there is a long-term rise in road congestion, which is far higher than it was several decades ago, and also very high by international standards (see Box 1.8). Note that the indices, which are gross averages, do not reflect the full gravity of the situation, as they do not indicate road congestion at peak hours, the growing number of peak hours, and their unequal geographical distribution.

Figure 1.35
Indices of Road Congestion, 1975–2002



SOURCE: Appendix Table 1.A.36.

Congestion impairs economic activity as well as intensifying suburbanization; this in turn makes infrastructure services more expensive.

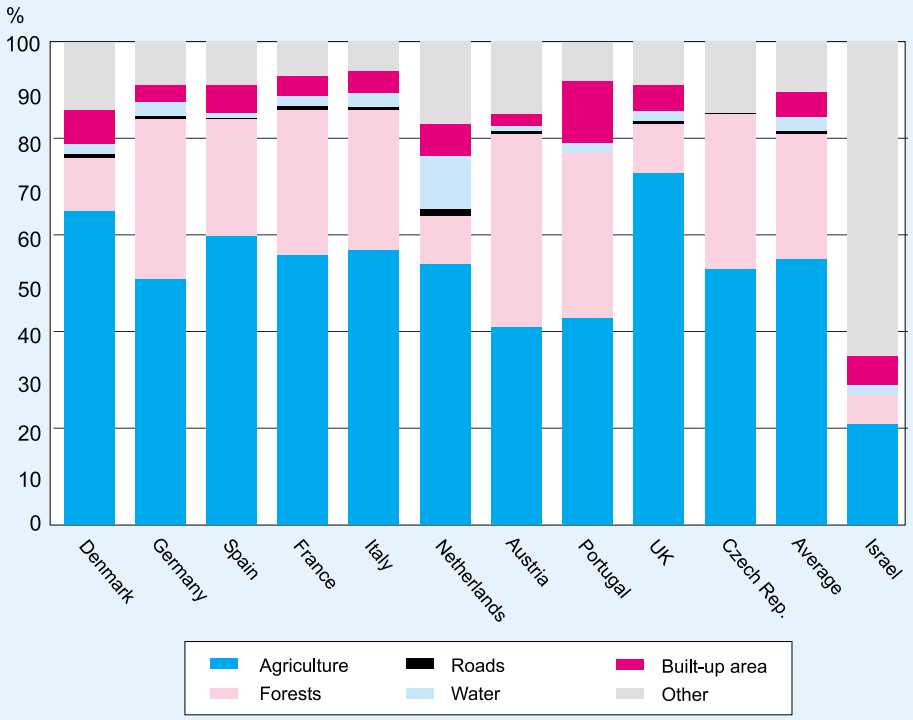
Congestion is deleterious to economic and leisure activity, making travel-time longer, increasing fuel congestion, and generating more pollution, so that it also harms the environment and quality of life. Congestion in the metropolitan areas weakens town centers and increases suburbanization, whose effect in Israel is worse than in other countries because of the acute shortage of land. In addition, extending the infrastructure to the suburbs is costly. Greater suburbanization exacerbates transport problems by increasing the use of private vehicles, while a more efficient solution for travel in the metropolitan area would be to use public transport. This could be encouraged by introducing light railways and improving the bus services, *inter alia* by providing dedicated lanes.

Long-term planning and infrastructure development

Infrastructure planning has long-term consequences and should be undertaken cautiously. That is why the approval process is lengthy.

The physical infrastructure is of vital importance for both economic and leisure-time activity. Planning it is intended to maximize social welfare in the long run: it makes its mark on the country and quality of life in the long run, and should be done properly. The rapid approval of infrastructure investment plans can help to fill gaps in the infrastructure more quickly and prepare for future needs. The infrastructure is expensive,

Figure 1.36
Composition of Land Usage, International Comparison[a]



[a] Israel: 2000; Europe:1998.

SOURCE: Based on Central Bureau of Statistics data.

in both money and land, and this cost is particularly significant because the shortage of land is more acute in Israel than in other countries.

The process of approving plans goes through planning committees, which are based on a fairly balanced composition comprising representatives of both the initiating bodies and the entities seeking to restrict building for various reasons. While necessary because of the complex nature of the decisions, the process of obtaining planning permission is very lengthy. Attempts to shorten the procedure could lead to bad decisions which will have an adverse effect on the economy, society, and the environment in the future because the process of changing land designation categories are irreversible. This is particularly the case in a small, densely-populated country such as Israel, with a relatively rapid population growth rate, so that the consequences of mistakes may be more serious.

The entities that initiate projects seek to obtain permits as quickly as possible, and complain about the lengthy approval process, but they often are themselves the cause of delays because they do not make the required changes to the plans quickly.

Efforts are being made to shorten the approval process. One of these involves the establishment of a committee to promote the national infrastructure, in accordance with the Arrangements Law that accompanies the 2002 budget, and which is supposed to grant approval to national projects within 103 days. The process of approval via this

committee has several drawbacks: it bypasses the current planning process, *inter alia* because it is not subject to the existing master-plan. The composition of the committee is not balanced, and the initiators of infrastructure projects are over-represented on it. It will be able to approve a request for a project even if no alternatives are proposed. This occurred recently when the government asked the committee to approve another solid-fuel power station instead of one that creates less pollution.

While a national infrastructure committee could approve infrastructure projects speedily, this might impair the quality of planning.

The Ministers of the Interior and Finance and the Prime Minister have already approved several national infrastructure projects. The committee is in the process of preparing to approve these projects, and as soon as they are ready for discussion by the committee they will be approved within less than fourteen weeks.

The Planning Administration has recently been transferred from the Ministry of the Interior to the Ministry of Industry and Trade. It is feared that this will reduce its independence and hamper proper planning procedures, especially since the Ministry of Industry and Trade is responsible for the Israel Lands Administration, which is often the initiator of projects. It would be better if there was a balance, and this will be created once the two administrations are under the aegis of different ministries.

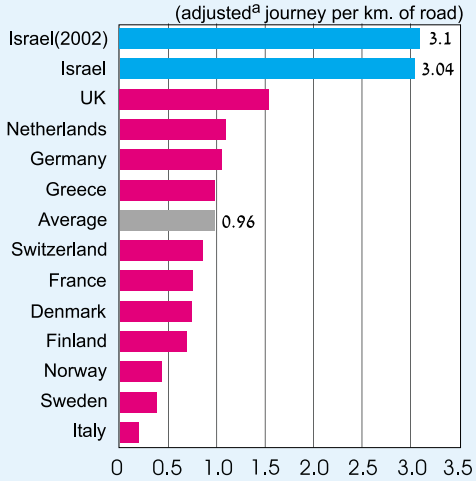
The government should implement proper planning procedures via the planning committees, because the entities behind the projects will meet the committees' requirements quickly, and the committees will shorten the approval processes.

Box 1.8
Road Congestion and Intensity

Road congestion in Israel is very high relative to western countries. The index of kilometers driven is three times greater in Israel (Figure 1), while road intensity in western countries is 60 percent higher (Figure 2), highway intensity is eight times as great (Figure 3), and roads account for 12 times more road surface than in Israel (Figure 4). The lack of infrastructure is also acute in road substitutes: railway intensity and the extent to which it is used is far lower in Israel (Box 1.7), and in contrast with western countries, Israel has no waterways.

In order to attain western standards of road congestion and overcome the backlog, investment of NIS 40 billion is needed. This is an estimate of the lowest amount required to bring road density in Israel up to western standards (Figure 2). Increasing road capital so that the index of kilometers driven per unit of road surface is on a level comparable with that customary in western countries will require an even greater investment. Note that this is only a rough estimate of investment needs, and is not based on an accurate calculation of infrastructure costs. Additional evidence of the shortage of roads is the high ratio of kilometers driven to investment, based on an examination of the worthwhileness of projects.

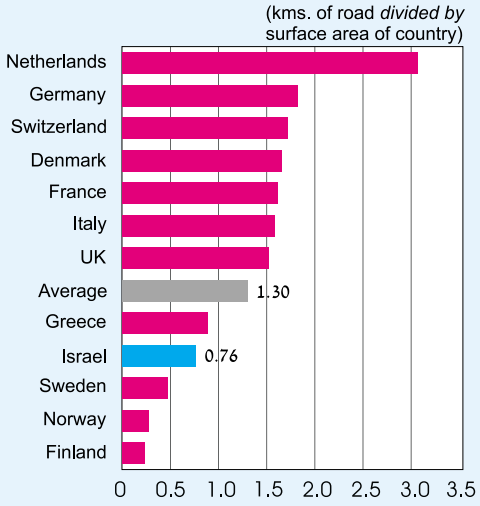
Figure 1
Index of Road Congestion, International Comparison, 1998



[a] The number of kilometers traveled by all vehicles *multiplied* by the traffic disturbance coefficient.

SOURCE: Central Bureau of Statistics and IRF World Road Statistics, 2002.

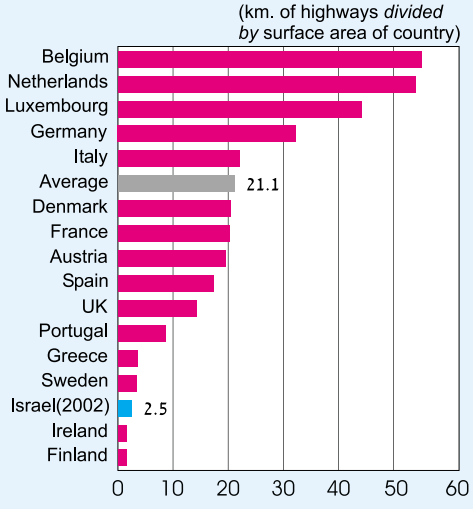
Figure 2
Road Intensity,[a] International Comparison, 1998



[a] The figure for Israel was 0.78 in 2001.

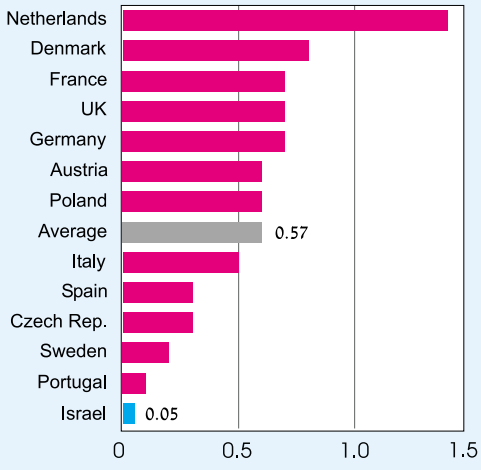
SOURCE: Central Bureau of Statistics and IRF World Road Statistics, 2002.

Figure 3
Highway Intensity, International Comparison, 1999



SOURCE: Central Bureau of Statistics and European Union Energy & Transport in Figures, 2001.

Figure 4
Road Area as Percent of Surface Area of Country, International Comparison, 1998



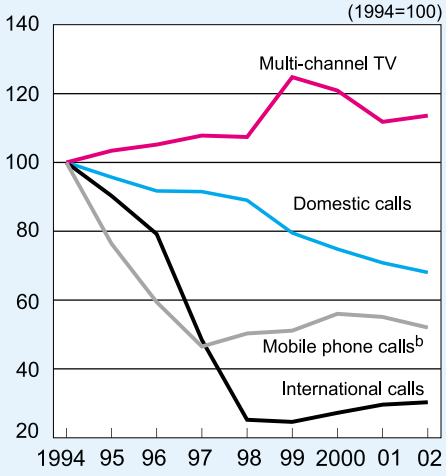
SOURCE: Central Bureau of Statistics and Eurostat, IRF.

Communications

Communications, which is a very dynamic industry, contracted by only 1 percent in 2002, benefiting from the introduction of competition.

The product of the communications industry dipped by a relatively moderate 1 percent in 2002, compared with the 3 percent decline in total business-sector product. This industry is dynamic because it has been opened up to competition as well as because of the technological developments in it—two factors which nourish one another. In 2002 competition was introduced in the provision of broadband internet services, multi-channel TV, and the transmission of data. The growth of the industry continues to be led by mobile telephony, multi-channel TV, and the internet. In the last two years the rise in labor input in the industry has exceeded that of product; increasing competition in the various segments of the industry has probably led to the expansion of employment, while the recession has prevented a marked rise in product.

Figure 1.37
Communications Prices[a] in the CPI, 1994–2002



[a] Deflated by CPI.
[b] Until 1997, according to *Pelephone* rates only, weighted at 1/3 for off-peak and 2/3 for peak rates.

SOURCE: Ministry of Communications and Central Bureau of Statistics.

Communications charges have changed in line with the CPI, with a slight increase in the cost of cable TV services and local phone calls, on both fixed and mobile phones (Figure 1.37).

Internet connection, including broad-band, is very widespread in Israel relative to other countries.

Broad-band internet services have expanded considerably in the wake of the competition created when permission was granted to the cable companies to provide this service, and the rate of the service's penetration rose from 2 percent in 2001 to 11 percent in 2002, an impressive rate by any standard (Figure 1.38). The proportion of the population with internet access was 41 percent in 2002, compared with an average of 31 percent in the rest of the world.[31] The proportion of people making purchases via the internet is also higher in Israel—18 percent compared with 15 percent.

The proportion of persons subscribing to digital TV services also rose substantially, to about two-thirds of all subscribers—three times more than the rate in the EU. While the total number of multi-channel TV subscribers remained unchanged, some of them shifted from cable to satellite TV.

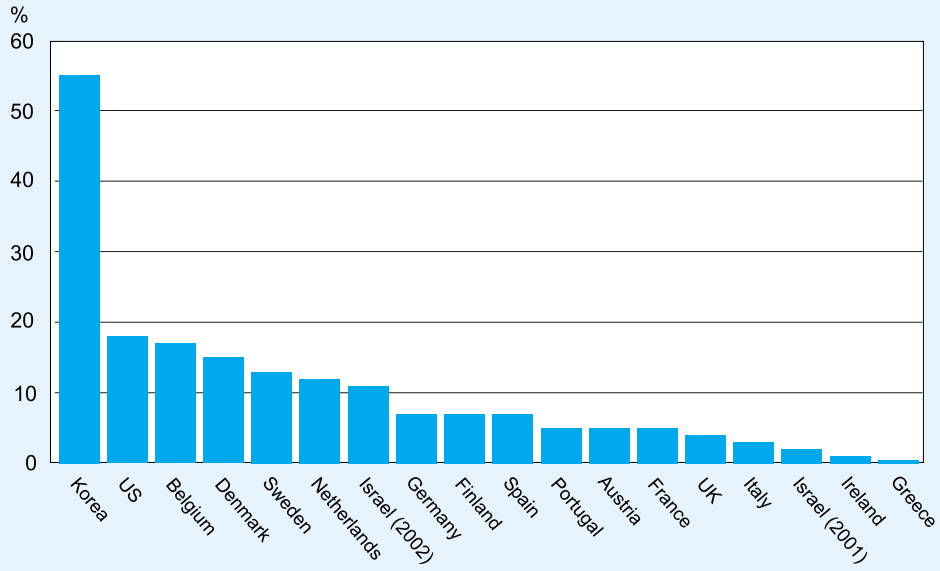
Competition was introduced into the communication and transmission of data for businesses and licenses were awarded permitting companies competing with Bezeq to supply the service. This process was finalized once the entities contesting it withdrew their objections, at the recommendation of the Supreme Court.

Competition has developed in the fields of multi-channel TV, data transmission, and mobile telephony.

Competition is continuing in the field of mobile telephony, and the number of subscribers rose by 14 percent in 2002, to 6 million, i.e., 92 percent penetration. The

[31] Source: Sofres Taylor Nelson. http://www.tnsofres.com/ger2002/globalusage/index.cfm

Figure 1.38
Penetration of Broad-Band Technology into Households, International Comparison, 2001



SOURCE: Ministry of Communications.

process of bidding for the right to implement 3G technology was concluded, resulting in government revenues of NIS 2.7 billion. The operators' networks have been upgraded, and they are starting to launch new services.

In the sphere of international communications, the volume of traffic grew by 2 percent, after a far steeper increase in 2001. The arrangement by which international operators were obliged to pay Bezeq an access fee came to an end.

Bezeq's income declined, partly as a result of greater resort to mobile phones. The number of minutes of use of the Bezeq network declined by 3 percent in 2002, after rising steeply in previous years. The number of minutes of use within the network, between the network and mobile phones, and use of the internet all declined, because of the extensive use of broad-band communications, where there is no intermediary.

The government has approved the establishment of a national communications authority, which will regulate activity in the industry.

At the beginning of 2003 the government authorized a change in the regulation of the communications market: this will be achieved by means of a national communications authority, as is customary in most western countries, instead of via a government ministry. An authority of this kind will be able to regulate the communications market more efficiently. The authority, which should be independent in discharging its functions and fulfilling its responsibilities, will be responsible for regulating communications, including the setting of regulatory policy and rules.

With regard to mail services, the conversion of the Israel Postal Authority into a company, thereby making it possible to increase its efficiency, is under consideration. In March 2003 the sphere was opened to competition within the Postal Authority, but only to a limited extent, so as not to harm the continuity of supply of mail services

throughout the country. Competitors were allowed to supply relatively expensive services, mainly messenger services, express, registered, and international mail, and despatch of items weighing 500 grams or more. With regard to other services, including regular mail and mass mailings, the Postal Authority retained exclusive rights.

Postal services will be made more efficient once the Postal Authority is organized as a company and the sphere is opened up to competition.

5. Construction

Construction activity contracted in 2002 for the fifth consecutive year. Output, product, and the number of building starts all fell, albeit at slower rates than in previous years, although the number of building permits issued remained stable. The industry's share of business-sector product continued to decline, however.

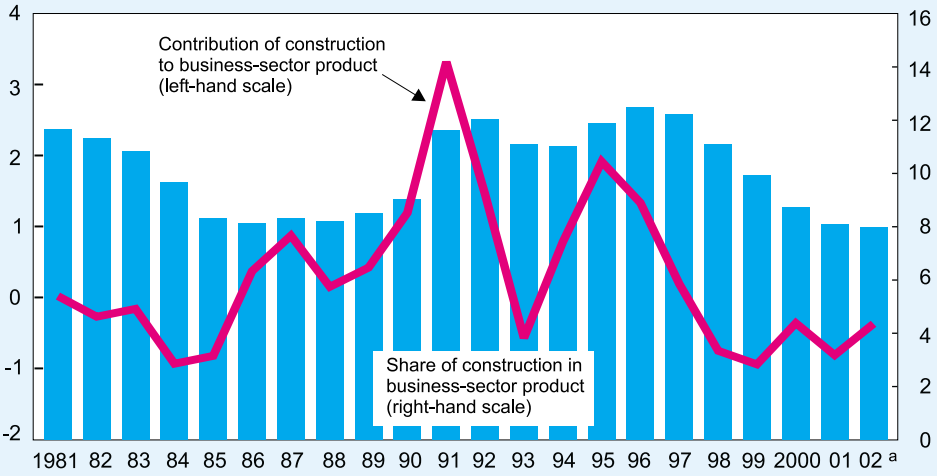
The industry's output and product declined for the fifth consecutive year.

Residential construction: activity declined in 1998–99, primarily for long-term reasons, i.e., the need to downsize due to the lower population growth rate in the post-mass immigration period. This process appears to have come to an end, as in the preceding decade (1990–2000) the housing stock rose in step with the net increment in households. In 2000 the number of residential building starts soared (by almost 20 percent), equaling the increase in the number of households estimated at that time. Nevertheless, output dipped in 2000 because of the Intifada, and plummeted in 2000:IV. Since then activity has continued to decline, initially because of the supply constraint—a 50 percent drop in the number of Palestinian workers as the Intifada erupted—and later due to the fall in demand, which was the major factor behind the level of activity in 2001. These processes were expressed in a cumulative 30 percent decline in the industry's output in 1998–2001.

Residential construction fell relatively steeply; nonresidential and other construction output declined slightly.

The main reason for the contraction of activity in 2002 was the fall in demand.

Figure 1.39
Direct Contribution of Construction Product to Business-Sector Product, 1981–2002



[a] In 2002 the definition of construction product changed and equipment installation was included. As a result, the data relating to construction product were amended relative to 1986, so that the data shown here differ from those in previous reports.

SOURCE: Based on Central Bureau of Statistics data.